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Sensor/actuator cabling and connectors

2019 / 2020

PHOENIX CONTACT
INSPIRING INNOVATIONS

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Screw connection

The screw connection is the most universal and globally accepted conductor connection technology. An important characteristic is the maintenance-free conductor contact. It is not necessary to retighten the connection screw.

All types of copper wires can be clamped without any pretreatment, thereby making gas-tight and permanent contact.

The wire protection, which protects the individual litz wires from damage, is located between the screw and the conductor. The wire protection also performs a screw locking function to prevent release due to vibrations and temperature fluctuations.

Splicing protection can be implemented in the form of ferrules.

With a screw connection, several conductors may also be clamped under one screw.

The conductive parts of the screw connections are made from high-grade copper alloys that are resistant to stress cracking and corrosion.

Axial screw connection

With this method, the wire end to be contacted is guided into the connection area of the male or female contact.

A tapered mandrel (part of the contact) is then screwed into the flexible wire from the front. Radial pressure is applied to the strands of the litz wire, pressing them against the contact wall. This results in a gas-tight connection with long-term stability between the wire and contact. It is important that the specified tightening torque is observed.

The mandrel is pressed in using an Allen key which is applied to the front of the contact. This connection technology combines the advantages of screw and crimp connection.

The axial screw connection requires very little space, is easy to use, and only requires a standard Allen key.

Crimp connection

The crimp connection requires little space and is cost-effective in series production. For a reliable connection, it is essential that the wire cross section, the crimp contact, and the crimping tool are compatible. Since the crimping tools are subject to a certain degree of wear; the crimping process must be monitored during series production.

Crimp connections can be established with the aid of crimping pliers or crimping machines through specific deformation of the crimping area of the contact.

The requirements for crimp connections are defined in DIN EN 60352-2. The quality characteristics of a crimp connection are the tensile strength of the connection and crack-free deformation of the crimp contact. Crimping may not result in impermissible elongation of crimp contacts, as this would prevent them from latching correctly in the contact carrier.

The contact is released using an unlocking tool. Assembly tools are also available for very thin conductors.

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Push-in connection for contact inserts

Flexible conductors with ferrules or rigid conductors can be quickly and easily inserted directly into the connection without tools. The contact spring is formed in such a way that it opens automatically when the conductor is pushed in. It thereby provides the required pressure force against the current bar for a gas-tight, vibration-proof, and shock-proof connection.

To release conductors or connect smaller cross sections, the spring is opened by means of the orange push button – this is done easily and without direct contact with live parts.

The conductive metals are made from high-grade copper alloys. All metal parts of the connection are made from corrosion-resistant materials.

Push-Lock connection for circular connectors

Flexible conductors without ferrules can be easily connected using the lever. The terminal point is completely opened by the color lever and remains in this open position. Even small cross sections are easy to insert. The lever must be closed for the connection to be made.

Wire rigid conductors and conductors with ferrules easily and without using tools by means of direct insertion. The contact point does not have to be opened first.

Opening the lever releases a connected conductor. The conductors can be removed with ease.

All metal parts of the connection are made from corrosion-resistant materials.

IDC displacement connection

The QUICKON connection is equipped with an IDC insulation displacement contact. The term “IDC” stands for Insulation Displacement Connection. With this connection method, an unprepared wire with insulation is positioned in front of the gap of the insulation displacement contact and then pushed into the blade gap through insulation displacement. In so doing, the wire insulation is severed and gas-tight contact is made between the wire and the contact. This reduces the time to make a connection by at least 60%.

The connection force is independent of the user and completely reliable provided the permissible conductor cross sections and connection conditions are observed. Rigid and flexible conductors can be rewired up to 10 times. However, the wire end should be cut off before connecting again.

QUICKON connections have proven themselves in numerous applications for Phoenix Contact over recent years, such as connectors, for COMBICON, and terminal blocks, through to CEE plug-in equipment from 0.14 to 6.0 mm².

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Sensor/actuator cabling

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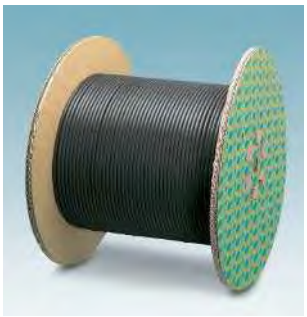

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The comprehensive solution for the control cabinet

Easy planning, intuitive installation

COMPLETE line is a system comprising technologically leading and coordinated hardware and software products, consulting services, and system solutions that help you optimize your processes in control cabinet manufacturing. Engineering, purchasing, installation, and operation become significantly easier for you.

Your advantages at a glance:

- Intuitive handling, thanks to the uniform design, look, and function
- Time savings across the entire engineering process, thanks to consistent software support
- Reduced logistics costs with standardized accessories and reduced variety of parts
- Optimized processes in control cabinet manufacturing, thanks to custom services and innovative manufacturing solutions

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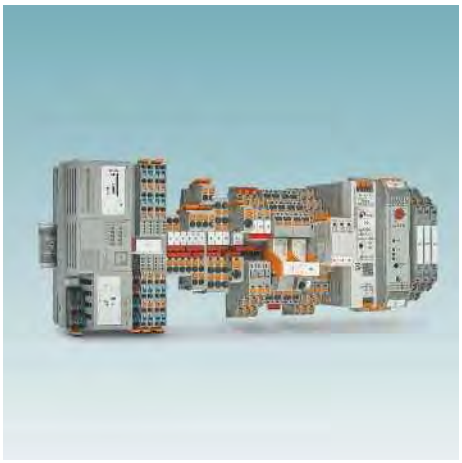

Comprehensive product portfolio

With COMPLETE line, we offer a complete product portfolio of technologically leading products. These include:

– Controllers and I/O modules
– Power supplies and device circuit breakers
– Terminal blocks and distribution blocks
– Relay modules and motor starters
– Signal conditioners
– Safety technology
– Surge protection
– Heavy-duty connectors

Intuitive handling

Thanks to the simple, intuitive handling of the coordinated hardware components, you will save time during installation, startup, and maintenance. Push-in connection technology enables you to wire applications quickly – without using tools. The broad, technologically leading product portfolio will always provide you with the right product for standard or special applications.

Time savings across the entire engineering process

The PROJECT complete planning and marking software supports the entire control cabinet manufacturing process. The program features an intuitive user interface and enables the individual planning, automatic checking, and direct ordering of terminal strips.

Reduced logistics costs

Reduced variety of parts, thanks to standardized marking, bridging, and testing accessories. The COMPLETE line system coordinates products, design, and accessories enabling you to benefit from maximum reusability, thus reducing your logistics costs.

Optimized processes in control cabinet manufacturing

From engineering through to manufacturing, COMPLETE line supports you in making your control cabinet production as efficient as possible, thus creating a customized concept for optimizing your processes in control cabinet manufacturing.
Our terminal strip production helps you to flexibly manage peak order times or to supply your control cabinet production with fully assembled DIN rails just-in-time.

Additional information

Find out more about COMPLETE line and your comprehensive solutions for the control cabinet. Visit our website:

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Circular connectors

The circular connector range from Phoenix Contact covers the entire scope of industrial applications. From M5 to M58, straight or angled, unshielded or shielded: our extensive portfolio always provides the right connector for your application.

Sensor/actuator connectors

Do you want to wire different cable lengths quickly on site? Our M12 connectors for assembly provide the best connection technology for every application:

– IDC insulation displacement connection
– Push-in connection
– Crimp connection
– Pierce connection
– Screw connection
– Solder connection

Shielded connectors for free assembly are available for more stringent requirements.

Sensor/actuator device connectors

In industrial applications, a wide range of requirements are placed on the sensor/actuator cabling. The products from Phoenix Contact are just as varied. You'll find the right device connector – whether in M5, M8 or M12 format, and for front or rear mounting. Customer-specific developments enable optimum adaptation to your individual device concept.

Signal, feedback, hybrid, and power connectors

The product portfolio for M17 to M58 connectors covers all common applications in industrial environments for signal, hybrid, and power plug-in connections up to 630 V/150 A. This also includes requirements relating to tightness of seal, vibration resistance, and shielding against EMI. A complete choice of plastic-molded connectors rounds off the circular connector range.

Your web code: #0368

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Insulation displacement connection

Connection cross section:
0.08 mm² ... 0.25 mm²,
3 and 4-pos.

Connection cross section:
0.25 mm² ... 0.5 mm²,
3 and 4-pos.

	Technical data		Technical data	
	3-pos.	4-pos.	3-pos.	4-pos.
General data				
M8 circular connector in accordance with:	IEC 61076-2-104		IEC 61076-2-104	
Degree of pollution	3		3	
Degree of protection	IP65 / IP67		IP65 / IP67	
Connection method	Insulation displacement connection		Insulation displacement connection	
Cable diameter	2.5 mm ... 5 mm ±0.2 mm		2.5 mm ... 5 mm ±0.2 mm	
Connection cross section	0.08 mm² ... 0.25 mm²		0.25 mm² ... 0.5 mm²	
Electrical data				
Rated voltage	48 V AC / 60 V DC	30 V AC / 30 V DC	48 V AC / 60 V DC	30 V AC / 30 V DC
Rated current	4 A		4 A	
Insulation resistance	≥ 100 MΩ		≥ 100 MΩ	
Material data				
Material contact/contact surface	CuSn / Ni/Au		CuSn / Ni/Au	
Contact carrier material	TPU GF		TPU GF	
Flammability rating in accordance with UL 94	HB		HB	
Temperature data				
Male connector/female connector [°C]	-25 ... 80		-25 ... 80	

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3-pos.		4-pos.		3-pos.		4-pos.	
Connector, color-coded and numbered connection area								
Female, straight	1441040	1	1441053	1	1441066	1	1441079	1
Male, straight	1441008	1	1441011	1	1441024	1	1441037	1

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Screw connection

Unshielded, 3-, 4-pos.

Shielded, 3-, 4-pos.

	Technical data		Technical data	
	3-pos.	4-pos.	3-pos.	4-pos.
General data				
M8 circular connector in accordance with:	IEC 61076-2-104		IEC 61076-2-104	
Degree of pollution	3		3	
Degree of protection	IP67		IP67	
Connection method	Screw connection		Screw connection	
Cable diameter	3.5 mm ... 5 mm		3.5 mm ... 5.5 mm	
Connection cross section [mm²]	0.14 mm² ... 0.5 mm²		0.14 mm² ... 0.5 mm²	
Electrical data				
Rated voltage	48 V AC / 60 V DC	30 V AC / 30 V DC	48 V AC / 60 V DC	30 V AC / 30 V DC
Rated current	4 A		4 A	
Insulation resistance	≥ 100 MΩ		≥ 100 MΩ	
Material data				
Material contact/contact surface	CuZn / Au		CuZn / Au	
Contact carrier material	PA		PA	
Flammability rating in accordance with UL 94	HB		HB	
Temperature data				
Male connector/female connector [°C]	-40 ... 85		-40 ... 85	

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3-pos.		4-pos.		3-pos.		4-pos.	
Connector								
Female, straight	1506888	1	1506891	1	1542907	1	1542910	1
Male, straight	1501252	1	1501265	1	1542884	1	1542897	1
Female, angled	1407582	1	1407584	1				
Male, angled	1407583	1	1407585	1				

	Accessories			Accessories		
Pressure screw and seal, for cable diameters:						
2.5 mm ... 3.5 mm	SACC-M 8-SET/2,2-3,5	1436945	5			

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Solder connection

**Unshielded,
3-, 4-pos.**

**Shielded,
3-, 4-pos.**

	Technical data		Technical data	
	3-pos.	4-pos.	3-pos.	4-pos.
General data				
M8 circular connector in accordance with:	IEC 61076-2-104		IEC 61076-2-104	
Degree of pollution	3		3	
Degree of protection	IP67		IP67	
Connection method	Solder connection		Solder connection	
Cable diameter	3.5 mm ... 5 mm		3.5 mm ... 5 mm	
Connection cross section [mm²]	0.08 mm² ... 0.25 mm²		0.08 mm² ... 0.25 mm²	
Electrical data				
Rated voltage	48 V AC / 60 V DC	30 V AC / 30 V DC	48 V AC / 60 V DC	30 V AC / 30 V DC
Rated current	4 A		4 A	
Insulation resistance	≥ 100 MΩ		≥ 100 MΩ	
Material data				
Material contact/contact surface	CuZn / Au		CuZn / Au	
Contact carrier material	PA		PA	
Flammability rating in accordance with UL 94	HB		HB	
Temperature data				
Male connector/female connector [°C]	-40 ... 85		-40 ... 85	

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3-pos.		4-pos.		3-pos.		4-pos.	
Connector								
Female, angled	1529399	1	1513444	1	1436479	1	1436482	1
Male, angled	1699902	1	1554209	1	1436453	1	1436466	1
Female, straight	1681172	1	1681185	1	1506927	1	1506930	1
Male, straight	1681156	1	1681169	1	1506901	1	1506914	1

	Accessories			Accessories		
Pressure screw and seal, for cable diameters:						
2.5 mm ... 3.5 mm	SACC-M 8-SET/2,2-3,5	1436945	5			

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Push-in connection

Notes:

M12 connectors for assembly for networks and fieldbuses can be found in the data connectors and cables section from page 337

Unshielded, 4-, 5-pos.

Shielded, 4-, 5-pos.

		Technical data		Technical data	
		4-pos.	5-pos.	4-pos.	5-pos.
General data					
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-101	
Degree of pollution		3		3	
Degree of protection		IP65 / IP67		IP65 / IP67	
Connection method		Push-in connection		Push-in connection	
Cable diameter		4 mm ... 8 mm		4 mm ... 8 mm	
Connection cross section [mm²]		0.14 mm² ... 0.75 mm²		0.14 mm² ... 0.75 mm²	
Electrical data					
Rated voltage		250 V AC / 250 V DC	48 V AC / 60 V DC	48 V AC / 60 V DC	
Rated current		4 A		4 A	
Insulation resistance		≥ 100 MΩ		≥ 100 MΩ	
Material data					
Material contact/contact surface		CuSn / Ni/Au		CuSn / Ni/Au	
Contact carrier material		PA 6.6		PA 6.6	
Flammability rating in accordance with UL 94		V0		V0	
Temperature data					
Male connector/female connector	[°C]	-40 ... 85		-40 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.		5-pos.		4-pos.		5-pos.	
Connector, with metal knurl, color-coded and numbered connection area									
Female, angled	A - standard	1424656	1	1424653	1	1424669	1	1424661	1
Male, angled	A - standard	1424654	1	1424651	1	1424667	1	1424659	1
Female, straight	A - standard	1424655	1	1424652	1	1424668	1	1424660	1
Male, straight	A - standard	1424657	1	1424649	1	1424666	1	1424658	1
Connector, with plastic knurl, color-coded and numbered connection area									
Female, angled	A - standard	1424694	1	1424690	1				
Male, angled	A - standard	1424692	1	1424688	1				
Female, straight	A - standard	1424693	1	1424689	1				
Male, straight	A - standard	1424691	1	1424686	1				
Connector, with metal knurl, color-coded and numbered connection area									
Female, angled	B - inverse							1424665	1
Male, angled	B - inverse							1424663	1
Female, straight	B - inverse							1424664	1
Male, straight	B - inverse							1424662	1

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Insulation displacement connection

Notes:

M12 connectors for assembly for networks and fieldbuses can be found in the data connectors and cables section from page 337

Unshielded, 4-pos.

Technical data

		4-pos.	4-pos.
General data			
M12 circular connector in accordance with:		in accordance with IEC 61076-2-101	
Degree of pollution		3	
Degree of protection		IP65 / IP67	
Connection method		Insulation displacement connection	
Cable diameter		3.5 mm ... 6 mm	4 mm ... 8 mm
Connection cross section [mm²]		0.14 mm² ... 0.34 mm²	0.34 mm² ... 0.75 mm²
Electrical data			
Rated voltage		125 V AC / 125 V DC	250 V AC / 250 V DC
Rated current		4 A	
Insulation resistance		≥ 100 MΩ	
Material data			
Material contact/contact surface		CuSn / Ni/Au	
Contact carrier material		TPU	
Flammability rating in accordance with UL 94		V0	
Temperature data			
Male connector/female connector	[°C]	-25 ... 80	

Ordering data

Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.		4-pos.	
Connector, with plastic knurl, color-coded and numbered connection area					
Female, straight	A - standard	1641701	1	1641756	1
Male, straight	A - standard	1641714	1	1641769	1
Connector, with metal knurl, color-coded and numbered connection area					
Female, straight	A - standard	1641688	1	1641772	1
Male, straight	A - standard	1641691	1	1641785	1
Connector, with stainless steel knurl, color-coded and numbered connection area					
Female, straight	A - standard	1440766	1	1440782	1
Male, straight	A - standard	1440753	1	1440779	1

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Insulation displacement connection

**Shielded,
4-, 5-, 8-pos.**

**Shielded,
4-, 5-, 8-pos.**

EAC

EAC

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	4-pos.	5-pos.	8-pos.
General data							
M12 circular connector in accordance with:		in accordance with IEC 61076-2-101			-		
Degree of pollution		3			3		
Degree of protection		IP65 / IP67			IP65 / IP67		
Connection method		Insulation displacement connection			Insulation displacement connection		
Connection cross section [mm²]		0.14 mm² ... 0.75 mm²		0.14 mm² ... 0.5 mm²	0.14 mm² ... 0.75 mm²		0.14 mm² ... 0.5 mm²
Electrical data							
Rated voltage		250 V AC / 250 V DC	48 V AC / 60 V DC	30 V AC / 30 V DC	250 V AC / 250 V DC	48 V AC / 60 V DC	30 V AC / 30 V DC
Rated current		4 A		2 A	4 A		2 A
Insulation resistance		≥ 100 MΩ			≥ 100 MΩ		
Material data							
Material contact/contact surface		CuSn / Ni/Au			CuSn / Ni/Au		
Contact carrier material		PA 6.6			PA 6.6		
Flammability rating in accordance with UL 94		V0			V0		
Temperature data							
Male connector/female connector	[°C]	-40 ... 85			-40 ... 85		

		Ordering data						Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		4-pos.		5-pos.		8-pos.	
Connector, shielded, with metal knurl, color-coded and numbered connection area, **cable diameter: 5 mm ... 9.7 mm**													
Female, straight	A - standard	1413994	1	1413992	1	1414611	1						
Male, straight	A - standard	1413993	1	1413991	1	1414610	1						
Cable connector, shielded, color-coded and numbered connection area, **cable diameter: 5 mm ... 9.7 mm**								1414418	1	1414417	1	1414612	1

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Screw connection

Notes:

M12 connectors for assembly for networks and fieldbuses can be found in the data connectors and cables section from page 337

Plastic knurl, 4, 5-pos.

Metal knurl, 4, 5, 8-pos.

Technical data

		4-pos.	5-pos.	4-pos.	5-pos.	8-pos.
General data						
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-101		
Degree of pollution		3		3		
Degree of protection		IP67		IP67		
Connection method		Screw connection		Screw connection		
Connection cross section [mm²]		0.25 mm² ... 0.75 mm²		0.25 mm² ... 0.75 mm²		0.25 mm² ... 0.5 mm²
Electrical data						
Rated voltage		250 V AC / 250 V DC	48 V AC / 60 V DC	250 V AC / 250 V DC	48 V AC / 60 V DC	30 V AC / 30 V DC
Rated current		4 A		4 A		2 A
Insulation resistance		≥ 100 MΩ		≥ 100 MΩ		
Material data						
Material contact/contact surface		CuZn / CuSnZn		CuZn / CuSnZn		CuZn / Au
Contact carrier material		PA		PA		
Flammability rating in accordance with UL 94		HB		HB		
Temperature data						
Male connector/female connector	[°C]	-40 ... 85		-40 ... 85		

Ordering data

Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.				4-pos.		5-pos.		8-pos.	
Connector, with **Pg7** screw connection, **cable diameter: 4 mm ... 6 mm**													
Female, angled	A - standard	1681130	1	1662308	1			1681143	1	1662984	1		
Male, angled	A - standard	1681091	1	1662269	1			1681101	1	1663129	1		
Female, straight	A - standard	1681114	1	1662298	1			1681127	1	1662968	1		
Male, straight	A - standard	1681088	1	1662256	1			1662528	1	1663116	1		
Connector, with **Pg9** screw connection, **cable diameter: 6 mm ... 8 mm**													
Female, angled	A - standard			1500790	1					1681499	1		
Male, angled	A - standard			1513431	1					1681473	1		
Female, straight	A - standard			1500787	1			1696439	1	1681486	1	1513347	1
Male, straight	A - standard			1500774	1			1523230	1	1681460	1	1513334	1
Connector, with **Pg11** screw connection, **cable diameter: 8 mm ... 10 mm**													
Female, straight	A - standard											1410665	1
Male, straight	A - standard											1410666	1
Power connector, with **Pg11** screw connection, **cable diameter: 8 mm ... 10 mm, rated current:** up to 8 A (5th pos. max. 2 A) with 1.5 mm² wires/litz wires													
Female, angled	A - standard							1408991	1	1408993	1		
Male, angled	A - standard							1408990	1	1408992	1		
Female, straight	A - standard							1404416	1	1404418	1		
Male, straight	A - standard							1404415	1	1404417	1		

Accessories

Pressure screw and seal, for connectors with Pg7 screw connection, for cable diameters:							
2.5 mm ... 3.5 mm	**SACC-M12-SET/2,5-3,5**	1436505	5	**SACC-M12-SET/2,5-3,5**	1436505	5	

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Screw connection

Notes:

M12 connectors for assembly for networks and fieldbuses can be found in the data connectors and cables section from page 337

Metal knurl, 4, 5-pos., with SKINTOP® screw connection

Stainless steel knurl, 4, 5-pos.

		Technical data		Technical data	
		4-pos.	5-pos.	4-pos.	5-pos.
General data					
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-101	
Degree of pollution		3		3	
Degree of protection		IP67		IP65/IP67/IP69K	
Connection method		Screw connection		Screw connection	
Connection cross section [mm²]		0.25 mm² ... 0.75 mm²		0.25 mm² ... 0.75 mm²	
Electrical data					
Rated voltage		250 V AC / 250 V DC	48 V AC / 60 V DC	250 V AC / 250 V DC	48 V AC / 60 V DC
Rated current		4 A		4 A	
Insulation resistance		≥ 100 MΩ		≥ 100 MΩ	
Material data					
Material contact/contact surface		CuZn / CuSnZn		CuZn / Au	
Contact carrier material		PA		PA	
Flammability rating in accordance with UL 94		HB		-	
Temperature data					
Male connector/female connector	[°C]	-20 ... 80		-40 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.		5-pos.		4-pos.		5-pos.	
Connector, with **Pg7** screw connection, **cable diameter: 4 mm ... 6 mm**									
Female, angled	A - standard					1553284	1	1553297	1
Male, angled	A - standard					1553200	1	1553213	1
Female, straight	A - standard	1430381	1	1559000	1	1553242	1	1553255	1
Male, straight	A - standard	1556870	1	1456466	1	1553161	1	1553187	1
Connector, with **Pg9** screw connection, **cable diameter: 6 mm ... 8 mm**									
Female, angled	A - standard			1556812	1			1553307	1
Male, angled	A - standard			1561742	1	1553226	1	1553239	1
Female, straight	A - standard			1556838	1	1553268	1	1553271	1
Male, straight	A - standard			1556825	1	1553174	1	1553190	1

	Accessories		Accessories		
Pressure screw and seal, for connectors with Pg7 screw connection, for cable diameters:					
2.5 mm ... 3.5 mm			SACC-M12-SET/2,5-3,5	1436505	5

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Screw connection, shielded

Notes:

M12 connectors for assembly for networks and fieldbuses can be found in the data connectors and cables section from page 337

Metal housing, 4-, 5-, 8-pos.

Stainless steel housing, 5-pos.

		Technical data			Technical data
		4-pos.	5-pos.	8-pos.	5-pos.
General data					
M12 circular connector in accordance with:			IEC 61076-2-101		IEC 61076-2-101
Degree of pollution			3		3
Degree of protection			IP67		IP65 / IP67 / IP69K
Connection method			Screw connection		Screw connection
Connection cross section [mm²]		0.25 mm² ... 0.75 mm²		0.25 mm² ... 0.5 mm²	0.25 mm² ... 0.75 mm²
Electrical data					
Rated voltage		48 V AC / 60 V DC		30 V AC / 30 V DC	48 V AC / 60 V DC
Rated current		4 A		2 A	4 A
Insulation resistance			≥ 100 MΩ		≥ 100 MΩ
Material data					
Material contact/contact surface			CuZn / Au		CuZn / Au
Contact carrier material			PA		PA
Flammability rating in accordance with UL 94			HB		V0
Temperature data					
Male connector/female connector	[°C]		-40 ... 85		-40 ... 85

		Ordering data						Ordering data			
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		5-pos.			
Connector, cable diameter: **4 mm ... 6 mm**											
Male, angled	A - standard	1694279	1	1693429	1						
Female, straight	A - standard	1694295	1	1694305	1						
Male, straight	A - standard	1693830	1	1693416	1						
Connector, cable diameter: **6 mm ... 8 mm**											
Female, angled	A - standard			1430433	1						
Male, angled	A - standard			1694282	1						
Female, straight	A - standard	1515170	1	1694318	1	1511860	1				
Male, straight	A - standard	1501540	1	1694266	1	1511857	1				
Connector, cable diameter: **6 mm ... 8.5 mm**											
Female, straight	A - standard			1508365	1						
Male, straight	A - standard			1508352	1						
Connector, cable diameter: **3 mm ... 5.5 mm**											
Female, straight	A - standard							1440038	1		
Male, straight	A - standard							1440012	1		
Connector, cable diameter: **5.5 mm ... 8.6 mm**											
Female, straight	A - standard							1440041	1		
Male, straight	A - standard							1440025	1		

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DUO connectors, screw connection

Notes:
Plastic knurl without wrench flats.

Metal knurl,
4-, 5-pos.

Plastic and stainless steel knurl,
5-pos.

		Technical data		Technical data	
		4-pos.	5-pos.	Plastic knurl	Stainless steel knurl
General data					
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-101	
Degree of pollution		3		3	
Degree of protection		IP67		IP67	
Connection method		Screw connection		Screw connection	
Cable diameter		2x 2.1 mm ... 3 mm (when using the seal for small outer cable diameters)		2x 2.1 mm ... 3 mm (when using the seal for small outer cable diameters)	
Cable diameter		2x 4 mm ... 5.2 mm (when using the seal for large outer cable diameters)		2x 4 mm ... 5.2 mm (when using the seal for large outer cable diameters)	
Connection cross section [mm²]		0.25 mm² ... 0.75 mm²		0.25 mm² ... 0.75 mm²	
Electrical data					
Rated voltage		250 V AC / 250 V DC	48 V AC / 60 V DC	48 V AC / 60 V DC	
Rated current		4 A		4 A	
Insulation resistance		≥ 100 MΩ		≥ 100 MΩ	
Material data					
Material contact/contact surface		CuZn / CuSnZn		CuZn / CuSnZn	CuZn / Au
Contact carrier material		PA		PA	
Flammability rating in accordance with UL 94		-		-	
Temperature data					
Male connector/female connector	[°C]	-40 ... 85		-40 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.		5-pos.		Plastic knurl		Stainless steel knurl	
Connector, with metal knurl, for connecting two cables									
Male, straight	A - standard	1507052	1	1662748	1				
Connector, with plastic knurl, for connecting two cables									
Female, straight	A - standard					1694596	1		
Male, straight	A - standard					1662285	1		
Male, angled	A - standard					1531044	1		
Connector, with stainless steel knurl, for connecting two cables									
Female, straight	A - standard							1403372	1
Male, straight	A - standard							1403371	1

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Solder and Piercecon® connection

Solder connection, 12-pos.

Piercecon® connection, 12, 17-pos.

		Technical data		Technical data	
		unshielded	shielded	12-pos.	17-pos.
General data					
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-101	
Degree of pollution		3		3	
Degree of protection		IP67		IP67	
Connection method		Solder connection		Piercecon® fast connection	
Cable diameter		6 mm ... 8 mm		5.4 mm ... 8.2 mm	
Connection cross section [mm²]		0.08 mm² ... 0.25 mm²		0.14 mm² ... 0.14 mm²	
Electrical data					
Rated voltage		30 V AC / 30 V DC		30 V AC / 30 V DC	
Rated current		1.5 A (up to 40°C)		1.5 A	
Insulation resistance		> 10 GΩ		≥ 100 MΩ	
Material data					
Material contact/contact surface		CuZn / Au		CuZn / Ni/Au	
Contact carrier material		PA		PA	
Flammability rating in accordance with UL 94		HB		V0	
Temperature data					
Male connector/female connector	[°C]	-40 ... 85		-25 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		unshielded		shielded		12-pos.		17-pos.	
Connector									
Female, angled	A - standard	1404423	1	1404413	1				
Male, angled	A - standard	1404421	1	1404412	1				
Female, straight	A - standard	1404420	1	1404411	1				
Male, straight	A - standard	1404419	1	1404410	1				
Connector, unshielded, color-coded connection area									
Female, straight	A - standard					1559631	1	1559644	1
Male, straight	A - standard					1559592	1	1559602	1

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Crimp connection, shielded

new

4-, 5-, 8-pos.

Push-pull locking,
4-, 5-, 8-pos.

Technical data

		4-pos.	5-pos.	8-pos.
General data				
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-109
Connection method		M12		
Degree of pollution		3		
Degree of protection		IP65		IP65 / IP67
Connection method		Crimp connection		
Cable diameter		4.5 mm ... 7.5 mm		6.5 mm ... 10 mm
Electrical data				
Rated voltage		48 V AC / 60 V DC		
Rated current		4 A		0.5 A
Insulation resistance		≥ 100 Ω		
Material data				
Contact carrier material		PA 6.6		
Material, knurls		Zinc die-cast, nickel-plated		
Flammability rating in accordance with UL 94		V0		
Temperature data				
Male connector/female connector	[°C]	-40 ... 85		

Technical data

		4-pos.	5-pos.	8-pos.
General data				
M12 circular connector in accordance with:		-		
Connection method		M12 push-pull		
Degree of pollution		3		
Degree of protection		IP65 / IP67 / IP68 / IP69K		
Connection method		Crimp connection		
Cable diameter		4.5 mm ... 7.5 mm		6.5 mm ... 10 mm
Electrical data				
Rated voltage		48 V AC / 60 V DC		
Rated current		4 A		0.5 A
Insulation resistance		≥ 100 Ω		
Material data				
Contact carrier material		PA 6.6		
Material, knurls		PA 6.6		
Flammability rating in accordance with UL 94		V0		
Temperature data				
Male connector/female connector	[°C]	-40 ... 85		

Ordering data

Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.	
Connector, without contacts, color-coded and numbered contact manager							
Female, angled	D - data	1422849	1				
Male, angled	D - data	1422847	1				
Female, straight	D - data	1422848	1				
Male, straight	D - data	1422846	1				
Connector, without contacts, color-coded and numbered contact manager							
Female, angled	A - standard			1422853	1		
Male, angled	A - standard			1422851	1		
Female, straight	A - standard			1422852	1		
Male, straight	A - standard			1422850	1		
Connector, without contacts, color-coded contact manager							
Male, angled	X - data					1422845	1
Male, straight	X - data					1422844	1

Ordering data

Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.	
Connector, without contacts, color-coded and numbered contact manager							
Female, angled	D - data						
Male, angled	D - data	1021831	1				
Female, straight	D - data						
Male, straight	D - data	1021830	1				
Connector, without contacts, color-coded and numbered contact manager							
Female, angled	A - standard						
Male, angled	A - standard			1021816	1		
Female, straight	A - standard						
Male, straight	A - standard			1021815	1		
Connector, without contacts, color-coded contact manager							
Male, angled	X - data					1021784	1
Male, straight	X - data					1021783	1

Accessories

Crimp contact, turned, gold-plated				
Female, for A-/D-coded, 0.14 mm² ... 0.34 mm²	**CC1,0-TS-0,34F AU**	1064041	100	
Female, for A/D-coded, 0.34 mm² ... 1.0 mm²	**CC1,0-TS-1,00F AU**	1423646	100	
Male, for A-/D-coded, 0.14 mm² ... 0.34 mm²	**CC1,0-TS-0,34M AU**	1064040	100	
Male, for A/D-coded, 0.34 mm² ... 1.0 mm²	**CC1,0-TS-1,00M AU**	1423645	100	
Male, for X-coded, 0.14 mm² ... 0.34 mm²	**CC0,6-TS-0,34M AU**	1423643	100	
Crimping pliers, for turned contacts, universal cross section setting, up to a maximum of 2.5 mm², digital display with 0.01 mm increments, unlockable pressure lock, lateral entry, including positioning tool				
for turned contacts, four-mandrel crimping	**CRIMPFOX-TC MP**	1212510	1	

Accessories

Crimp contact, turned, gold-plated				
Female, for A-/D-coded, 0.14 mm² ... 0.34 mm²				
Female, for A/D-coded, 0.34 mm² ... 1.0 mm²				
Male, for A-/D-coded, 0.14 mm² ... 0.34 mm²	**CC1,0-TS-0,34M AU**	1064040	100	
Male, for A/D-coded, 0.34 mm² ... 1.0 mm²	**CC1,0-TS-1,00M AU**	1423645	100	
Male, for X-coded, 0.14 mm² ... 0.34 mm²	**CC0,6-TS-0,34M AU**	1423643	100	
Crimping pliers, for turned contacts, universal cross section setting, up to a maximum of 2.5 mm², digital display with 0.01 mm increments, unlockable pressure lock, lateral entry, including positioning tool				
for turned contacts, four-mandrel crimping	**CRIMPFOX-TC MP**	1212510	1	

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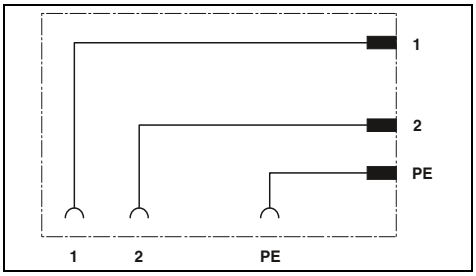
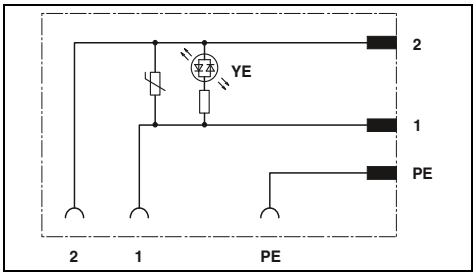
Valve connectors, type A, screw connection

Without protective circuit

Protective circuit: varistor





	Technical data	Technical data
General data		
Valve connector in accordance with:	EN 175301-803	EN 175301-803
Degree of pollution	3	3
Degree of protection	IP65	IP65
Connection method	Screw connection	Screw connection
Electrical data		
Rated current	10 A	1.5 A
Insulation resistance	> 2 GΩ	> 2 GΩ
Material data		
Material contact valve connector	CuZn	CuZn
Material contact surface valve connector	CuSn	CuSn
Flammability rating in accordance with UL 94	HB	HB
Temperature data		
Valve connectors [°C]	-25 ... 60	-25 ... 60

Description	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Valve connector, without protective circuit, rated voltage: 230 V						
3-pos.	**SACC-VB-3CON-M16/A**	1452123	1			
4-pos.	**SACC-VB-4CON-M16/A**	1452136	1			
Valve connector, with protective circuit, rated voltage:						
24 V				**SACC-VB-3CON-M16/A-1L-SV 24V**	1452149	1
110 V				**SACC-VB-3CON-M16/A-1L-SV 110V**	1452152	1
230 V				**SACC-VB-3CON-M16/A-1L-SV 230V**	1452165	1
Valve connector, 5-pos., type A for pressure switch, 2 LEDs, without protective circuit, M16 cable gland, rated voltage:						
24 V						
Valve connector, with protective circuit, rated voltage: 24 V, cable gland:						
Pg9						
M16						

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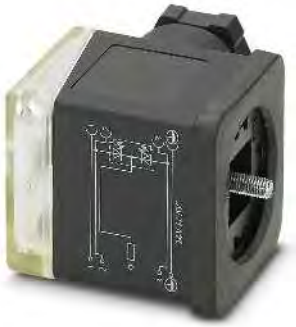
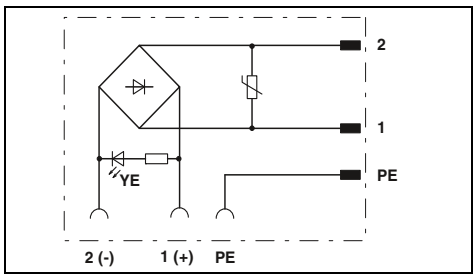
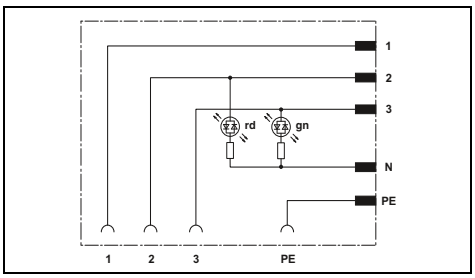
Protective circuit: varistor and rectifier

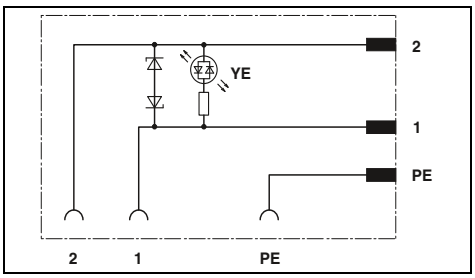


Pressure switch

Protective circuit: Z diode







Technical data

Standards	EN 175301-803
Number of poles	3
Degree of protection	IP65
Connection method	Screw connection
Rated current	1.5 A
Insulation resistance	> 2 GΩ
Material	CuZn
Contact surface	CuSn
Flammability rating	HB
Ambient temperature (operation)	-25 ... 60

Technical data

Standards	EN 175301-803
Number of poles	3
Degree of protection	IP65
Connection method	Screw connection
Rated current	1.5 A
Insulation resistance	> 2 GΩ
Material	CuZn
Contact surface	CuSn
Flammability rating	HB
Ambient temperature (operation)	-25 ... 60

Technical data

Standards	EN 175301-803
Number of poles	3
Degree of protection	IP65
Connection method	Screw connection
Rated current	4 A
Insulation resistance	> 2 GΩ
Material	CuSn
Contact surface	Ag
Flammability rating	HB
Ambient temperature (operation)	-25 ... 60

Ordering data

Type	Order No.	Pcs./Pkt.
SACC-VB-3CON-M16/A-GVL 12/24V	1452178	1
SACC-VB-3CON-M16/A-GVL 110V	1452181	1
SACC-VB-3CON-M16/A-GVL 230V	1452194	1

Ordering data

Type	Order No.	Pcs./Pkt.
SACC-VB-5CON-M16/AD-2L 24V	1457908	1

Ordering data

Type	Order No.	Pcs./Pkt.
SACC-V-3CON-PG9/A-1L-S	1671137	1
SACC-V-3CON-M16/A-1L-S	1544714	1

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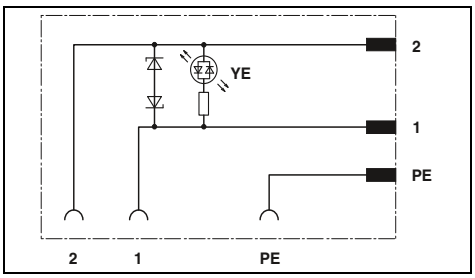
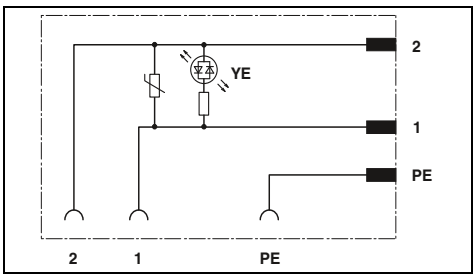
Valve connectors, types B and BI, screw connection

Protective circuit: Z diode

Protective circuit: varistor





	Technical data		Technical data	
	Type B	Type BI	Type B	Type BI
General data				
Valve connector in accordance with:	EN 175301-803	-	EN 175301-803	-
Degree of pollution	3		3	
Degree of protection	IP65		IP65	
Connection method	Screw connection		Screw connection	
Electrical data				
Rated current	4 A		1.5 A	
Insulation resistance	> 2 GΩ		> 2 GΩ	
Material data				
Material contact surface valve connector	Ag		CuSn	
Material housing valve connector	PA		PA	
Flammability rating in accordance with UL 94	HB		HB	
Temperature data				
Valve connectors [°C]	-25 ... 60		-25 ... 60	

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Type B		Type BI		Type B		Type BI	
Valve connector, 3-pos., with protective circuit, cable gland Pg9, rated voltage:								
24 V	1671153	1	1671140	1				
Valve connector, with protective circuit, yellow LED, rated voltage:								
24 V					1452204	1	1452233	1
110 V					1452217	1	1452246	1
230 V					1452220	1	1452259	1

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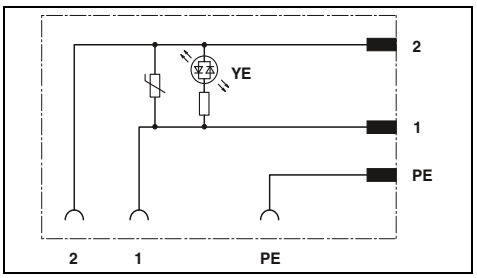
Valve connectors, type C and CI, screw connection

Protective circuit: varistor



Technical data

	Type C	Type CI
General data		
Valve connector in accordance with:	EN 175301-803	-
Degree of pollution	3	
Degree of protection	IP65	
Connection method	Screw connection	
Electrical data		
Rated current	1.5 A	
Insulation resistance	> 2 GΩ	
Material data		
Material contact valve connector	CuZn	
Material contact surface valve connector	CuSn	
Flammability rating in accordance with UL 94	HB	
Temperature data		
Valve connectors [°C]	-25 ... 60	

Ordering data

Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Type C		Type CI	
Valve connector, with protective circuit, yellow LED, rated voltage:				
24 V	1452262	1	1452291	1
110 V	1452275	1	1452301	1
230 V	1452288	1	1452314	1

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M5 fastening thread, with 0.5 m long litz wires

Notes:

Flat nut recommended for housing wall thicknesses < 2.5 mm.

M5, 3-, 4-pos.

EAC

Technical data

		3-pos.	4-pos.
General data			
M5 circular connector in accordance with:		IEC 61076-2-105	IEC 61076-2-105
Degree of pollution		3	3
Degree of protection		IP67	IP67
Connection method		Individual wires	Individual wires
Electrical data			
Rated voltage		60 V	60 V
Rated current		1 A	1 A
Material data			
Material contact/contact surface		CuSn / Au	CuSn / Au
Contact carrier material		PA 6.6	PA 6.6
Flammability rating in accordance with UL 94		HB	HB
Cable type		TPE litz wire	TPE litz wire
Temperature data			
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85

Ordering data

Description	Coding	Order No. (3-pos.)	Pcs./Pkt.	Order No. (4-pos.)	Pcs./Pkt.
Device connector					
Female	A - standard	1530605	1	1530618	1
Male	A - standard	1530582	1	1530595	1

Accessories

Flat nut, with: M5 thread	**SACC-E-MU-M 5**	1535901	100

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M8 fastening thread, with 0.5 m long litz wires

M8,
3-, 4-, 5-pos.

M8,
6-, 8-pos.

		Technical data			Technical data		
		3-pos.	4-pos.	5-pos.	6-pos.	8-pos.	
General data							
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP67	IP67	IP67	IP67	IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		50 V AC / 60 V DC	50 V AC / 60 V DC	30 V AC / 30 V DC	30 V AC / 30 V DC	30 V AC / 30 V DC	
Rated current		4 A	4 A	3 A	2 A	1.5 A	
Material data							
Material contact/contact surface		Cu alloy / Au	Cu alloy / Au	Cu alloy / Au	Cu alloy / Au	Cu alloy / Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		HB	HB	HB	HB	HB	
Cable type		PVC litz wire	PVC litz wire	PVC litz wire	PVC litz wire	PVC litz wire	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data						Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		3-pos.		4-pos.		5-pos.		6-pos.		8-pos.			
Device connector													
Female	A - standard	1500350	1	1500363	1			1542677	1	1424231	1		
Male	A - standard	1500334	1	1500347	1			1542664	1	1424232	1		
Female	B - inverse					1424233	1						
Male	B - inverse					1424234	1						
Flat nut, with:													
M8 thread		1504071	100	1504071	100			1504071	100				

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M8, M10, M12 fastening thread, with 0.5 m long litz wires

3-, 4-pos.

6, 8-pos.

		Technical data		Technical data	
		3-pos.	4-pos.	6-pos.	8-pos.
General data					
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104
Degree of pollution		3	3	3	3
Degree of protection		IP67	IP67	IP67	IP67
Connection method		Individual wires	Individual wires	Individual wires	Individual wires
Electrical data					
Rated voltage		50 V AC / 60 V DC	50 V AC / 60 V DC	30 V AC / 30 V DC	30 V AC / 30 V DC
Rated current		4 A	4 A	2 A	1.5 A
Material data					
Material contact/contact surface		Cu alloy / Au	Cu alloy / Au	Cu alloy / Au	Cu alloy / Au
Contact carrier material		PUR / PA 6.6	PUR / PA 6.6	PUR / PA 6.6	PUR / PA 6.6
Flammability rating in accordance with UL 94		HB	HB	HB	HB
Cable type		PVC litz wire	PVC litz wire	PVC litz wire	PVC litz wire
Temperature data					
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		3-pos.		4-pos.		6-pos.		8-pos.	
Device connector, M8 fastening thread									
Male	A - standard	1453478	1	1453481	1	1453494	1	1424230	1
Device connector, M10 fastening thread									
Female	A - standard	1456080	1	1456093	1	1456103	1	1424229	1
Device connector, M12 fastening thread									
Female	A - standard	1453449	1	1453452	1	1453465	1		

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Pg9 fastening thread, with 0.5 m long litz wires

4-, 5-, 8-pos.

can be positioned, 4-, 5-, 8-pos.

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	4-pos.	5-pos.	8-pos.
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Degree of pollution		3	3	3	3	3	3
Degree of protection		IP67	IP67	IP67	IP67	IP67	IP67
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	Individual wires
Electrical data							
Rated voltage		250 V	60 V	30 V	250 V	60 V	30 V
Rated current		4 A	4 A	2 A	4 A	4 A	2 A
Material data							
Material contact/contact surface		CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au
Contact carrier material		PA66	PA66	PA66	PA66	PA66	PA66
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	V0
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85

		Ordering data						Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		4-pos.		5-pos.		8-pos.	
Device connector													
Female	A - standard	1693788	1	1671098	1	1513758	1	1693791	1	1671108	1	1513761	1
Male	A - standard	1693762	1	1671111	1	1513774	1	1693775	1	1671124	1	1513787	1
Female	B - inverse									1515044	1		
Male	B - inverse									1515057	1		

	Accessories			Accessories		
Flat nut, with: Pg9 thread	SACC-E-MU-PG9	1504084	100			

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M12 push-pull locking, with 0.5 m litz wires

– Manufacturer-independent M12 push-pull locking system

new

4-pos.

new

5-pos.

		Technical data		Technical data	
		4-pos.		5-pos.	
General data					
M12 circular connector in accordance with:		-		-	
Degree of pollution		3		3	
Degree of protection		IP65/IP67		IP65/IP67	
Connection method		Individual wires		Individual wires	
Electrical data					
Rated voltage		250 V		60 V	
Rated current		4 A		4 A	
Material data					
Material contact/contact surface		CuZn / Ni/Au		CuZn / Ni/Au	
Contact carrier material		PA 6.6		PA 6.6	
Flammability rating in accordance with UL 94		V0		V0	
Cable type		TPE litz wire		TPE litz wire	
Temperature data					
Male connector/female connector	[°C]	-25 ... 85		-25 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.				5-pos.			
Device connector									
Female	A-coded					1027683	1		
Female	D-coded	1027686	1						

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M16 fastening thread, with 0.5 m long litz wires

4-, 5-, 8-pos.

12-, 17-pos.

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.	
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		250 V	60 V	30 V	30 V	30 V	
Rated current		4 A	4 A	2 A	1.5 A	1.5 A	
Material data							
Material contact/contact surface		CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data						Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.			
Device connector													
Female	A - standard	1523434	1	1520039	1	1523476	1	1556252	1	1556294	1		
Male	A - standard	1523450	1	1520055	1	1523492	1	1556265	1	1556304	1		
Female	D - data	1535202	1										
Male	D - data	1551558	1										
Female	B - inverse			1520000	1								
Male	B - inverse			1520013	1								

	Accessories			Accessories		
Flat nut, with: M16 thread	SACC-E-MU-M16	1504097	100	SACC-E-MU-M16	1504097	100

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M16 fastening thread, with 0.5 m long litz wires, can be positioned

can be positioned, 4-, 5-pos.

can be positioned, 8-pos.

		Technical data		Technical data	
		4-pos.	5-pos.	8-pos.	
General data					
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	
Degree of protection		IP67	IP67	IP67	
Connection method		Individual wires	Individual wires	Individual wires	
Electrical data					
Rated voltage		250 V	60 V	30 V	
Rated current		4 A	4 A	2 A	
Material data					
Material contact/contact surface		CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data					
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.		5-pos.		8-pos.			
Device connector									
Female	A - standard	1523447	1	1520042	1	1523489	1		
Male	A - standard	1523463	1	1520068	1	1523502	1		
Female	D - data	1535215	1						
Male	D - data	1552256	1						
Female	B - inverse			1519998	1				
Male	B - inverse			1520026	1				

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XL device connectors, M16 fastening thread, with 0.5 m long litz wires

– Tightening limitation
– Wrench size 19

4-, 5-, 8-pos.

12-, 17-pos.

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.	
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		250 V	60 V	30 V	30 V	30 V	
Rated current		4 A	4 A	2 A	1.5 A	1.5 A	
Material data							
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data						Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.			
Device connector													
Female	A - standard	1411568	1	1411571	1	1411573	1	1411574	1	1411576	1		
Male	A - standard	1411577	1	1411579	1	1411581	1	1411582	1	1411583	1		
Female	D - data	1411569	1										
Male	D - data	1411578	1										
Female	B - inverse			1411572	1								
Male	B - inverse			1411580	1								

	Accessories			Accessories		
Flat nut, with: M16 thread	SACC-E-MU-M16	1504097	100	SACC-E-MU-M16	1504097	100

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M20 fastening thread, with 0.5 m long litz wires

– Housing material: brass, nickel-plated

4-, 5-, 8-pos.

		Technical data		
		4-pos.	5-pos.	8-pos.
General data				
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Degree of pollution		3	3	3
Degree of protection		IP67/IP69K	IP67/IP69K	IP67/IP69K
Connection method		Individual wires	Individual wires	Individual wires
Electrical data				
Rated voltage		250 V	60 V	30 V
Rated current		4 A	4 A	2 A
Material data				
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au
Contact carrier material		PA 6.6	PA 6.6	PA 6.6
Flammability rating in accordance with UL 94		V0	V0	V0
Cable type		TPE litz wire	TPE litz wire	TPE litz wire
Temperature data				
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85

		Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.	
Device connector							
Female	A - standard	1408436	1	1408454	1	1408453	1
Male	A - standard	1408451	1	1408446	1	1408442	1

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M12 sensor/actuator device connectors, front mounting

One-piece, 20 mm square flange, with 0.5 m long litz wires

– 4x fixing hole, 3.2 mm
– With form seal for M3 screws

4-, 5-, 8-pos.

12-, 17-pos.

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.	
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP67	IP67	IP67	IP67	IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		250 V	60 V	30 V	30 V	30 V	
Rated current		4 A	4 A	2 A	1.5 A	1.5 A	
Material data							
Material contact/contact surface		CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data									
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.			
Device connector													
Female	A - standard	1419797	1	1441655	1	1441697	1	1441710	1	1441736	1		
Male	A - standard	1419784	1	1441642	1	1441684	1	1441707	1	1441723	1		
Female	D - data	1441639	1										
Male	D - data	1441626	1										
Female	B - inverse			1441671	1								
Male	B - inverse			1441668	1								

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One-piece, 25 mm square flange, with 0.5 m long litz wires

– 4 x fixing hole, 2.7 mm
– With form seal for M2.5 screws

4-, 5-, 8-pos.

12-, 17-pos.

		Technical data			Technical data	
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.
General data						
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Degree of pollution		3	3	3	3	3
Degree of protection		IP67	IP67	IP67	IP67	IP67
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires
Electrical data						
Rated voltage		250 V	60 V	30 V	30 V	30 V
Rated current		4 A	4 A	2 A	1.5 A	1.5 A
Material data						
Material contact/contact surface		CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire
Temperature data						
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85

		Ordering data									
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.			
Device connector													
Female	A - standard	1420003	1	1440986	1	1441574	1	1441590	1	1441613	1		
Male	A - standard	1419991	1	1440973	1	1441561	1	1441587	1	1441600	1		
Female	D - data	1440960	1										
Male	D - data	1440957	1										
Female	B - inverse			1441558	1								
Male	B - inverse			1440999	1								

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Modular, 25 mm square flange, pre-assembled

Flange housing, housing bore holes 3.2 mm

With 0.5 m long litz wires, assembled contact carrier and insulating body

		Technical data			Technical data		
					4-pos.	5-pos.	8-pos.
General data							
M12 circular connector in accordance with:		IEC 61076-2-101			IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Degree of pollution		-			3	3	3
Degree of protection		-			IP67	IP67	IP67
Connection method		-			Crimp contacts	Crimp contacts	Crimp contacts
Electrical data							
Rated voltage					250 V	60 V	30 V
Rated current		-			4 A	4 A	2 A
Material data							
Material contact/contact surface		- / -			CuZn / Au	CuZn / Au	CuZn / Au
Contact carrier material		-			PA 6.6	PA 6.6	PA 6.6
Cable gland material		Zinc die-cast, nickel-plated			-	-	-
Flammability rating in accordance with UL 94		-			V0	V0	V0
Cable type		-			TPE litz wire	TPE litz wire	TPE litz wire
Temperature data							
Male connector/female connector	[°C]	-40 ... 85			-25 ... 85	-25 ... 85	-25 ... 85

		Ordering data						Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
								4-pos.		5-pos.		8-pos.	
Square flange housing, with O-ring		1419959	10										
Assembled contact carrier and insulating body, with 0.5 m litz wires and crimp contacts													
Male	A - standard							1440805	1	1440818	1	1457827	1
Male	D - data							1440821	1				
Male	B - inverse									1440759	1		

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Modular, 25 mm square flange, for free assembly

Flange housing, housing bore holes 3.2 mm

Contact carriers and insulating bodies for assembly

		Technical data			Technical data		
					4-pos.	5-pos.	8-pos.
General data							
M12 circular connector in accordance with:		IEC 61076-2-101			IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Degree of pollution		-			3	3	3
Degree of protection		-			IP67	IP67	IP67
Connection method		-			Crimp contacts	Crimp contacts	Crimp contacts
Electrical data							
Rated voltage					250 V	60 V	30 V
Rated current		-			4 A	4 A	2 A
Material data							
Contact carrier material		-			PA 6.6	PA 6.6	PA 6.6
Cable gland material		Zinc die-cast, nickel-plated			-	-	-
Flammability rating in accordance with UL 94		-			V0	V0	V0
Temperature data							
Male connector/female connector	[°C]	-40 ... 85			-25 ... 85	-25 ... 85	-25 ... 85

		Ordering data						Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
								4-pos.		5-pos.		8-pos.	
Square flange housing, with O-ring		1419959	10										
Contact carrier and insulating bodies													
Male	A - standard							1440931	10	1419988	10	1440928	10
Male	D - data							1440944	10				
Male	B - inverse									1440915	10		
Crimp contact, for 4- and 5-pos. contact carriers, contact material: CuZn, surface: gold-plated, connection cross section: 0.08 mm² ... 0.34 mm²													
Contact Ø: 1.0 mm								1452356	100	1452356	100		
Crimp contact, for 8-pos. contact carriers, contact material: CuZn, surface: gold-plated, connection cross section: 0.08 mm² ... ... 0.34 mm²													
Contact Ø: 0.8 mm												1452372	100

	Accessories			Accessories		
Crimping pliers, for turned contacts, universal cross section setting, up to a maximum of 2.5 mm², digital display with 0.01 mm increments, unlockable pressure lock, lateral entry, including positioning tool						
for turned contacts, four-mandrel crimping				**CRIMPFOX-TC MP**	1212510	1

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Pg9 fastening thread, with 0.5 m long litz wires

4-, 5-, 8-pos.

12-, 17-pos.

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.	
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP67	IP67	IP67	IP67	IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		250 V	60 V	30 V	30 V	30 V	
Rated current		4 A	4 A	2 A	1.5 A	1.5 A	
Material data							
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data									
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.			
Device connector													
Female	A - standard	1556621	1	1542729	1	1542732	1	1430446	1	1430462	1		
Male	A - standard	1556618	1	1542703	1	1542716	1	1430459	1	1430475	1		
Female	D - data	1551529	1										
Male	D - data	1551532	1										
Female	B - inverse			1543676	1								
Male	B - inverse			1543663	1								

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M12 fastening thread, with 0.5 m long litz wires

4-, 5-, 8-pos.

12-, 17-pos.

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.	
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP67	IP67	IP67	IP67	IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		250 V	60 V	30 V	30 V	30 V	
Rated current		4 A	4 A	2 A	1.5 A	1.5 A	
Material data							
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data										Ordering data			
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.					
Device connector															
Male	A - standard	1551875	1	1551888	1	1551914	1	1437122	1	1437135	1				
Male	D - data	1551901	1												
Male	B - inverse			1551891	1										

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M12 push-pull locking, with 0.5 m litz wires

– Manufacturer-independent M12 push-pull locking system

new

4-pos.

new

5-pos.

		Technical data		Technical data	
		4-pos.		5-pos.	
General data					
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-101	
Degree of pollution		3		3	
Degree of protection		IP67		IP67	
Connection method		Individual wires		Individual wires	
Electrical data					
Rated voltage		250 V		60 V	
Rated current		4 A		4 A	
Material data					
Material contact/contact surface		CuZn / Au		CuZn / Au	
Contact carrier material		PA 6.6		PA 6.6	
Flammability rating in accordance with UL 94		V0		V0	
Cable type		TPE litz wire		TPE litz wire	
Temperature data					
Male connector/female connector	[°C]	-25 ... 85		-25 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.				5-pos.			
Device connector									
Female	A-coded					1027666	1		
Female	D-coded	1027670	1						

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M16 fastening thread, with 0.5 m long litz wires

4-, 5-, 8-pos.

12-, 17-pos.

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.	
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		250 V	60 V	30 V	30 V	30 V	
Rated current		4 A	4 A	2 A	1.5 A	1.5 A	
Material data							
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data									
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.			
Device connector													
Female	A - standard	1419632	1	1419658	1	1419690	1	1419713	1	1419739	1		
Male	A - standard	1419629	1	1419645	1	1419687	1	1419700	1	1419726	1		
Female	D - data	1419616	1										
Male	D - data	1419603	1										
Female	B - inverse			1419674	1								
Male	B - inverse			1419661	1								

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XL device connectors, M16 fastening thread, with 0.5 m long litz wires

– Tightening limitation
– Wrench size 19

4-, 5-, 8-pos.

12-, 17-pos.

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.	
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		250 V	60 V	30 V	30 V	30 V	
Rated current		4 A	4 A	2 A	1.5 A	1.5 A	
Material data							
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data									
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.			
Device connector													
Female	A - standard	1411584	1	1411586	1	1411588	1	1411589	1	1411590	1		
Male	A - standard	1411591	1	1411593	1	1411595	1	1411596	1	1411597	1		
Female	D - data	1411585	1										
Male	D - data	1411592	1										
Female	B - inverse			1411587	1								
Male	B - inverse			1411594	1								

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M16 fastening thread, with assembled cable, shielded

PUR cable, 4-, 5-, 8-pos., shielded

PVC cable, 12-, 17-pos., shielded

		Technical data			Technical data		
		4-pos.	5-pos.	8-pos.	12-pos.	17-pos.	
General data							
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	3	3	
Degree of protection		IP67	IP67	IP67	IP67	IP67	
Connection method		Individual wires	Individual wires	Individual wires	Individual wires	Individual wires	
Electrical data							
Rated voltage		250 V	60 V	30 V	30 V	30 V	
Rated current		4 A	4 A	2 A	1.5 A	1.5 A	
Material data							
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Cable type		PUR halogen-free black	PUR halogen-free black	PUR halogen-free black	PVC black	PVC black	
Temperature data							
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data									
Description	Cable length	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.		12-pos.		17-pos.			
Device connector, A-coded													
Female	1 m	1419302	1	1419328	1	1419357	1	1442188	1	1442269	1		
Male	1 m	1419399	1	1419409	1	1419425	1	1442227	1	1442308	1		
Female	2 m	1419315	1	1419331	1	1419344	1	1442191	1	1442272	1		
Male	2 m	1419386	1	1419412	1	1419438	1	1442230	1	1442311	1		

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Pg9 fastening thread, plastic, with 0.5 m long litz wires

5-, 8-pos.

EAC

Technical data

		5-pos.	8-pos.
General data			
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101
Degree of pollution		3	3
Degree of protection		IP67	IP67
Electrical data			
Rated voltage		60 V	30 V
Rated current		4 A	2 A
Material data			
Material contact/contact surface		CuZn / Au	CuZn / Au
Contact carrier material		PA 6.6	PA 6.6
Flammability rating in accordance with UL 94		HB	HB
Temperature data			
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85

Ordering data

Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		5-pos.		8-pos.	
Device connector					
Female	A - standard	1436356	1	1436369	1

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M16 fastening thread, control cabinet feed-through

4-, 5-, 8-pos.

EAC

		Technical data		
		4-pos.	5-pos.	8-pos.
General data				
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Degree of pollution		3	3	3
Degree of protection		IP67	IP67	IP67
Electrical data				
Rated voltage		60 V	60 V	30 V
Rated current		4 A	4 A	2 A
Material data				
Contact material		CuZn	CuZn	CuZn
Contact surface material		Au	Au	Au
Contact carrier material		PA 6.6	PA 6.6	PA 6.6
Flammability rating in accordance with UL 94		HB	HB	HB
Temperature data				
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85

		Ordering data					
Description	Coding	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		4-pos.		5-pos.		8-pos.	
Control cabinet feed-through, M16 fastening thread							
Male to female	A - standard			1551671	1	1551697	1
Male to female	B - inverse			1551684	1		
Female to female	D - data	1424326	1				

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Sealing elements

During transport or when in the field, unused plug-in connections must be protected or sealed. Plastic or metal screw plugs, sealing caps, and sealing plugs can be used for this. IP65/IP67 and IP69K protection is achieved.

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
M5 screw plug for unused M5 sockets of sensor/actuator cables, boxes, and device connectors	①	**PROT-M5**	1533288	10
M8 screw plug for unused M8 sockets of sensor/actuator cables, boxes, and device connectors	②	**PROT-M8**	1682540	5
M12 screw plug for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	③	**PROT-M12**	1680539	5
M12 screw plug fast locking system for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	④	**PROT-MS SCO**	1553129	5
M12 sealing cap for unused M12 connectors of sensor/actuator cables, device connectors, and I/O devices in the field	⑤	**PROT-M12 FS**	1560251	5
M12 screw plug, metal for unused M12 sockets of shielded sensor/actuator cables, boxes, and device connectors	⑥	**PROT-M12 SH**	1503302	5
Metal M12 sealing cap for unused M12 connectors of sensor/actuator cables, device connectors, and I/O devices in the field	⑦	**PROT-M12 FS-M**	1430488	10
for unused M12 sockets		**PROT-M12 MS-M**	1414148	10
Stainless steel M12 screw plug for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	⑧	**PROT-M12 FB**	1555538	5
Closing cap for Pg9/ Pg11, to close unoccupied connections	⑨	**Q-PROT 9/11**	1670235	10
M16 screw plug With flat nut for oval housing cutouts	⑩	**SACC-M16-SEALING PLUG SET**	1453368	10

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Sealing elements with holding band or fixing chain

All IP67 interfaces can be closed tightly using the screw plugs and sealing caps in the sizes M8, M12 and 7/8". The holding bands are fastened on the cable or the housing and are thus held captive.

The M12 metal protective cap with fixing chain is suitable for all male versions. It is used in harsh industrial environments or for EMC applications.

		Ordering data		
Description		Type	Order No.	Pcs./Pkt.
Screw plug made from **plastic** with retaining strap, for sealing unused **sockets**	①			
M8 for SAC cables		**PROT-M 8 MS-PA-CHAIN**	1430860	10
M8 with 3 mm fastening eye		**PROT-M 8 MS-PA-CHAIN-EYE-DM3**	1441105	10
M8 with 12 mm fastening eye		**PROT-M 8 MS-PA-CHAIN-EYE**	1441095	10
M12 for SAC cables		**PROT-M12 MS-PA-CHAIN**	1430899	5
M12 with 15 mm fastening eye		**PROT-M12 MS-PA-CHAIN-EYE-DM14**	1456200	5
7/8" for SAC cables		**PROT-MINMS-PA-CHAIN**	1430925	10
Plastic sealing cap with holding band, for closing unoccupied **connectors**	②			
M8 for SAC cables		**PROT-M 8 FS-PA-CHAIN**	1430857	10
M8 with 8 mm fastening eye		**PROT-M 8 FS-PA-CHAIN-EYE**	1441082	10
M12 for SAC cables		**PROT-M12 FS-PA-CHAIN**	1430873	5
M12 with 12 mm fastening eye		**PROT-M12 FS-PA-CHAIN-EYE-DM12**	1456187	5
M12 with 15 mm fastening eye		**PROT-M12 FS-PA-CHAIN-EYE-DM14**	1456190	5
7/8" for SAC cables		**PROT-MINFS-PA-CHAIN**	1430912	10
Sealing cap made of **metal** with fixing chain and 16 mm fastening eye, for sealing:	③			
unused M12 male connectors		**PROT-M12 FS-M-CHAIN**	1430491	10
unused M12 female connectors		**PROT-M12 MS-M-CHAIN**	1414147	1

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Accessories for device connectors

Special fixing nuts are available for the EMC-compliant installation of M12 device connectors for coated or painted housing surfaces. When tightened they cut through the surface coating and establish contact between the housing and the connector.

Alternatively, flat gaskets can be used to provide the seal between the housing panel and device connector. This means that the housing cutouts no longer need to be chamfered for thin panels.

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
EMC hexagonal nut with fine toothing, for all device connectors with:	①			
M12 fastening thread		SACC-M12-KD-NUT-SH	1440151	10
EMC hexagonal nut with fine toothing, for all device connectors with:	②			
M16 fastening thread		SACC-M16-KD-NUT-SH	1440164	10
Pg9 fastening thread		SACC-PG9-KD-NUT-SH	1440177	10
Flat gasket for all device connectors with:	③			
M16 fastening thread		SACC-M16-SEAL CLM	1430394	10
Pg9 fastening thread		SACC-PG9-SEAL CLM	1556320	10

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Assembly tools for sensor/actuator cables

To achieve tight plug-in connections, we recommend using assembly tools. M12 and 7/8" circular connectors can be assembled using a torque screwdriver and plug attachment.

The benefits of the plug attachment become particularly clear when connecting the connectors to distributor boxes. Thanks to the open design, it enables quick adjustment and installation even when space is at a premium.

The version for M12 connectors with hexagonal high-grade steel knurl is also made from high-grade steel. This prevents the connector knurls from being contaminated by corrosive materials.

For greater flexibility, screwdrivers with adjustable torque are available. When used in conjunction with the adapter insert, the available nuts can also be accommodated.

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Torque screwdriver ① With a preset torque of 0.8 Nm and a 4 mm hexagonal drive	**TSD 08 SAC**	1212597	1
Nut ② for assembling 7/8" connectors, with a knurl diameter of 25 mm, with 4 mm hexagonal drive	**SAC BIT MIN-D25**	1212512	1
Torque screwdriver ③ With preset torque of 0.4 Nm and 4 mm hexagonal drive	**TSD 04 SAC**	1208429	1
Nut ④ for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive	**SAC BIT M12-W14**	1212513	1
Torque screwdriver, accuracy in accordance with standard EN ISO 6789 ⑤			
adjustable from 0.3 ... 1.2 Nm	**TSD-M 1,2NM**	1212224	1
adjustable from 1.2 ... 3 Nm	**TSD-M 3NM**	1212225	1
adjustable from 3 ... 6 Nm	**TSD-M 6NM**	1212226	1
Adapter insert ⑥ For torque screwdrivers with adjustable torque, for accommodating plug attachments with 4 mm hexagonal drive	**TSD-M SAC-BIT ADAPTER**	1212600	1

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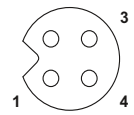
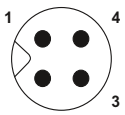
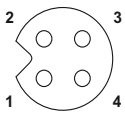
M5 device connectors



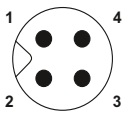
Female, 3-pos.



Male, 3-pos.



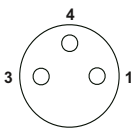
Female, 4-pos.



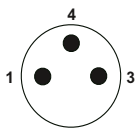
Male, 4-pos.

Pin	3-pos.	4-pos.
1	BN	BN
2	–	WH
3	BU	BU
4	BK	BK

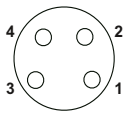
M8 device connectors



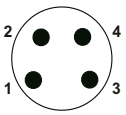
Female, 3-pos.



Male, 3-pos.

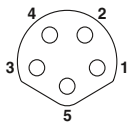


Female, 4-pos.

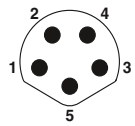


Male, 4-pos.

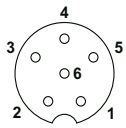
Pin	3-pos., A-coded	4-pos., A-coded
1	BN	BN
2	–	WH
3	BU	BU
4	BK	BK



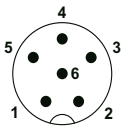
Female, 5-pos., B-coded



Male, 5-pos., B-coded

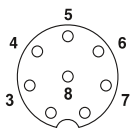


Female, 6-pos.

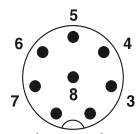


Male, 6-pos.

Pin	5-pos. B-coded	6-pos., A-coded
1	GY	BN
2	RD	WH
3	WH	BU
4	BK	BK
5	BU	GY
6		PK



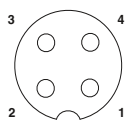
Female, 8-pos.



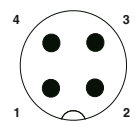
Male, 8-pos.

Pin	8-pos., A-coded
1	WH
2	BN
3	GN
4	YE
5	GY
6	PK
7	BU
8	RD

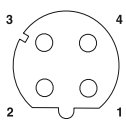
M12 device connectors



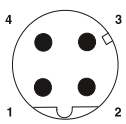
Female, 4-pos., A-coded



Male, 4-pos., A-coded

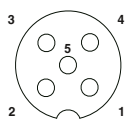


Female, 4-pos., D-coded

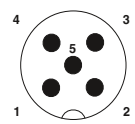


Male, 4-pos., D-coded

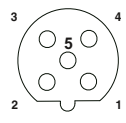
Pin	4-pos., A-coded	4-pos., D-coded
1	BN	YE
2	WH	WH
3	BU	OG
4	BK	BU



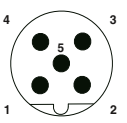
Female, 5-pos., A-coded



Male, 5-pos., A-coded

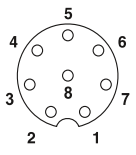


Female, 5-pos., B-coded

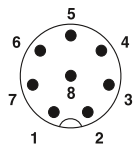


Male, 5-pos., B-coded

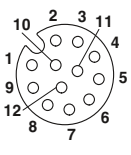
Pin	5-pos., A-coded	5-pos., B-coded
1	BN	BN
2	WH	WH
3	BU	BU
4	BK	BK
5	GY	GY



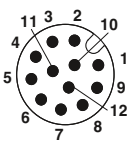
Female, 8-pos.



Male, 8-pos.



Female, 12-pos.



Male, 12-pos.

Pin	8-pos.	12-pos.
1	WH	BN
2	BN	BU
3	GN	WH
4	YE	GN
5	GY	PK
6	PK	YE
7	BU	BK
8	RD	GY
9	–	RD
10	–	VT
11	–	GYPK
12	–	RDBU

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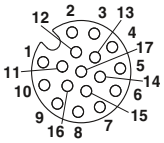
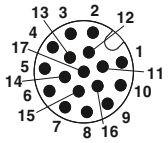
M12 device connectors



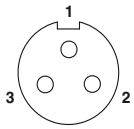
Female, 17-pos.



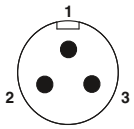
Male, 17-pos.

Pin	17-pos.	Pin	17-pos.
1	BN	9	RD
2	BU	10	VT
3	WH	11	GYPK
4	GN	12	RDBU
5	PK	13	WHGN
6	YE	14	BNGN
7	BK	15	WHYE
8	GY	16	YEBN
		17	WHGY

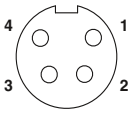
7/8" device connectors



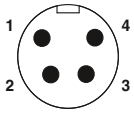
Female, 3-pos.



Male, 3-pos.

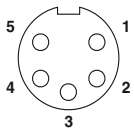


Female, 4-pos.

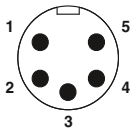


Male, 4-pos.

Pin	3-pos.	4-pos.
1	BK	BK
2	BN	BU
3	BU	BN
4	–	WH



Female, 5-pos.



Male, 5-pos.

Pin	5-pos.
1	BK
2	BU
3	GNYE
4	BN
5	WH

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Mechanical and electrical data

Mechanical data	
Housing material:	Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick layer passivated (can be coated)
Insulating body:	Polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FPM)
Ambient temperature:	-40°C ... 125°C
Cable entry:	Cable and coupler connectors for an outer cable diameter of 3.5 to 11 mm, shielded (M17 Compact) 5 to 12.5 mm, shielded (M17)
Type of locking:	M17 SPEEDCON fast locking system, cable connector With M17 x 1 coarse-pitch thread as an option
Mechanical insertion cycles:	Standard: 100, punched-rolled C-HC crimp contacts: up to 500
Protection class:	IP67 when locked

Electrical data

Number of positions		**8**	**17**
Contacts		8	17
Contact Ø	[mm]	1	0.6
Litz wire cross section, turned crimp contacts	[mm²]	0.06 ... 1.0	0.06 ... 0.5
Litz wire cross section, C-HC punched-rolled crimp contacts	[mm²]	0.06 ... 0.56	–
Nominal current per contact at 25°C [1]	[A]	8.0	3.6
Specifications in accordance with DIN EN 61984:2009			
Rated voltage	[V AC/DC]	60	60
Test/surge voltage	[kV AC]	1.5	1.5
Overvoltage category		III	III
Pollution degree [2]		3	3
Installation altitude	[m]	Up to 3000	Up to 3000
Cable clamping area [3]	Max. Ø [mm]	12.5	12.5

[1] Determine the effective current carrying capacity depending on the application, if necessary, using a derating curve.
[2] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[3] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

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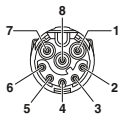
Number of positions	Contact chamber numbering (view of plug-in side) Male	Female
8-pos. Crimp		
17-pos. Crimp		

Note:
The connectors can be assembled with male or female contacts depending on the application.

For safety reasons, only use female contacts in the live part of the connector.

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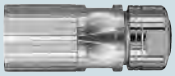
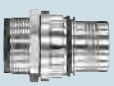
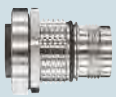
Selection guide

M17 signal connectors, 8- and 17-pos., crimp ranges: 0.06 mm² to 1.0 mm²
– Cable connectors
– Coupler connectors
– Device connectors (device flanges)

The connectors are delivered pre-assembled. The connectors can be furnished with the corresponding crimp contacts.

Every housing type can be assembled with male or female contacts. The connectors with knurled nuts can be equipped with the SPEEDCON fast locking system or with M17 x 1 coarse-pitch thread as an option. The connectors with external thread are fully compatible with standard threads and the SPEEDCON fast locking system.

The product chart provides an overview of the available components.

	Connector type	
Shielded	**Cable connectors**	
	SPEEDCON fast locking system, M17 Compact, see page 64.	
	M17, see page 66.	Square mounting flange for M17 cable and coupler connectors for wall mounting, see page 179.
	M17 x 1 standard locking, M17, see page 66. 	
Shielded	**Coupler connectors / panel feed-throughs**	
	Coupler connector M17 Compact, see page 64.	M17, see page 67.
	Panel feed-through M17 Compact, see page 65.	
Shielded	**Device connectors**	
	Straight, M17 Compact, see page 65.	Straight, M17, see page 67.
	Straight, with central fastening thread, front mounting, M17, see page 69. 	Straight, with central fastening thread, rear mounting, M17, see page 69. 
	Angled, rotatable, M17, see page 68.	

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All housings can be fitted with male or female crimp contacts

Crimp contacts

Female contacts

Turned, see page 70.

Male contacts

Turned, see page 70.

Note:
For safety reasons, only use female contacts in the live part of the connector.

Tools/accessories

Crimping tools

Crimping pliers with digital display for turned crimp contacts, see page 177.

Tools/accessories

Unlocking tool for device connectors with contact carriers for snapping in from the device side, see page 179.

Color rings for individually marking the connectors, see page 180.

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Cable connectors, M17 Compact

– High packing density in a compact product
– Individual marking of connectors with color rings

Cable connector, female assembly

Cable connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		8-pos.		17-pos.		8-pos.		17-pos.	
Cable connector, with contact carrier, **without** contacts									
	3.5 mm ... 5.5 mm	1613370	1	1613288	1	1618641	1	1618682	1
	5 mm ... 9.2 mm	1613371	1	1613324	1	1618648	1	1618683	1
	9 mm ... 11.2 mm	1613372	1	1613325	1	1618649	1	1618684	1

Accessories	Accessories
For female contacts, see page 70 onwards	For male contacts, see page 70 onwards
See page 180	See page 180
See page 181	See page 181

Crimp contacts
Color rings, 50 pcs. in set (to be ordered separately)
Protective caps (to be ordered separately)

Coupler connectors, M17 Compact

– Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
– Individual marking of connectors with color rings

Coupler connector, female assembly

Coupler connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		8-pos.		17-pos.		8-pos.		17-pos.	
Coupler connector, with contact carrier, **without** contacts									
	3.5 mm ... 5.5 mm	1618724	1	1618756	1	1617799	1	1613497	1
	5 mm ... 9.2 mm	1618725	1	1618757	1	1617813	1	1613896	1
	9 mm ... 11.2 mm	1618726	1	1618758	1	1617830	1	1614532	1

Accessories	Accessories
For female contacts, see page 70 onwards	For male contacts, see page 70 onwards
See page 180	See page 180
See page 181	See page 181

Crimp contacts
Color rings, 50 pcs. in set (to be ordered separately)
Protective caps (to be ordered separately)

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Panel feed-throughs, M17 Compact

- Panel feed-throughs suitable for front and rear mounting
- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Individual marking of connectors with color rings
- **Flange dimensions 25.7 mm x 25.7 mm**

Panel feed-through, female assembly

Panel feed-through, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		8-pos.		17-pos.		8-pos.		17-pos.	
Panel feed-through, with contact carrier, **without contacts**									
	3.5 mm ... 5.5 mm	1618801	1	1618834	1	1617925	1	1617863	1
	5 mm ... 9 mm	1618802	1	1618835	1	1617929	1	1617872	1
	9 mm ... 11 mm	1618805	1	1618836	1	1617932	1	1617873	1

	Accessories	Accessories
Crimp contacts	For female contacts, see page 70 onwards	For male contacts, see page 70 onwards
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

Device connectors, M17 Compact, front mounting

- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Individual marking of connectors with color rings
- **Flange dimensions: 21.6 mm x 21.6 mm**

Device connector, straight, female assembly

Device connector, straight, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	8-pos.		17-pos.		8-pos.		17-pos.	
Device connector, with contact carrier, **without** contacts, contact insert **for support** on the device	1619039	1	1607654	1	1613286	1	1607636	1
Device connector, with contact carrier, **without** contacts, contact insert **can be snapped in**	1619038	1	1607653	1	1619037	1	1607634	1

	Accessories	Accessories
Crimp contacts	For female contacts, see page 70 onwards	For male contacts, see page 70 onwards
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181
Unlocking tool for contact carriers	See page 179	See page 179

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Cable connectors, SPEEDCON fast locking system

– Individual marking of connectors with color rings

Cable connector, female assembly

Cable connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		8-pos.		17-pos.		8-pos.		17-pos.	
Cable connector, with contact carrier, **without** contacts									
	5 mm ... 8 mm	1619007	1	1607642	1	1618999	1	1607625	1
	8 mm ... 10 mm	1619008	1	1607644	1	1619000	1	1607627	1
	10 mm ... 12.5 mm	1619009	1	1624532	1	1619001	1	1624529	1

	Accessories	Accessories
Crimp contacts	For female contacts, see page 70 onwards	For male contacts, see page 70 onwards
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

Cable connectors, M17 standard locking

– Standard knurled nut compatible with mating connectors with SPEEDCON and M17 standard external thread
– Individual marking of connectors with color rings

Cable connector, female assembly

Cable connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		8-pos.		17-pos.		8-pos.		17-pos.	
Cable connector, with contact carrier, **without** contacts									
	5 mm ... 8 mm	1619003	1	1607641	1	1618995	1	1607624	1
	8 mm ... 10 mm	1619004	1	1607643	1	1618996	1	1607626	1
	10 mm ... 12.5 mm	1619005	1	1624531	1	1618997	1	1624528	1

	Accessories	Accessories
Crimp contacts	For female contacts, see page 70 onwards	For male contacts, see page 70 onwards
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

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Coupler connectors

- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Individual marking of connectors with color rings

Coupler connector, female assembly

Coupler connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		8-pos.		17-pos.		8-pos.		17-pos.	
Coupler connector, with contact carrier, **without** contacts									
	5 mm ... 8 mm	1619015	1	1607647	1	1619011	1	1607630	1
	8 mm ... 10 mm	1619016	1	1607649	1	1619012	1	1607631	1
	10 mm ... 12.5 mm	1619017	1	1624533	1	1619013	1	1624530	1

Accessories	Accessories	Accessories
Crimp contacts	For female contacts, see page 70 onwards	For male contacts, see page 70 onwards
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

Device connectors, straight, front mounting

- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Contact insert for support on the device or can be snapped in
- Individual marking of connectors with color rings

Device connector, straight, female assembly

Device connector, straight, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	8-pos.		17-pos.		8-pos.		17-pos.	
Device connector, with contact carrier, **without** contacts, contact insert **for support** on the device								
Flange dimensions: 25.75 mm x 25.75 mm	1619197	1	1619206	1	1619196	1	1619202	1
Device connector, with contact carrier, **without** contacts, contact insert **can be snapped in**								
Flange dimensions: 25.75 mm x 25.75 mm	1619220	1	1619226	1	1619219	1	1619225	1

Accessories	Accessories	Accessories
Crimp contacts	For female contacts, see page 70 onwards	For male contacts, see page 70 onwards
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181
Unlocking tool for contact carriers	See page 179	See page 179

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Device connectors, angled, rotatable, front mounting

– Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
– Housing can be freely rotated up to 308°
– Individual marking of connectors with color rings
– Flange versions for M2.5 or M3 fixing

Device connector, angled, rotatable, female assembly

Device connector, angled, rotatable, male assembly

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	8-pos.		17-pos.		8-pos.		17-pos.	
Device connector, angled, rotatable, with contact carrier, **without** contacts								
Fixing with M2.5	1620440	1	1620442	1	1620439	1	1620441	1
Device connector, angled, rotatable, with contact carrier, **without** contacts								
Fixing with M3	1620455	1	1620457	1	1620456	1	1620458	1

	Accessories	Accessories
Crimp contacts	**For female contacts, see page 70 onwards**	**For male contacts, see page 70 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Device connectors, central fastening thread, front and rear mounting

- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Snapping in the contact carriers from the device side
- Individual marking of connectors with color rings

Device connector, central fixing, female assembly

Device connector, central fixing, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	8-pos.		17-pos.		8-pos.		17-pos.	
Device connector, front mounting, M18 x 0.75 fastening thread, with contact carrier, **without** contacts	1619036	1	1613542	1	1618584	1	1613540	1
Device connector, rear mounting, M20 x 1.5 fastening thread, with contact carrier, **without** contacts	1619035	1	1613543	1	1619034	1	1613541	1

Description	Accessories			Accessories		
	Type	Order No.	Pcs./ Pkt.	Type	Order No.	Pcs./ Pkt.
Locking nut, for mounting bore holes and polarization						
M18 x 0.75	ST-E2015151	1613831	10	ST-E2015151	1613831	10
M20 x 1.5	RC-13041	1600417	10	RC-13041	1600417	10
Crimp contacts	For female contacts, see page 70 onwards			For male contacts, see page 70 onwards		
Color rings, 50 pcs. in set (to be ordered separately)	See page 180			See page 180		
Protective caps (to be ordered separately)	See page 181			See page 181		
Unlocking tool for contact carriers	See page 179			See page 179		

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Crimp contacts, turned

Depending on the number of positions, assemble the M17 signal connectors with Ø 1.0 mm or Ø 0.6 mm contacts.
– 8-pos. versions: contacts with Ø 1.0 mm
– 17-pos. versions: contacts with Ø 0.6 mm

Note:
Depending on the litz wire used, the connection cross sections (crimp ranges) can differ from the values listed below.

Crimp contact, female

Crimp contact, male

Description	Connection cross section [mm²]	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Contact female Ø 0.6 mm							
	0.06 ... 0.25	**ST-06KS010**	1607580	100			
	0.14 ... 0.34	**ST-06KS020**	1607581	100			
	0.34 ... 0.50	**ST-06KS030**	1607582	100			
Contact, Ø 1.0 mm, for signal							
	0.06 ... 0.25	**ST-10KS010**	1618239	100			
	0.34 ... 0.50	**ST-10KS020**	1618251	100			
	0.25 ... 1.0	**ST-10KS035**	1618464	100			
Contact male Ø 0.6 mm							
	0.06 ... 0.25				**ST-06KP010**	1607577	100
	0.14 ... 0.34				**ST-06KP020**	1607578	100
	0.34 ... 0.50				**ST-06KP030**	1607579	100
Contact, Ø 1.0 mm, for signal							
	0.06 ... 0.25				**ST-10KP010**	1618255	100
	0.34 ... 0.50				**ST-10KP020**	1618256	100
	0.25 ... 1.0				**ST-10KP035**	1618458	100
		Accessories			**Accessories**		
Crimping tools		**Order separately, see page 177**			**Order separately, see page 177**		

Notes:
Each connector housing type can be assembled with male or female contacts.

For safety reasons, only use female contacts in the live part of the connector.

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Mechanical and electrical data

Mechanical data	
Housing material:	Die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick layer passivated (can be coated)
Insulating body:	Thermoplastic polyester (PBT), polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FPM)
Temperature range:	-40°C ... 125°C
Cable entry:	External cable diameter 3 to 15 mm
Type of locking:	M23 ONECLICK fast locking system, Cable connector with optional M23 x 1 standard locking
Mechanical insertion cycles:	Standard: 100, punched-rolled crimp contacts: up to 500
Protection class:	IP66/IP68

Electrical data

Number of positions		**6**	**7**	**9 (8+1)**	**12**	**17**		
Contacts		6	7	8 + 1	12	17		
Contact Ø	[mm]	2	2	1 2	1	1		
Litz wire cross section								
Crimp connection: contacts x [mm²] max.		6 x 2.5	7 x 2.5	8 x 0.56 + 1 x 2.5	12 x 1.0	17 x 1.0		
Nominal current per contact at 25°C[1]	[A]	20	20	8 20	8	8		
Specifications in accordance with DIN EN 61984:2009								
Rated voltage	[V AC/DC]	300	300	300	150	125		
Test/surge voltage	[kV AC]	2.5	2.5	2.5	1.5	2		
Overvoltage category		II	II	II	II	II		
Pollution degree [2]		3	3	3	3	3		
Installation altitude	[m]	Up to 2000	Up to 2000	Up to 2000	Up to 2,000	Up to 2000		
Cable clamping area [3]	Max. Ø [mm]	14.5	14.5	14.5	14.5	15		

[1] Determine the effective current carrying capacity depending on the application, if necessary, using a derating curve.
[2] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[3] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

Note:
In contrast to connecting equipment, connectors may only be plugged in / unplugged when the power supply is disconnected.

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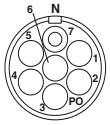
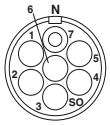
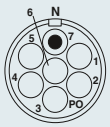
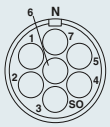
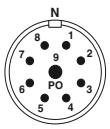
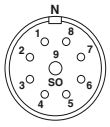
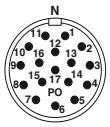
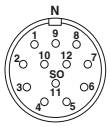
	Contact chamber numbering (view of plug-in side)	
Direction of rotation for contact chamber numbering (view of plug-in side)		
	Forward running (standard)	**Reverse running** (standard)
Number of positions	**Male**	**Female**
6-pos. Crimp		
7-pos. Crimp		
9-pos. (8 + 1) Crimp		
12-pos. Crimp		
17-pos. Crimp		

Note:
The connectors can be assembled with male or female contacts depending on the application.

For safety reasons, only use female contacts in the live part of the connector.

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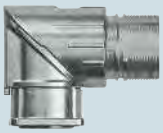
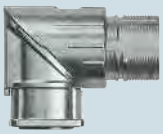
Selection guide

M23 PRO series signal connectors 12- and 17-pos., up to 8 A 150 V, crimp connection.

– Cable connectors
– Device connectors (device flanges)

The connectors can be furnished with the corresponding crimp contacts.

Every housing type can be assembled with male or female contacts. The product chart provides an overview of the available components.

	Connector type
Shielded	**Cable connectors, short design** M23 ONECLICK fast locking system, see page 76. ONECLICK Technology Designed by PHOENIX CONTACT M23 x 1 standard locking, see page 76.
Shielded	**Device connectors** Front mounting, angled, rotatable, flange dimensions: 26 mm x 26 mm, see page 77.  Front mounting, angled, rotatable, flange dimensions: 28 mm x 28 mm, see page 77. 

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All housings can be fitted with male or female crimp contacts

Female contact
Male contact

Female contact
Male contact

For crimp connection:

Female contacts

Turned, see page 78.

Punched-rolled, taped,
see page 78.

Male contacts

Turned, see page 78.

Punched-rolled, taped,
see page 78.

Note:
For safety reasons, only use female contacts in the live part of the connector.

Tools/accessories

Crimping tools

Crimping pliers for rolled crimp contacts,
see page 176.

Crimping pliers with digital display for turned crimp contacts,
see page 176.

Tools/accessories

Unlocking tool for device connectors for releasing the contact carriers from the plug-in side,
see page 179.

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Cable connectors, short design, ONECLICK fast locking system

– Cross-manufacturer connection compatibility
– All housings can be fitted with male or female contacts

new

6-, 7-, 8+1-pos.

new

12-, 17-pos.

Description	Cable clamping area	Ordering data						Ordering data					
		Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		6-pos.		7-pos.		8+1-pos.		12-pos.		17-pos.			
Cable connector, short, with contact carrier, **without** contacts, for **female assembly,** crimp connection													
Universal gasket	3 mm ... 15 mm	1629184	1	1629180	1	1629172	1	1629164	1	1629156	1		
	4 mm ... 8.5 mm	1629187	1	1629183	1	1629175	1	1629167	1	1629159	1		
	6 mm ... 10 mm	1629186	1	1629182	1	1629174	1	1629166	1	1629158	1		
	9 mm ... 15 mm	1629185	1	1629181	1	1629173	1	1629165	1	1629157	1		
Cable connector, short, with contact carrier, **without** contacts, for **male assembly,** crimp connection													
Universal gasket	3 mm ... 15 mm	1629188	1	1629176	1	1629168	1	1629160	1	1629152	1		
	4 mm ... 8.5 mm	1629191	1	1629179	1	1629171	1	1629163	1	1629155	1		
	6 mm ... 10 mm	1629190	1	1629178	1	1629170	1	1629162	1	1629154	1		
	9 mm ... 15 mm	1629189	1	1629177	1	1629169	1	1629161	1	1629153	1		
		Accessories						Accessories					
Crimp contacts		Order separately, see page 78 onwards						Order separately, see page 78 onwards					

Cable connectors, short design, standard locking

– Cross-manufacturer connection compatibility
– All housings can be fitted with male or female contacts

new

6-, 7-, 8+1-pos.

new

12-, 17-pos.

Description	Cable clamping area	Ordering data						Ordering data					
		Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		6-pos.		7-pos.		8+1-pos.		12-pos.		17-pos.			
Cable connector, short, with contact carrier, **without** contacts, for **female assembly,** crimp connection													
Universal gasket	3 mm ... 15 mm	1629236	1	1629228	1	1629220	1	1629212	1	1629204	1		
	4 mm ... 8.5 mm	1629239	1	1629231	1	1629223	1	1629215	1	1629207	1		
	6 mm ... 10 mm	1629238	1	1629230	1	1629222	1	1629214	1	1629206	1		
	9 mm ... 15 mm	1629237	1	1629229	1	1629221	1	1629213	1	1629205	1		
Cable connector, short, with contact carrier, **without** contacts, for **male assembly,** crimp connection													
Universal gasket	3 mm ... 15 mm	1629232	1	1629224	1	1629216	1	1629208	1	1629200	1		
	4 mm ... 8.5 mm	1629235	1	1629227	1	1629219	1	1629211	1	1629203	1		
	6 mm ... 10 mm	1629234	1	1629226	1	1629218	1	1629210	1	1629202	1		
	9 mm ... 15 mm	1629233	1	1629225	1	1629217	1	1629209	1	1629201	1		
		Accessories						Accessories					
Crimp contacts		Order separately, see page 78 onwards						Order separately, see page 78 onwards					

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Device connectors, angled, rotatable

- Cross-manufacturer connection compatibility
- All housings can be fitted with male or female contacts

new

Flange dimensions: 26 mm x 26 mm, 12-pos., 17-pos.

new

Flange dimensions: 28 mm x 28 mm, 12-pos., 17-pos.

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		12-pos.		17-pos.		12-pos.		17-pos.	
Device connector, angled, rotatable, with contact carrier, **without** contacts, for **female assembly,** crimp connection		1628499	1	1628497	1	1628495	1	1628493	1
Device connector, angled, rotatable, with contact carrier, **without** contacts, for **male assembly,** crimp connection		1628498	1	1628496	1	1628494	1	1628492	1
		Accessories				Accessories			
Crimp contacts		Order separately, see page 78 onwards				Order separately, see page 78 onwards			

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Crimp contacts

Male and female crimp contacts with various connection cross sections can be ordered for each crimp contact carrier.

Punched-rolled crimp contacts

Turned crimp contacts

EAC

Description	Contacts / connection cross section [mm²]	Ordering data: Type	Order No.	Pcs./Pkt.
Crimp contact for contact carriers, 6-pos., 6 x Ø2.0 mm				
	Male Ø 2.0 mm / 1.0 ... 1.5			
	Female Ø 2.0 mm / 1.0 ... 1.5			
	Male Ø 2.0 mm / 1.5 ... 2.5			
	Female Ø 2.0 mm / 1.5 ... 2.5			
Crimp contact for contact carriers, 7-pos., 7 x Ø2.0 mm				
	Male Ø 2.0 mm / 1.0 ... 1.5			
	Female Ø 2.0 mm / 1.0 ... 1.5			
	Male Ø 2.0 mm / 1.5 ... 2.5			
	Female Ø 2.0 mm / 1.5 ... 2.5			
Crimp contact for contact carriers, 9-pos. (8+1), 8 x Ø1.0 mm, 1 x Ø2.0 mm				
	Male Ø1.0 mm / 0.14 ... 0.56			
	Female Ø1.0 mm / 0.14 ... 0.56			
	Male Ø 2.0 mm / 1.5 ... 2.5			
	Female Ø 2.0 mm / 1.5 ... 2.5			
	Male Ø 2.0 mm / 1.0 ... 1.5			
	Female Ø 2.0 mm / 1.0 ... 1.5			
Crimp contact for contact carriers, 12-pos., 12 x Ø 1.0 mm **and** 17-pos., 17 x Ø 1.0 mm				
	Male Ø 1.0 mm / 0.08 ... 0.22			
	Female Ø 1.0mm / 0.08 ... 0.22			
	Male Ø1.0 mm / 0.14 ... 0.56			
	Female Ø1.0 mm / 0.14 ... 0.56			
	Male Ø 1.0 mm / 0.5 ... 1.0			
	Female Ø 1.0mm / 0.5 ... 1.0			
Crimp contact for contact carriers, 12-pos., 12 x Ø 1.0 mm **and** 17-pos., 17 x Ø 1.0 mm				
	Single contact male Ø 1.0 mm / 0.22 ... 0.56	**RC-22P2000**	1603321	100
	Single contact female Ø 1.0 mm / 0.22 ... 0.56	**RC-22S2000**	1603327	100
	Roll with 500 pieces, male Ø 1.0 mm / 0.22 ... 0.56	**RC-22P2300**	1603324	1
	Roll with 500 pieces, female Ø 1.0 mm / 0.22 ... 0.56	**RC-22S2300**	1603330	1
	Roll with 10,000 pieces, male Ø 1.0 mm / 0.22 ... 0.56	**RC-22P2400**	1603325	1
	Roll with 10,000 pieces, female Ø 1.0 mm / 0.22 ... 0.56	**RC-22S2400**	1603332	1

Accessories

Crimping tools — **See page 176**

EAC

Ordering data: Type	Order No.	Pcs./Pkt.
RC-5CP2000	1603513	50
RC-5CS2000	1603517	50
RC-5AP2000	1603505	50
RC-5AS2000	1603509	50
RC-5CP2000	1603513	50
RC-5CS2000	1603517	50
RC-5AP2000	1603505	50
RC-5AS2000	1603509	50
RC-12P2000	1597862	100
RC-12S2000	1599600	100
RC-5AP2000	1603505	50
RC-5AS2000	1603509	50
RC-5CP2000	1603513	50
RC-5CS2000	1603517	50
RC-11P2000	1596770	100
RC-11S2000	1596772	100
RC-12P2000	1597862	100
RC-12S2000	1599600	100
RC-1KP2000	1602996	100
RC-1KS2000	1602998	100

Accessories

See page 176

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Mechanical and electrical data

Mechanical data	
Housing material:	Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick layer passivated (can be coated)
Insulating body:	Thermoplastic polyester (PBT), polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Solder cup, crimp connection, solder pin
Sealing and O-ring:	NBR
Flat gasket:	NBR, fiber-reinforced NBR
Temperature range:	-40°C ... 125°C
Cable entry:	Cable and coupler connectors for an outer cable diameter of 3 to 14.5 mm, shielded
Type of locking:	M23 SPEEDCON fast locking system, cable connector with M23 x 1 coarse-pitch thread as an option
Mechanical insertion cycles:	Standard: 100, punched-rolled C-HC crimp contacts: up to 500
Protection class:	IP67 when locked

Electrical data

Number of positions		6	7	9 (8+1)	12	17	19 (16+3)	19 (16+2+PE)
Contacts		6	7	8 + 1	12	17	16 + 3	16 + 2+PE
Contact Ø	[mm]	2	2	1 2	1	1	1 1.5	1 1.5
Litz wire cross section								
Solder connection: contacts x [mm²] max.		6 x 2.5	7 x 2.5	8 x 1.0 + 1 x 2.5	12 x 1.0	17 x 1.0	16 x 1.0 + 3 x 1.0	–
Crimp connection: contacts x [mm²] max.		6 x 2.5	7 x 2.5	8 x 0.56 + 1 x 2.5	12 x 0.56	17 x 0.56	–	16 x 1.0 + 3 x 1.0
Nominal current per contact at 25°C[1]	[A]	20	20	8 20	8	8	8 10	8 10
Specifications in accordance with DIN EN 61984:2009								
Rated voltage	[V AC/DC]	300	300	300	150	150	150	150
Test/surge voltage	[kV AC]	2.5	2.5	2.5	1.5	1.5	1.5	1.5
Overvoltage category		II	II	II	II	II	II	II
Pollution degree [2]		3	3	3	3	3	3	3
Installation altitude	[m]	Up to 2000	Up to 2000	Up to 2000	Up to 2000	Up to 2000	Up to 2000	Up to 2000
Cable clamping area [3]	Max. Ø [mm]	14.5	14.5	14.5	14.5	14.5	14.5	14.5

[1] Determine the effective current carrying capacity depending on the application, if necessary, using a derating curve.
[2] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[3] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

Note:
In contrast to connecting equipment, connectors may only be plugged in / unplugged when the power supply is disconnected.

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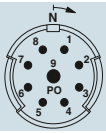
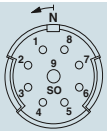
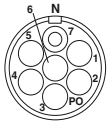
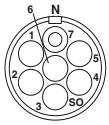
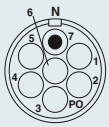
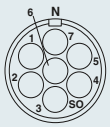
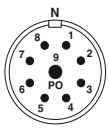
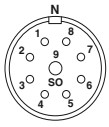
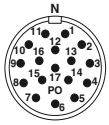
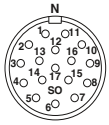
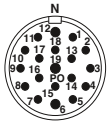
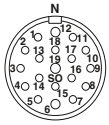
	Contact chamber numbering (view of plug-in side)	
Direction of rotation for contact chamber numbering (view of plug-in side)		
	Forward running (standard)	**Reverse running** (standard)
Number of positions	**Male**	**Female**
6-pos. Solder / crimp / solder-in		
7-pos. Solder / crimp / solder-in		
9-pos. (8 + 1) Solder / crimp / solder-in		
12-pos. Solder / crimp / solder-in		
17-pos. Solder / crimp / solder-in		
19-pos. (16 + 3) Solder		
19-pos. (16 + 2 + PE) Crimp		

Note:
The connectors can be assembled with male or female contacts depending on the application.

For safety reasons, only use female contacts in the live part of the connector.

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Selection guide

M23 signal connectors
6- to 19-pos., up to 20 A / 300 V, solder, crimp, and solder-in connection.

– Cable connectors
– Coupler connectors
– Device connectors (device flanges)

In the case of crimp connection, the respective crimp contacts must be added depending on the connection cross section.

Every housing type can be assembled with male or female contacts. The product chart provides an overview of the available components.

	Connector type
Shielded	**Cable connectors** SPEEDCON fast locking system, see page 84. M23 x 1 standard locking, see page 86.
Shielded	**Coupler connectors** See page 88.
Shielded	**Device connectors** Front mounting, Pg13.5 fastening thread, see page 94. Front mounting, M20 fastening thread, see phoenixcontact.net/products Front mounting, flange dimensions: 25 mm x 25 mm, see page 100. Front mounting, solder-in connection, flange dimensions: 25 mm x 25 mm, see phoenixcontact.net/products Front mounting, angled, rotatable, flange dimensions: 26 mm x 26 mm, see page 104. Rear mounting, central fixing nut, see page 102.

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All housings can be fitted with male or female crimp contacts

For crimp connection:

Female contacts

Turned, see page 105.

Punched-rolled, taped,
see page 105.

Male contacts

Turned, see page 105.

Punched-rolled, taped,
see page 105.

Note:
For safety reasons, only use female contacts in the live part of the connector.

Tools/accessories

Crimping tools

Crimping pliers for rolled crimp contacts,
see page 176.

Crimping pliers with digital display for turned crimp contacts,
see page 176.

Tools/accessories

Unlocking tool for device connectors for releasing the contact carriers from the plug-in side,
see page 179.

Color rings for individually marking the connectors,
see page 180.

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Cable connectors, SPEEDCON fast locking system

– 6- to 19-pos. versions, solder or crimp connection
– Individual marking of connectors with color rings

6- and 7-pos.

8+1-pos., 12-pos.

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		6-pos.		7-pos.		8+1-pos.		12-pos.	
Cable connector, with contact carrier, with **female contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1619605	1	1619601	1	1619597	1	1619593	1
	4 mm ... 6 mm	1619579	1	1619575	1	1619571	1	1619567	1
	6 mm ... 10 mm	1619534	1	1619530	1	1619526	1	1619522	1
	10 mm ... 14.5 mm	1619508	1	1619504	1	1619500	1	1619496	1
Cable connector, with contact carrier, with **male contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1619604	1	1619600	1	1619596	1	1619592	1
	4 mm ... 6 mm	1619578	1	1619574	1	1619570	1	1619548	1
	6 mm ... 10 mm	1619533	1	1619529	1	1619525	1	1619521	1
	10 mm ... 14.5 mm	1619507	1	1619503	1	1619499	1	1619495	1
Cable connector, with contact carrier, **without** contacts, for **female assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1619603	1	1619599	1	1619595	1	1619591	1
	4 mm ... 6 mm	1619577	1	1619573	1	1619569	1	1619547	1
	6 mm ... 10 mm	1619532	1	1619528	1	1619524	1	1619520	1
	10 mm ... 14.5 mm	1619506	1	1619502	1	1619498	1	1619489	1
Cable connector, with contact carrier, **without** contacts, for **male assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1619602	1	1619598	1	1619594	1	1619590	1
	4 mm ... 6 mm	1619576	1	1619572	1	1619568	1	1619546	1
	6 mm ... 10 mm	1619531	1	1619527	1	1619523	1	1619519	1
	10 mm ... 14.5 mm	1619505	1	1619501	1	1619497	1	1619488	1

	Accessories	Accessories
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**	**Order separately, see page 105 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.		16+2+PE-pos.			
1619585	1	1619581	1				
1619541	1	1619537	1				
1619514	1	1619510	1				
1619483	1	1619479	1				
1619584	1	1619580	1				
1619540	1	1619536	1				
1619513	1	1619509	1				
1619482	1	1619478	1				
1619583	1			1623838	1		
1619539	1			1623836	1		
1619512	1			1623834	1		
1619481	1			1623832	1		
1619582	1			1623837	1		
1619538	1			1623835	1		
1619511	1			1623833	1		
1619480	1			1623831	1		

Accessories

Accessories
Order separately, see page 105 onwards
See page 180
See page 181

Accessories
Order separately, see page 105 onwards
See page 180
See page 181

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Cable connectors, M23 standard locking

- Standard knurled nut compatible with mating connectors with SPEEDCON and M23 standard external thread
- 6- to 19-pos. versions, solder or crimp connection
- Individual marking of connectors with color rings

6- and 7-pos.

8+1-pos., 12-pos.

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		6-pos.		7-pos.		8+1-pos.		12-pos.	
Cable connector, with contact carrier, with **female contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1619776	1	1619772	1	1619768	1	1619764	1
	4 mm ... 6 mm	1619750	1	1619746	1	1619742	1	1619738	1
	6 mm ... 10 mm	1619724	1	1619720	1	1619716	1	1619710	1
	10 mm ... 14.5 mm	1619659	1	1619655	1	1619651	1	1619647	1
Cable connector, with contact carrier, with **male contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1619775	1	1619771	1	1619767	1	1619763	1
	4 mm ... 6 mm	1619749	1	1619745	1	1619741	1	1619737	1
	6 mm ... 10 mm	1619723	1	1619719	1	1619715	1	1619709	1
	10 mm ... 14.5 mm	1619658	1	1619654	1	1619650	1	1619646	1
Cable connector, with contact carrier, **without** contacts, for **female assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1619774	1	1619770	1	1619766	1	1619762	1
	4 mm ... 6 mm	1619748	1	1619744	1	1619740	1	1619736	1
	6 mm ... 10 mm	1619722	1	1619718	1	1619714	1	1619708	1
	10 mm ... 14.5 mm	1619657	1	1619653	1	1619649	1	1619645	1
Cable connector, with contact carrier, **without** contacts, for **male assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1619773	1	1619769	1	1619765	1	1619761	1
	4 mm ... 6 mm	1619747	1	1619743	1	1619739	1	1619735	1
	6 mm ... 10 mm	1619721	1	1619717	1	1619711	1	1619707	1
	10 mm ... 14.5 mm	1619656	1	1619652	1	1619648	1	1619644	1

	Accessories	Accessories
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**	**Order separately, see page 105 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.	
1619756	1	1619752	1
1619730	1	1619726	1
1619702	1	1619661	1
1619639	1	1619635	1
1619755	1	1619751	1
1619729	1	1619725	1
1619701	1	1619660	1
1619638	1	1619634	1
1619754	1		
1619728	1		
1619700	1		
1619637	1		
1619753	1		
1619727	1		
1619699	1		
1619636	1		

Accessories

Order separately, see page 105 onwards
See page 180
See page 181

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
16+2+PE-pos.			
1623846	1		
1623844	1		
1623842	1		
1623840	1		
1623845	1		
1623843	1		
1623841	1		
1623839	1		

Accessories

Order separately, see page 105 onwards
See page 180
See page 181

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Coupler connectors

- Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
- 6- to 19-pos. versions, solder or crimp connection
- Individual marking of connectors with color rings

6- and 7-pos.

8+1-pos., 12-pos.

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		6-pos.		7-pos.		8+1-pos.		12-pos.	
Coupler connector, with contact carrier, with **female contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1620172	1	1620168	1	1620164	1	1620160	1
	4 mm ... 6 mm	1620145	1	1620141	1	1620137	1	1620133	1
	6 mm ... 10 mm	1620119	1	1620115	1	1620079	1	1620075	1
	10 mm ... 14.5 mm	1620046	1	1620042	1	1620036	1	1620032	1
Coupler connector, with contact carrier, with **male contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1620171	1	1620167	1	1620163	1	1620159	1
	4 mm ... 6 mm	1620144	1	1620140	1	1620136	1	1620132	1
	6 mm ... 10 mm	1620118	1	1620114	1	1620078	1	1620074	1
	10 mm ... 14.5 mm	1620045	1	1620041	1	1620035	1	1620031	1
Coupler connector, with contact carrier, **without** contacts, for **female assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1620170	1	1620166	1	1620162	1	1620158	1
	4 mm ... 6 mm	1620143	1	1620139	1	1620135	1	1620131	1
	6 mm ... 10 mm	1620117	1	1620081	1	1620077	1	1620073	1
	10 mm ... 14.5 mm	1620044	1	1620038	1	1620034	1	1620030	1
Coupler connector, with contact carrier, **without** contacts, for **male assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1620169	1	1620165	1	1620161	1	1620157	1
	4 mm ... 6 mm	1620142	1	1620138	1	1620134	1	1620130	1
	6 mm ... 10 mm	1620116	1	1620080	1	1620076	1	1620072	1
	10 mm ... 14.5 mm	1620043	1	1620037	1	1620033	1	1620029	1

	Accessories	Accessories
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**	**Order separately, see page 105 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data				Ordering data			
Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.		16+2+PE-pos.			
1620151	1	1620147	1				
1620125	1	1620121	1				
1620052	1	1620048	1				
1620024	1	1620020	1				
1620150	1	1620146	1				
1620124	1	1620120	1				
1620051	1	1620047	1				
1620023	1	1620019	1				
1620149	1			1624006	1		
1620123	1			1624009	1		
1620050	1			1624008	1		
1620022	1			1624007	1		
1620148	1			1624010	1		
1620122	1			1624013	1		
1620049	1			1624012	1		
1620021	1			1624011	1		

Accessories
Order separately, see page 105 onwards
See page 180
See page 181

Accessories
Order separately, see page 105 onwards
See page 180
See page 181

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Cable connectors, angled, SPEEDCON fast locking system

– 6- to 19-pos. versions, solder or crimp connection
– Individual marking of connectors with color rings
– 8 different cable outlet directions can be set

6- and 7-pos.

8+1-pos., 12-pos.

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		6-pos.		7-pos.		8+1-pos.		12-pos.	
Cable connector, angled, with contact carrier, with **female contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1619450	1	1619446	1	1619442	1	1619438	1
	4 mm ... 6 mm	1619424	1	1619420	1	1619416	1	1619412	1
	6 mm ... 10 mm	1619398	1	1619394	1	1619390	1	1619386	1
	10 mm ... 14.5 mm	1619372	1	1619366	1	1619362	1	1619358	1
Cable connector, angled, with contact carrier, with **male contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1619449	1	1619445	1	1619441	1	1619437	1
	4 mm ... 6 mm	1619423	1	1619419	1	1619415	1	1619411	1
	6 mm ... 10 mm	1619397	1	1619393	1	1619389	1	1619385	1
	10 mm ... 14.5 mm	1619371	1	1619365	1	1619361	1	1619357	1
Cable connector, angled, with contact carrier, **without** contacts, for **female assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1619448	1	1619444	1	1619440	1	1619436	1
	4 mm ... 6 mm	1619422	1	1619418	1	1619414	1	1619410	1
	6 mm ... 10 mm	1619396	1	1619392	1	1619388	1	1619384	1
	10 mm ... 14.5 mm	1619368	1	1619364	1	1619360	1	1619356	1
Cable connector, angled, with contact carrier, **without** contacts, for **male assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1619447	1	1619443	1	1619439	1	1619435	1
	4 mm ... 6 mm	1619421	1	1619417	1	1619413	1	1619409	1
	6 mm ... 10 mm	1619395	1	1619391	1	1619387	1	1619383	1
	10 mm ... 14.5 mm	1619367	1	1619363	1	1619359	1	1619354	1

	Accessories	Accessories
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**	**Order separately, see page 105 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.	
1619430	1	1619426	1
1619404	1	1619400	1
1619378	1	1619374	1
1619349	1	1619345	1
1619429	1	1619425	1
1619403	1	1619399	1
1619377	1	1619373	1
1619348	1	1619344	1
1619428	1		
1619402	1		
1619376	1		
1619347	1		
1619427	1		
1619401	1		
1619375	1		
1619346	1		

Accessories

Order separately, see page 105 onwards
See page 180
See page 181

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
1624080	1		
1624081	1		
1624082	1		
1624083	1		
1624084	1		
1624085	1		
1624086	1		
1624087	1		

Accessories

Order separately, see page 105 onwards
See page 180
See page 181

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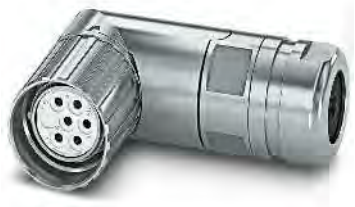
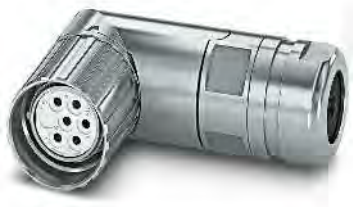
Cable connectors, angled, M23 standard locking

- Standard knurled nut compatible with mating connectors with SPEEDCON and M23 standard external thread
- 6- to 19-pos. versions, solder or crimp connection
- Individual marking of connectors with color rings
- 8 different cable outlet directions can be set



6- and 7-pos.



8+1-pos., 12-pos.

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		6-pos.		7-pos.		8+1-pos.		12-pos.	
Cable connector, with contact carrier, with **female contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1619343	1	1619339	1	1619335	1	1619331	1
	4 mm ... 6 mm	1620291	1	1620287	1	1620283	1	1620279	1
	6 mm ... 10 mm	1620262	1	1620258	1	1620254	1	1620250	1
	10 mm ... 14.5 mm	1620212	1	1620208	1	1620190	1	1620186	1
Cable connector, angled, with contact carrier, with **male contacts, solder connection**									
Universal gasket	3 mm ... 14.5 mm	1619342	1	1619338	1	1619334	1	1619330	1
	4 mm ... 6 mm	1620290	1	1620286	1	1620282	1	1620278	1
	6 mm ... 10 mm	1620261	1	1620257	1	1620253	1	1620249	1
	10 mm ... 14.5 mm	1620211	1	1620207	1	1620189	1	1620185	1
Cable connector, angled, with contact carrier, **without** contacts, for **female assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1619341	1	1619337	1	1619333	1	1620303	1
	4 mm ... 6 mm	1620289	1	1620285	1	1620281	1	1620277	1
	6 mm ... 10 mm	1620260	1	1620256	1	1620252	1	1620248	1
	10 mm ... 14.5 mm	1620210	1	1620192	1	1620188	1	1620184	1
Cable connector, angled, with contact carrier, **without** contacts, for **male assembly, crimp connection**									
Universal gasket	3 mm ... 14.5 mm	1619340	1	1619336	1	1619332	1	1620302	1
	4 mm ... 6 mm	1620288	1	1620284	1	1620280	1	1620276	1
	6 mm ... 10 mm	1620259	1	1620255	1	1620251	1	1620247	1
	10 mm ... 14.5 mm	1620209	1	1620191	1	1620187	1	1620183	1

	Accessories	Accessories
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**	**Order separately, see page 105 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.	
1620297	1	1620293	1
1620268	1	1620264	1
1620218	1	1620214	1
1620178	1	1620174	1
1620296	1	1620292	1
1620267	1	1620263	1
1620217	1	1620213	1
1620177	1	1620173	1
1620295	1		
1620266	1		
1620216	1		
1620176	1		
1620294	1		
1620265	1		
1620215	1		
1620175	1		

Accessories

Order separately, see page 105 onwards
See page 180
See page 181

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
1624071	1		
1624072	1		
1624073	1		
1624074	1		
1624075	1		
1624076	1		
1624077	1		
1624078	1		

Accessories

Order separately, see page 105 onwards
See page 180
See page 181

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Device connectors, front mounting

– Pg13.5 fastening thread
– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– 6- to 19-pos. versions, solder or crimp connection
– Individual marking of connectors with color rings

6- and 7-pos.

8+1-pos., 12-pos.

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	6-pos.		7-pos.		8+1-pos.		12-pos.	
Device connector, with contact carrier, with **female contacts, solder connection, Pg13.5 central fastening thread,** axial seal	1619903	1	1619899	1	1619895	1	1619891	1
Device connector, with contact carrier, with **male contacts, solder connection, Pg13.5 central fastening thread,** axial seal	1619902	1	1619898	1	1619894	1	1619890	1
Device connector, with contact carrier, **without** contacts, for **female assembly, crimp connection, Pg13.5 central fastening thread,** axial seal	1619901	1	1619897	1	1619893	1	1619889	1
Device connector, with contact carrier, **without** contacts, for **male assembly, crimp connection, Pg13.5 central fastening thread,** axial seal	1619900	1	1619896	1	1619892	1	1619888	1

	Accessories	Accessories
For crimp connection: crimp contacts	Order separately, see page 105 onwards	Order separately, see page 105 onwards
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data				Ordering data			
Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.		16+2+PE-pos.			
1619883	1	1619879	1				
1619882	1	1619878	1				
1619881	1			1624019	1		
1619880	1			1624018	1		

Accessories
Order separately, see page 105 onwards
See page 180
See page 181

Accessories
Order separately, see page 105 onwards
See page 180
See page 181

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Device connectors, front mounting

– M20 fastening thread
– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– 6- to 19-pos. versions, solder or crimp connection
– Individual marking of connectors with color rings

6- and 7-pos.

8+1-pos., 12-pos.

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	6-pos.		7-pos.		8+1-pos.		12-pos.	
Device connector, with contact carrier, with **female contacts, solder connection, M20 central fastening thread,** axial seal	1619877	1	1619873	1	1619869	1	1619865	1
Device connector, with contact carrier, with **male contacts, solder connection, M20 central fastening thread,** axial seal	1619876	1	1619872	1	1619868	1	1619864	1
Device connector, with contact carrier, **without** contacts, for **female assembly, crimp connection, M20 central fastening thread,** axial seal	1619875	1	1619871	1	1619867	1	1619863	1
Device connector, with contact carrier, **without** contacts, for **male assembly, crimp connection, M20 central fastening thread,** axial seal	1619874	1	1619870	1	1619866	1	1619862	1

Description	Accessories			Accessories		
	Type	Order No.	Pcs./ Pkt.	Type	Order No.	Pcs./ Pkt.
Locking nut, for mounting bore holes and polarization						
M20 x 1.5	RC-13041	1600417	10	RC-13041	1600417	10
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**			**Order separately, see page 105 onwards**		
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**			**See page 180**		
Protective caps (to be ordered separately)	**See page 181**			**See page 181**		

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.	
1619857	1	1619853	1
1619856	1	1619852	1
1619855	1		
1619854	1		

Accessories

Type	Order No.	Pcs./ Pkt.
RC-13041	1600417	10

Order separately, see page 105 onwards
See page 180
See page 181

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
16+2+PE-pos.			
1624017	1		
1624016	1		

Accessories

Type	Order No.	Pcs./ Pkt.
RC-13041	1600417	10

Order separately, see page 105 onwards
See page 180
See page 181

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Device connectors, front mounting, can be positioned

– M20 fastening thread

– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– 6- to 19-pos. versions, solder or crimp connection
– Individual marking of connectors with color rings

6- and 7-pos.

8+1-pos., 12-pos.

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	6-pos.		7-pos.		8+1-pos.		12-pos.	
Device connector, with contact carrier, with **female contacts, solder connection, M20 central fastening thread,** axial seal	1624045	1	1624047	1	1624049	1	1624051	1
Device connector, with contact carrier, with **male contacts, solder connection, M20 central fastening thread,** axial seal	1624044	1	1624046	1	1624048	1	1624050	1
Device connector, with contact carrier, **without** contacts, for **female assembly, crimp connection, M20 central fastening thread,** axial seal	1624030	1	1624031	1	1624032	1	1624033	1
Device connector, with contact carrier, **without** contacts, for **male assembly, crimp connection, M20 central fastening thread,** axial seal	1624022	1	1624023	1	1624024	1	1624026	1

Description	Accessories			Accessories		
	Type	Order No.	Pcs./ Pkt.	Type	Order No.	Pcs./ Pkt.
Locking nut, for mounting bore holes and polarization						
M20 x 1.5	RC-13041	1600417	10	RC-13041	1600417	10
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**			**Order separately, see page 105 onwards**		
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**			**See page 180**		
Protective caps (to be ordered separately)	**See page 181**			**See page 181**		

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.	
1624056	1	1624058	1
1624055	1	1624057	1
1624035	1		
1624029	1		

Accessories

Type	Order No.	Pcs./ Pkt.
RC-13041	1600417	10

Order separately, see page 105 onwards
See page 180
See page 181

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
16+2+PE-pos.			
1623629	1		
1623630	1		

Accessories

Type	Order No.	Pcs./ Pkt.
RC-13041	1600417	10

Order separately, see page 105 onwards
See page 180
See page 181

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Device connectors, front mounting

– Flange dimensions: 25 mm x 25 mm
– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– 6- to 19-pos. versions, solder or crimp connection
– Individual marking of connectors with color rings

6- and 7-pos.

8+1-pos., 12-pos.

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	6-pos.		7-pos.		8+1-pos.		12-pos.	
Device connector, with contact carrier, with **female contacts, solder connection,** flat gasket	1619993	1	1619989	1	1619973	1	1619969	1
Device connector, with contact carrier, with **male contacts, solder connection,** flat gasket	1619992	1	1619988	1	1619972	1	1619968	1
Device connector, with contact carrier, **without** contacts, for **female assembly, crimp connection,** flat gasket	1619991	1	1619987	1	1619971	1	1619967	1
Device connector, with contact carrier, **without** contacts, for **male assembly, crimp connection,** flat gasket	1619990	1	1619986	1	1619970	1	1619966	1

	Accessories	Accessories
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**	**Order separately, see page 105 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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17-pos., 16+3-pos.

16+2+PE-pos.

Ordering data			
Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
17-pos.		16+3-pos.	
1619961	1	1619957	1
1619960	1	1619956	1
1619959	1		
1619958	1		

Accessories
Order separately, see page 105 onwards
See page 180
See page 181

Ordering data			
Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
16+2+PE-pos.			
1624015	1		
1624014	1		

Accessories
Order separately, see page 105 onwards
See page 180
See page 181

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Device connectors, rear mounting

- Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
- 6- to 19-pos. versions, solder or crimp connection
- Individual marking of connectors with color rings

6- and 7-pos.

8+1-pos., 12-pos.

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	6-pos.		7-pos.		8+1-pos.		12-pos.	
Device connector, with contact carrier, with **female contacts, solder connection, central fixing nut,** axial seal	1619851	1	1619847	1	1619843	1	1619790	1
Device connector, with contact carrier, with **male contacts, solder connection, central fixing nut,** axial seal	1619850	1	1619846	1	1619842	1	1619789	1
Device connector, with contact carrier, **without** contacts, for **female assembly, crimp connection, central fixing nut,** axial seal	1619849	1	1619845	1	1619841	1	1619788	1
Device connector, with contact carrier, **without** contacts, for **male assembly, crimp connection, central fixing nut,** axial seal	1619848	1	1619844	1	1619791	1	1619787	1

	Accessories	Accessories
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**	**Order separately, see page 105 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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17-pos., 16+3-pos.

16+3-pos., 16+2+PE-pos.

Ordering data

Order No.	Pcs./Pkt.
17-pos.	
1619782	1
1619781	1
1619780	1
1619779	1

Ordering data

Order No.	Pcs./Pkt.
16+3-pos.	
1619778	1
1619777	1

Ordering data

Order No.	Pcs./Pkt.
16+2+PE-pos.	
1624021	1
1624020	1

Accessories

Order separately, see page 105 onwards
See page 180
See page 181

Accessories

Order separately, see page 105 onwards
See page 180
See page 181

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Device connectors, angled, rotatable, front mounting

– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– **Flange dimensions: 26 mm x 26 mm**

8+1-, 12-, 17-pos.

Description	Ordering data					
	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	8+1-pos.		12-pos.		17-pos.	
Device connector, with contact carrier, with **male contacts, solder connection, angled, rotatable,** axial seal	1621746	1	1621741	1	1621745	1
Device connector, with contact carrier, **without** contacts, **for male assembly, crimp connection, angled, rotatable,** axial seal	1621735	1	1621738	1	1621744	1
	Accessories					
For crimp connection: crimp contacts	**Order separately, see page 105 onwards**					
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**					

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Crimp contacts

Male and female crimp contacts with various connection cross sections can be ordered for each crimp contact carrier.

Punched-rolled crimp contacts

Turned crimp contacts

Description	Contacts / connection cross section [mm²]	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Crimp contact for contact carriers, 6-pos., 6 x Ø2.0 mm							
	Male Ø 2.0 mm / 1.0 ... 1.5				RC-5CP2000	1603513	50
	Female Ø 2.0 mm / 1.0 ... 1.5				RC-5CS2000	1603517	50
	Male Ø 2.0 mm / 1.5 ... 2.5				RC-5AP2000	1603505	50
	Female Ø 2.0 mm / 1.5 ... 2.5				RC-5AS2000	1603509	50
Crimp contact for contact carriers, 7-pos., 7 x Ø2.0 mm							
	Male Ø 2.0 mm / 1.0 ... 1.5				RC-5CP2000	1603513	50
	Female Ø 2.0 mm / 1.0 ... 1.5				RC-5CS2000	1603517	50
	Male Ø 2.0 mm / 1.5 ... 2.5				RC-5AP2000	1603505	50
	Female Ø 2.0 mm / 1.5 ... 2.5				RC-5AS2000	1603509	50
Crimp contact for contact carriers, 9-pos. (8+1), 8 x Ø1.0 mm, 1 x Ø2.0 mm							
	Male Ø1.0 mm / 0.14 ... 0.56				RC-12P2000	1597862	100
	Female Ø1.0 mm / 0.14 ... 0.56				RC-12S2000	1599600	100
	Male Ø 2.0 mm / 1.5 ... 2.5				RC-5AP2000	1603505	50
	Female Ø 2.0 mm / 1.5 ... 2.5				RC-5AS2000	1603509	50
	Male Ø 2.0 mm / 1.0 ... 1.5				RC-5CP2000	1603513	50
	Female Ø 2.0 mm / 1.0 ... 1.5				RC-5CS2000	1603517	50
Crimp contact for contact carriers, 12-pos., 12 x Ø 1.0 mm **and** 17-pos., 17 x Ø 1.0 mm							
	Male Ø 1.0 mm / 0.08 ... 0.22				RC-11P2000	1596770	100
	Female Ø 1.0mm / 0.08 ... 0.22				RC-11S2000	1596772	100
	Male Ø1.0 mm / 0.14 ... 0.56				RC-12P2000	1597862	100
	Female Ø1.0 mm / 0.14 ... 0.56				RC-12S2000	1599600	100
	Male Ø 1.0 mm / 0.5 ... 1.0				RC-1KP2000	1602996	100
	Female Ø 1.0mm / 0.5 ... 1.0				RC-1KS2000	1602998	100
Crimp contact for contact carriers, 12-pos., 12 x Ø 1.0 mm **and** 17-pos., 17 x Ø 1.0 mm							
	Single contact male Ø 1.0 mm / 0.22 ... 0.56	RC-22P2000	1603321	100			
	Single contact female Ø 1.0 mm / 0.22 ... 0.56	RC-22S2000	1603327	100			
	Roll with 500 pieces, male Ø 1.0 mm / 0.22 ... 0.56	RC-22P2300	1603324	1			
	Roll with 500 pieces, female Ø 1.0 mm / 0.22 ... 0.56	RC-22S2300	1603330	1			
	Roll with 10,000 pieces, male Ø 1.0 mm / 0.22 ... 0.56	RC-22P2400	1603325	1			
	Roll with 10,000 pieces, female Ø 1.0 mm / 0.22 ... 0.56	RC-22S2400	1603332	1			
Crimp contact for contact carriers, 19-pos. (16+2+PE), 16 x Ø1.0 mm, 2 x Ø1.5 mm, 1 x Ø1.5 mm (PE)							
	Male Ø 1.0 mm / 0.08 ... 0.22				RC-15P2010	1623776	100
	Male Ø 1.0 mm / 0.14 ... 0.56				RC-15P2020	1623777	100
	Male Ø 1.0 mm / 0.5 ... 1.0				RC-15P2030	1623778	100
Crimp contact for contact carrier, 19-pos. (16+2+PE), 2 x Ø 1.5 mm							
	Male Ø 1.5 mm / 0.75 ... 1.0				RC-15P2000	1623779	100
	Female Ø 1.5 mm / 0.75 ... 1.0				RC-15S2000	1623775	100
Crimp contact for contact carrier, 19-pos. (16+2+PE), 1 x Ø 1.5 mm							
	Male, leading Ø 1.5 mm / 0.75 ... 1.0				RC-15P2100	1623780	100

Accessories

Crimping tools

See page 176

Accessories

See page 176

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Mechanical and electrical data

Mechanical data	
Housing material:	Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick layer passivated (can be coated)
Insulating body:	Polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FPM)
Ambient temperature:	-20°C ... 125°C
Cable entry:	Cable and coupler connectors for an outer cable diameter of 3 to 14.5 mm, shielded
Type of locking:	M23 SPEEDCON screw locking, cable connector with M23 x 1 coarse-pitch thread as an option
Mechanical insertion cycles:	Standard: 100, punched-rolled C-HC crimp contacts: up to 500
Protection class:	IP67 when locked

Electrical data

Number of positions		12	17	
Contacts		12	17	
Contact Ø	[mm]	1	1	
Litz wire cross section, crimp contacts turned	[mm²]	0.08 ... 1.0	0.08 ... 1.0	
Litz wire cross section, C-HC crimp contacts punched-rolled	[mm²]	0.06 ... 0.56	0.06 ... 0.56	
Cable clamping area	Max. Ø [mm]	14.5	14.5	
Nominal current per contact at 25°C [1]	[A]	8	8	
Specifications in accordance with DIN EN 61984:2009				
Rated voltage	[V AC/DC]	150	100	
Test/surge voltage	[kV]	2.5	1.5	
Overvoltage category		III	III	
Pollution degree [2]		3	3	
Installation altitude	[m]	Up to 3000	Up to 3000	
Cable clamping area [3]	Max. Ø [mm]	14.5	14.5	

[1] Determine the effective current carrying capacity depending on the application, if necessary, using a derating curve.
[2] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[3] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

Note:
In contrast to connecting equipment, connectors may only be plugged in / unplugged when the power supply is disconnected.

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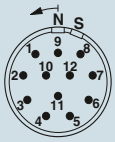
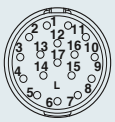
	Contact chamber numbering (view of plug-in side)			
Direction of rotation for contact chamber numbering (view of plug-in side)				
	Forward running (standard) **R** marked	**Reverse running** (standard) **L** marked	**Reverse running** (counter direction) **L** marked	**Forward running** (counter direction) **R** marked
Number of positions	**Male**	**Female**	**Male**	**Female**
12-pos. **N-coding** Crimp				
17-pos. **N-coding** Crimp				

Note:
The standard coding is “N”. Other codings and numbers of positions available on request.

The connectors can be assembled with male or female contacts depending on the application.

For safety reasons, only use female contacts in the live part of the connector.

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Selection guide

M23 feedback connectors
12- and 17-pos., N-coding, up to
8 A / 150 V, crimp ranges up to 1 mm²

– Cable connectors
– Coupler connectors
– Device connectors (device flanges)

Crimp contacts must be ordered separately depending on the connection cross section.

Every housing type can be assembled with male or female contacts.

The connectors are available with forward or reverse running contact chamber numbering.

N (0°) and S (20°, on request) coding positions are possible.

The product chart provides an overview of the available components.

	Connector type		
Shielded	**Cable connectors** SPEEDCON fast locking system, see page 110. 	M23 x 1 standard locking, see page 110. 	 Square mounting flange for cable and coupler connectors for wall mounting, see page 179.
Shielded	**Coupler connectors** See page 111. 		 Square mounting flange for cable and coupler connectors for wall mounting, see page 179.
Shielded	**Device connectors** Straight, 4-hole mounting Ø 3.2, see page 112. 		
Shielded	Contact carrier for snapping in from the device side, straight, 4-hole mounting Ø 3.2, see page 112. 		
Shielded	Angled, rotatable, flange dimensions: 26 mm x 26 mm, see page 112. 		
Shielded	Angled, rotatable, flange dimensions: 28 mm x 28 mm, see page 112. 		

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All housings can be fitted with male or female crimp contacts

Crimp contacts

Female contacts

Turned, see page 113.

Male contacts

Turned, see page 113.

Tools/accessories

Crimping tools

Crimping pliers with digital display for turned crimp contacts, see page 177.

Tools/accessories

Unlocking tool for device connectors with contact carriers for snapping in from the device side, see page 179.

Color rings for individually marking the connectors, see page 180.

Note:
For safety reasons, only use female contacts in the live part of the connector.

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Cable connectors, SPEEDCON fast locking system

– 12- and 17-pos. versions
– Individual marking of connectors with color rings

Cable connector, female assembly

Cable connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		12-pos.		17-pos.		12-pos.		17-pos.	
Cable connector, with contact carrier, **without** contacts, **standard** direction of rotation									
Universal gasket	3 mm ... 14.5 mm	1619472	1	1619470	1	1619471	1	1619469	1
	4 mm ... 6 mm	1619466	1	1619464	1	1619465	1	1619463	1
	6 mm ... 10 mm	1619460	1	1619458	1	1619459	1	1619457	1
	10 mm ... 14.5 mm	1619454	1	1619452	1	1619453	1	1619451	1
Cable connector, with contact carrier, **without** contacts, direction**reverse** of rotation									
Universal gasket	3 mm ... 14.5 mm	1619474	1			1619473	1		
	4 mm ... 6 mm	1619468	1			1619467	1		
	6 mm ... 10 mm	1619462	1			1619461	1		
	10 mm ... 14.5 mm	1619456	1			1619455	1		

Accessories	Accessories
Crimp contacts	**For female contacts, see page 113 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**

Accessories
For male contacts, see page 113 onwards
See page 180

Cable connectors, M23 standard locking

– M23 standard knurled nut
– 12- and 17-pos. versions
– Individual marking of connectors with color rings

Cable connector, female assembly

Cable connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		12-pos.		17-pos.		12-pos.		17-pos.	
Cable connector housing, with contact carrier, **without** contacts, **standard** direction of rotation									
Universal gasket	3 mm ... 14.5 mm	1619631	1	1619629	1	1619630	1	1619628	1
	4 mm ... 6 mm	1619625	1	1619623	1	1619624	1	1619619	1
	6 mm ... 10 mm	1619616	1	1619614	1	1619615	1	1619613	1
	10 mm ... 14.5 mm	1619610	1	1619608	1	1619609	1	1619607	1
Cable connector housing, with contact carrier, **without** contacts, **reverse** direction of rotation									
Universal gasket	3 mm ... 14.5 mm	1619633	1			1619632	1		
	4 mm ... 6 mm	1619627	1			1619626	1		
	6 mm ... 10 mm	1619618	1			1619617	1		
	10 mm ... 14.5 mm	1619612	1			1619611	1		

Accessories	Accessories
Crimp contacts	**For female contacts, see page 113 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**

Accessories
For male contacts, see page 113 onwards
See page 180

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Coupler connectors

- Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
- 12- and 17-pos. versions
- Individual marking of connectors with color rings

Coupler connector, female assembly

Coupler connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		12-pos.		17-pos.		12-pos.		17-pos.	
Coupler connector housing, with contact carrier, **without** contacts, **standard** direction of rotation									
Universal gasket	3 mm ... 14.5 mm	1620016	1	1620014	1	1620015	1	1620013	1
	4 mm ... 6 mm	1620009	1	1620007	1	1620008	1	1620006	1
	6 mm ... 10 mm	1620003	1	1620001	1	1620002	1	1620000	1
	10 mm ... 14.5 mm	1619997	1	1619995	1	1619996	1	1619994	1
Coupler connector housing, with contact carrier, **without** contacts, **reverse** direction of rotation									
Universal gasket	3 mm ... 14.5 mm	1620018	1			1620017	1		
	4 mm ... 6 mm	1620011	1			1620010	1		
	6 mm ... 10 mm	1620005	1			1620004	1		
	10 mm ... 14.5 mm	1619999	1			1619998	1		

	Accessories	Accessories
Crimp contacts	For female contacts, see page 113 onwards	For male contacts, see page 113 onwards
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180

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Device connectors, straight, front mounting

– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– Contact insert for support on the device or can be snapped in

Device connector, straight, female assembly

Device connector, straight, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	12-pos.		17-pos.		12-pos.		17-pos.	
Device connector, straight, with contact carrier, **without** contacts, 4-hole fastening with **Ø 3.2 mm**								
Standard direction of rotation	1607283	1	1607892	1	1607236	1	1607860	1
Reverse direction of rotation	1607307	1			1607260	1		
Device connector, straight, with contact carrier, **without** contacts, 4-hole fastening with **Ø 3.2 mm**, contact insert **can be snapped in**								
Standard direction of rotation	1607830	1	1607893	1	1607804	1	1607863	1
Reverse direction of rotation	1607844	1			1607817	1		

	Accessories	Accessories
Crimp contacts	**For female contacts, see page 113 onwards**	**For male contacts, see page 113 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

Device connectors, angled, rotatable, front mounting

– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– **Flange dimensions: 26 mm x 26 mm or 28 mm x 28 mm**

Device connectors, angled, rotatable, female assembly

Device connectors, angled, rotatable, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	12-pos.		17-pos.		12-pos.		17-pos.	
Device connector, angled, rotatable, with contact carrier, **without** contacts, flange dimensions: **26 mm x 26 mm**								
Standard direction of rotation	1607280	1	1607345	1	1607233	16	1607328	1
Reverse direction of rotation	1607304	1			1607257	1		
Device connector, angled, rotatable, with contact carrier, **without** contacts, flange dimensions: **28 mm x 28 mm**								
Standard direction of rotation	1607827	1	1607887	1	1607802	1	1607852	1
Reverse direction of rotation	1607842	1			1607814	1		

	Accessories	Accessories
Crimp contacts	**For female contacts, see page 113 onwards**	**For male contacts, see page 113 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Crimp contacts, turned

Depending on the number of positions, assemble the M23 feedback connectors with 12 or 17 Ø 1 mm signal contacts from the SF series.

These contacts are also used as signal contacts with the M23 power connectors. This simplifies handling and storage considerably.

Note: Depending on the litz wire used, the connection cross sections (crimp ranges) can differ from the values listed below.

Crimp contacts, female

Crimp contacts, male

Description	Connection cross section [mm²]	Ordering data: Type	Ordering data: Order No.	Ordering data: Pcs./Pkt.	Ordering data: Type	Ordering data: Order No.	Ordering data: Pcs./Pkt.
Contact female Ø 1.0 mm							
	0.06 ... 0.2	**SF-6CS2000**	1605562	100			
	0.14 ... 0.5	**SF-10KS004**	1607356	100			
	0.5 ... 1.0	**SF-6AS2000**	1605557	100			
Contact male Ø 1.0 mm							
	0.06 ... 0.2				**SF-6CP2000**	1605559	100
	0.14 ... 0.5				**SF-10KP004**	1607355	100
	0.5 ... 1.0				**SF-6AP2000**	1605554	100
		Accessories			Accessories		
Crimping tools		Order separately, see page 177			Order separately, see page 177		

Notes:
Each connector housing type can be assembled with male or female contacts.

For safety reasons, only use male contacts in the live part of the connector.

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Mechanical and electrical data

Mechanical data	
Housing material:	Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick layer passivated (can be coated)
Insulating body:	Polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FPM)
Ambient temperature:	-40°C ... 130°C
Cable entry:	Cable and coupler connectors for an outer cable diameter of 7.5 to 18 mm, shielded
Type of locking:	M23 SPEEDCON screw locking
Mechanical insertion cycles:	Standard: 100
Protection class:	IP67 when locked

Electrical data

Number of positions		13 (4 + 4 + 4 + PE), CAT5 (100 Mbps)							13 (8 +4 + PE)				
Contacts		4	+	4	+	4	+	PE	8	+	4	+	PE
Contact Ø	[mm]	0.8		1.0		2.0		2.0	1.0		2.0		2.0
Litz wire cross sections													
Cable and coupler connectors:													
Cable Ø max. 18 mm	[mm²]	0.08 ... 0.5		0.06 ... 1.0		0.25 ... 4.0		0.25 ... 4.0	0.06 ... 1.0		0.25 ... 4.0		0.25 ... 4.0
Device connectors:													
	[mm²]	0.08 ... 0.5		0.06 ... 1.0		0.25 ... 4.0		0.25 ... 4.0	0.06 ... 1.0		0.25 ... 4.0		0.25 ... 4.0
Nominal current per contact at 25°C [1]	[A]	3.6		8		30		-	8		30		-
Specifications in accordance with DIN EN 61984:2009													
Rated voltage	[V AC/DC]	50/50		50/50		630/850		-	50/50		630/850		-
Test/surge voltage	[kV AC]	1.5		1.5		6		-	1.5		6		-
Overvoltage category	[AC/DC]			III / II				-			III / II		-
Pollution degree [2]						3					3		
Cable clamping area [3]	Max. Ø [mm]					18					18		

[1] Determine the effective current carrying capacity depending on the application, if necessary, using a derating curve.
[2] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[3] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

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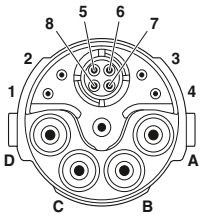
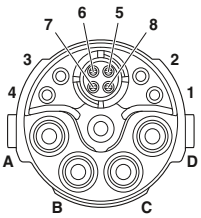
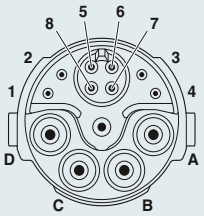
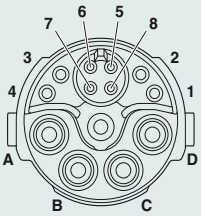
	Contact chamber numbering (view of plug-in side)			
Number of positions	**Male**		**Female**	
13-pos., CAT5 (100 Mbps) (4 + 4 + 4 + PE) Crimp				
13-pos. (8 + 4 + PE) Crimp				

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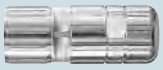
Selection guide

M23 hybrid connectors up to 30 A/630 V AC/850 V DC, crimp ranges up to 4 mm²

– Cable connectors
– Coupler connectors
– Device connectors (device flanges)

The connectors are pre-assembled on delivery. The connectors can be furnished with the corresponding crimp contacts.

The product chart provides an overview of the available components.

	Connector type
Shielded	**Cable connectors** SPEEDCON fast locking system, see page 118. M23 x 1 standard interlocking, see page 118. 
Shielded	**Coupler connectors** See page 119.
Shielded	**Device connectors** Straight, front mounting see page 119. Straight, rear mounting see page 120. Angled, rotatable, flange dimensions: 26 mm x 26 mm, see page 120. Angled, rotatable, flange dimensions: 28 mm x 28 mm see page 120.

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All housings can be fitted with male or female crimp contacts

Crimp contacts

Female contacts

Turned, see page 121.

Male contacts

Turned, see page 121.

Tools/accessories

Crimping pliers with digital display for turned crimp contacts, see page 177.

Accessories

Color rings for individually marking the connectors, see page 180.

Note:
For safety reasons, only use female contacts in the live part of the connector.

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Cable connectors, hybrid, SPEEDCON fast locking system

– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Cable connector, female assembly

Cable connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4 x signal + CAT5		8 x signal		4 x signal + CAT5		8 x signal	
Cable connector, with contact carrier, **without** contacts, crimp connection									
Universal gasket	7.5 mm ... 18 mm	1621517	1	1621524	1	1621529	1	1621534	1
	7.5 mm ... 9 mm	1621520	1	1621525	1	1621530	1	1621535	1
	9 mm ... 12 mm	1621521	1	1621526	1	1621531	1	1621536	1
	12 mm ... 15 mm	1621522	1	1621527	1	1621532	1	1621537	1
	15 mm ... 18 mm	1621523	1	1621528	1	1621533	1	1621538	1

	Accessories			Accessories		
M23 hybrid cable, (5 x 2.5 + 2 x (2 x 0.5) + (4 x 22 AWG)C)C						
Length of cable: 1 m	KC-88014311/1,00	1623127	1	KC-88014311/1,00	1623127	1
Length of cable: 20 m	KC-88014311/20,00	1622080	1	KC-88014311/20,00	1622080	1
Length of cable: 100 m	KC-88014311/100,00	1623039	1	KC-88014311/100,00	1623039	1
Crimp contacts	See page 121			See page 121		
Color rings, 50 pcs. in set (to be ordered separately)	See page 180			See page 180		
Protective caps (to be ordered separately)	See page 181			See page 181		

Cable connectors, hybrid, standard locking

– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Cable connector, female assembly

Cable connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4 x signal + CAT5		8 x signal		4 x signal + CAT5		8 x signal	
Cable connector, with contact carrier, **without** contacts, crimp connection									
Universal gasket	7.5 mm ... 18 mm	1621997	1	1622002	1	1622007	1	1622012	1
	7.5 mm ... 9 mm	1621998	1	1622003	1	1622008	1	1622013	1
	9 mm ... 12 mm	1621999	1	1622004	1	1622009	1	1622014	1
	12 mm ... 15 mm	1622000	1	1622005	1	1622010	1	1622015	1
	15 mm ... 18 mm	1622001	1	1622006	1	1622011	1	1622016	1

	Accessories			Accessories		
M23 hybrid cable, (5 x 2.5 + 2 x (2 x 0.5) + (4 x 22 AWG)C)C						
Length of cable: 1 m	KC-88014311/1,00	1623127	1	KC-88014311/1,00	1623127	1
Length of cable: 20 m	KC-88014311/20,00	1622080	1	KC-88014311/20,00	1622080	1
Length of cable: 100 m	KC-88014311/100,00	1623039	1	KC-88014311/100,00	1623039	1
Crimp contacts	See page 121			See page 121		
Color rings, 50 pcs. in set (to be ordered separately)	See page 180			See page 180		
Protective caps (to be ordered separately)	See page 181			See page 181		

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Coupler connectors, hybrid

– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Coupler connector, female assembly

Coupler connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4 x signal + CAT5		8 x signal		4 x signal + CAT5		8 x signal	
Coupler connector, with contact carrier, **without** contacts, crimp connection									
Universal gasket	7.5 mm ... 18 mm	1621539	1	1621544	1	1621549	1	1621554	1
	7.5 mm ... 9 mm	1621540	1	1621545	1	1621550	1	1621555	1
	9 mm ... 12 mm	1621541	1	1621546	1	1621551	1	1621556	1
	12 mm ... 15 mm	1621542	1	1621547	1	1621552	1	1621557	1
	15 mm ... 18 mm	1621543	1	1621548	1	1621553	1	1621558	1
		Accessories				Accessories			
M23 hybrid cable, (5 x 2.5 + 2 x (2 x 0.5) + (4 x 22 AWG)C)C									
Length of cable: 1 m		KC-88014311/1,00		1623127	1	KC-88014311/1,00		1623127	1
Length of cable: 20 m		KC-88014311/20,00		1622080	1	KC-88014311/20,00		1622080	1
Length of cable: 100 m		KC-88014311/100,00		1623039	1	KC-88014311/100,00		1623039	1
Crimp contacts		See page 121				See page 121			
Color rings, 50 pcs. in set (to be ordered separately)		See page 180				See page 180			
Protective caps (to be ordered separately)		See page 181				See page 181			

Device connectors, hybrid, straight, front mounting

– The external thread is designed for the standard and SPEEDCON fast locking system
– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Device connector, straight, female assembly

Device connector, straight, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	4 x signal + CAT5		8 x signal		4 x signal + CAT5		8 x signal	
Device connector, with contact carrier, **without** contacts								
Flange dimensions: 26 mm x 26 mm	1621567	1	1621568	1	1621569	1	1621570	1
	Accessories				Accessories			
Crimp contacts	See page 121				See page 121			
Color rings, 50 pcs. in set (to be ordered separately)	See page 180				See page 180			
Protective caps (to be ordered separately)	See page 181				See page 181			

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Device connectors, hybrid, straight, rear mounting

– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Device connector, straight, female assembly

Device connector, straight, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	4 x signal + CAT5		8 x signal		4 x signal + CAT5		8 x signal	
Device connector, with contact carrier, **without** contacts	1624344	1	1627204	1	1627205	1	1627206	1
	Accessories				Accessories			
Crimp contacts	See page 121				See page 121			
Color rings, 50 pcs. in set (to be ordered separately)	See page 180				See page 180			
Protective caps (to be ordered separately)	See page 181				See page 181			

Device connectors, hybrid, angled, rotatable, front mounting

– The external thread is designed for the standard and SPEEDCON fast locking system
– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal
– Housing can be freely rotated by 310°

Device connector, angled, rotatable, female assembly

Device connector, angled, rotatable, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	4 x signal + CAT5		8 x signal		4 x signal + CAT5		8 x signal	
Device connector, with contact carrier, **without** contacts								
Flange dimensions: 26 mm x 26 mm	1621563	1	1621564	1	1621565	1	1621566	1
Device connector, with contact carrier, **without** contacts								
Flange dimensions: 28 mm x 28 mm	1621559	1	1621560	1	1621561	1	1621562	1
	Accessories				Accessories			
Crimp contacts	See page 121				See page 121			
Color rings, 50 pcs. in set (to be ordered separately)	See page 180				See page 180			
Protective caps (to be ordered separately)	See page 181				See page 181			

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Crimp contacts, turned

Crimp contacts, female

Crimp contacts, male

Description	Connection cross section [mm²]	Ordering data			Ordering data		
		Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Contact, Ø 0.8 mm							
	0.08 ... 0.25	SF-08KS010	1621571	100	SF-08KP010	1621574	100
	0.34 ... 0.50	SF-08KS020	1621573	100	SF-08KP020	1621575	100
Contact, Ø 1.0 mm, for signal							
	0.06 ... 0.25	ST-10KS010	1618239	100	ST-10KP010	1618255	100
	0.34 ... 0.50	ST-10KS020	1618251	100	ST-10KP020	1618256	100
	0.25 ... 1.0	ST-10KS035	1618464	100	ST-10KP035	1618458	100
Contact, Ø 2.0 mm							
	0.25 ... 1.0	SF-20KS021	1621576	50	SF-20KP021	1621579	50
	1.0 ... 2.5	SF-20KS022	1621577	50	SF-20KP022	1621580	50
	2.5 ... 4.0	SF-20KS023	1621578	50	SF-20KP023	1621581	50

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Mechanical and electrical data

Mechanical data	
Housing material:	Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick layer passivated (can be coated)
Insulating body:	Polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FPM)
Ambient temperature:	-40°C ... 130°C
Cable entry:	Cable and coupler connectors for an outer cable diameter of 9 to 26.5 mm, shielded
Type of locking:	M40 SPEEDCON screw locking
Mechanical insertion cycles:	Standard: 100
Protection class:	IP68/IP69K when locked

Electrical data

Number of positions		**13 (4 + 4 + 4 + PE), CAT5 (100 Mbps)**				**13 (4 + 4 + 4 + PE), signal**			
Contacts		4 + 4 + 4 + PE				4 + 4 + 4 + PE			
Contact Ø	[mm]	0.8	1.0	3.6	3.6	1.0	1.0	3.6	3.6
Litz wire cross sections									
Cable and coupler connectors:									
Cable Ø max. 26.5 mm	[mm²]	0.08 ... 0.5	0.06 ... 1.5	2.5 ... 16.0	2.5 ... 16.0	0.06 ... 1.0	0.06 ... 1.5	2.5 ... 16.0	2.5 ... 16.0
Device connectors:									
	[mm²]	0.08 ... 0.5	0.06 ... 1.5	2.5 ... 10.0	2.5 ... 10.0	0.06 ... 1.0	0.06 ... 1.5	2.5 ... 10.0	2.5 ... 10.0
Nominal current per contact at 25°C [1]	[A]	3.6	8	70	–	8	8	70	–
Specifications in accordance with DIN EN 61984:2009									
Rated voltage	[V AC/DC]	50/50	500/500	630/850	–	50/50	500/500	630/850	–
Test/surge voltage	[kV AC]	1.5	4	6	–	1.5	4	6	–
Overvoltage category	[AC/DC]	III / II				III / II			
Pollution degree [2]		3				3			
Installation altitude	[m]	Up to 3000				Up to 3000			
Cable clamping area [3]	Max. Ø [mm]	26.5				26.5			

[1] Determine the effective current carrying capacity depending on the application, if necessary, using a derating curve.
[2] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[3] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

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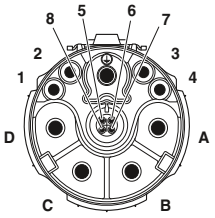
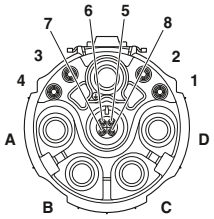
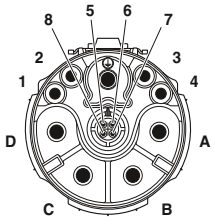
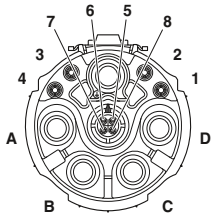
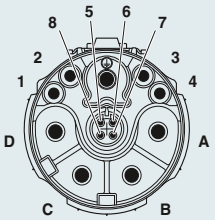
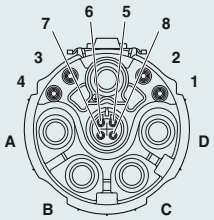
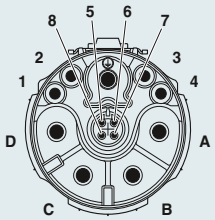
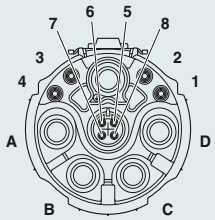
Pin assignments and coding

Number of positions	Contact chamber numbering (view of plug-in side)			
	Male AC-coded	**Female AC-coded**	**Male DC-coded**	**Female DC-coded**
13-pos., CAT5 (100 Mbps) (4 + 4 + 4 + PE) Crimp				
13-pos., signal (4 + 4 + 4 + PE) Crimp				

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Selection guide

M40 hybrid connectors up to 70 A/630 V AC/850 V DC, crimp ranges up to 16 mm^2
– Cable connectors
– Coupler connectors
– Device connectors (device flanges)

The connectors are pre-assembled on delivery. The connectors can be furnished with the corresponding crimp contacts.

The product chart provides an overview of the available components.

	Connector type
Shielded	**Cable connectors** SPEEDCON fast locking system, see page 126.
Shielded	**Coupler connectors** See page 127.
Shielded	**Device connectors** Straight, see page 128. Angled, rotatable, see page 128.

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All housings can be fitted with male or female crimp contacts

Crimp contacts

Female contacts

Turned, see page 129.

Male contacts

Turned, see page 129.

Tools/accessories

Crimping pliers with digital display for turned crimp contacts, see page 177.

Accessories

Color rings for individually marking the connectors, see page 180.

Note:
For safety reasons, only use female contacts in the live part of the connector.

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Cable connectors, hybrid, SPEEDCON fast locking system

– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Cable connector, female assembly

Cable connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4+4+4+PE-pos. (CAT5)		4+4+4+PE-pos. (signal)		4+4+4+PE-pos. (CAT5)		4+4+4+PE-pos. (signal)	
Cable connector, AC-coded, with contact carrier, **without** contacts, crimp connection									
Universal gasket	9 mm ... 14 mm	1623324	1	1623329	1	1623332	1	1623335	1
	14 mm ... 20.5 mm	1623327	1	1623330	1	1623333	1	1623336	1
	20.5 mm ... 26.5 mm	1623328	1	1623331	1	1623334	1	1623337	1
Cable connector, DC-coded, with contact carrier, **without** contacts, crimp connection									
Universal gasket	9 mm ... 14 mm	1623683	1	1623686	1	1623692	1	1623695	1
	14 mm ... 20.5 mm	1623684	1	1623687	1	1623693	1	1623696	1
	20.5 mm ... 26.5 mm	1623685	1	1623688	1	1623694	1	1623697	1
		Accessories				Accessories			
M40 hybrid cable, (5 x 10 + 2 x (2 x 0.5) + (4 x 22 AWG)C)C									
Length of cable: 1 m		KC-88014448/1,00		1627298	1	KC-88014448/1,00		1627298	1
Length of cable: 20 m		KC-88014448/20,00		1627299	1	KC-88014448/20,00		1627299	1
Crimp contacts		see page 129				see page 129			
Color rings, 50 pcs. in set (to be ordered separately)		See page 180				See page 180			
Protective caps (to be ordered separately)		See page 181				See page 181			

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Coupler connectors, hybrid, M40 standard locking

– Compatible with mating connectors with SPEEDCON and M40 standard knurled nut
– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Coupler connector, female assembly

Coupler connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4+4+4+PE-pos. (CAT5)		4+4+4+PE-pos. (signal)		4+4+4+PE-pos. (CAT5)		4+4+4+PE-pos. (signal)	
Coupler connector, AC-coded, with contact carrier, **without** contacts, crimp connection									
Universal gasket	9 mm ... 14 mm	1623339	1	1623344	1	1623356	1	1623359	1
	14 mm ... 20.5 mm	1623341	1	1623345	1	1623357	1	1623360	1
	20.5 mm ... 26.5 mm	1623342	1	1623346	1	1623358	1	1623361	1
Coupler connector, DC-coded, with contact carrier, **without** contacts, crimp connection									
Universal gasket	9 mm ... 14 mm	1623701	1	1623704	1	1623710	1	1623713	1
	14 mm ... 20.5 mm	1623702	1	1623705	1	1623711	1	1623714	1
	20.5 mm ... 26.5 mm	1623703	1	1623706	1	1623712	1	1623715	1
		Accessories				Accessories			
M40 hybrid cable, (5 x 10 + 2 x (2 x 0.5) + (4 x 22 AWG)C)C									
Length of cable: 1 m		KC-88014448/1,00		1627298	1	KC-88014448/1,00		1627298	1
Length of cable: 20 m		KC-88014448/20,00		1627299	1	KC-88014448/20,00		1627299	1
Crimp contacts		see page 129				see page 129			
Color rings, 50 pcs. in set (to be ordered separately)		See page 180				See page 180			
Protective caps (to be ordered separately)		See page 181				See page 181			

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Device connectors, hybrid, straight, front mounting

– The external thread is designed for the standard and SPEEDCON fast locking system
– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Device connector, straight, female assembly

Device connector, straight, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	4+4+4+PE-pos. (CAT5)		4+4+4+PE-pos. (signal)		4+4+4+PE-pos. (CAT5)		4+4+4+PE-pos. (signal)	
Device connector, AC-coded, with contact carrier, **without** contacts, crimp connection								
Flange dimensions: 40 mm x 40 mm	1623371	1	1623372	1	1623374	1	1623375	1
Device connector, DC-coded, with contact carrier, **without** contacts, crimp connection								
Flange dimensions: 40 mm x 40 mm	1623725	1	1623726	1	1623728	1	1623729	1

	Accessories	Accessories
Crimp contacts	see page 129	see page 129
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

Device connectors, hybrid, angled, rotatable, front mounting

– The external thread is designed for the standard and SPEEDCON fast locking system
– 4x power+PE, 4x signal, 4x data (CAT5, 100 Mbps)
– 4x power+PE, 8x signal

Device connector, angled, rotatable, female assembly

Device connector, angled, rotatable, male assembly

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	4+4+4+PE-pos. (CAT5)		4+4+4+PE-pos. (signal)		4+4+4+PE-pos. (CAT5)		4+4+4+PE-pos. (signal)	
Device connector, AC-coded, angled, rotatable, with contact carrier, **without** contacts, crimp connection								
Flange dimensions: 40 mm x 40 mm	1623365	1	1623366	1	1623368	1	1623369	1
Device connector, DC-coded, angled, rotatable, with contact carrier, **without** contacts, crimp connection								
Flange dimensions: 40 mm x 40 mm	1623719	1	1623720	1	1623722	1	1623723	1

	Accessories	Accessories
Crimp contacts	see page 129	see page 129
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

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Crimp contacts, turned

Notes:

1) Not for device connector, angled, rotatable

Crimp contacts, female

Crimp contacts, male

Description	Connection cross section [mm²]	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Contact, Ø 0.8 mm							
	0.08 ... 0.25	**SF-08KS010**	1621571	100	**SF-08KP010**	1621574	100
	0.34 ... 0.50	**SF-08KS020**	1621573	100	**SF-08KP020**	1621575	100
Contact, Ø 1.0 mm, for CAT5 and signal							
	0.06 ... 0.25	**SB-10KS001**	1623603	100	**SB-10KP001**	1623607	100
	0.34 ... 0.50	**SB-10KS002**	1623604	100	**SB-10KP002**	1623611	100
	0.5 ... 1.0	**SB-10KS003**	1623605	100	**SB-10KP003**	1623612	100
	1.0 ... 1.5	**SB-10KS004**	1623606	100	**SB-10KP004**	1623613	100
Contact, Ø 1.0 mm, for signal							
	0.06 ... 0.25	**ST-10KS010**	1618239	100	**ST-10KP010**	1618255	100
	0.34 ... 0.50	**ST-10KS020**	1618251	100	**ST-10KP020**	1618256	100
	0.25 ... 1.0	**ST-10KS035**	1618464	100	**ST-10KP035**	1618458	100
Contact, Ø 3.6 mm							
	2.5 ... 4.0	**SB-36KS002**	1623378	20	**SB-36KP002**	1623383	20
	4.0 ... 6.0	**SB-36KS003**	1623379	20	**SB-36KP003**	1623384	20
	10.0	**SB-36KS004**	1623380	20	**SB-36KP004**	1623385	20
	16.0[1]	**SB-36KS005**	1623381	20	**SB-36KP005**	1623386	20

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Mechanical and electrical data

Mechanical data	
Housing material:	Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick-layer passivated (can be coated)
Insulating body:	Polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FKM)
Ambient temperature:	-40°C to 125°C
Cable entry:	Cable and coupler connectors for an outer cable diameter of 3.5 to 11 mm, shielded (M17 Compact) 5 to 12.5 mm, shielded (M17)
Type of locking:	M17 SPEEDCON fast locking system, cable connector With M17 x 1 coarse-pitch thread as an option
Mechanical insertion cycles:	Standard: 100, punched-rolled C-HC crimp contacts: up to 500
Protection class:	IP67 when locked

Electrical data

Number of positions		**4 (3+PE)**	**6 (5+PE)**	**7 (6+PE)**	**8 (7+PE)**	**9 (5+3+PE)**		
Contacts		3 + PE	5 + PE	6 + PE	7 + PE	5	+ 3	+ PE
Contact Ø	[mm]	2	1	1	1	0.6	1	1
Litz wire cross section, crimp contacts Turned	[mm²]	0.25 ... 2.5	0.06 ... 1.0	0.06 ... 1.0	0.06 ... 1.0	0.06 ... 0.5	0.06 ... 1.0	0.06 ... 1.0
Litz wire cross section, C-HC crimp contacts Punched-rolled	[mm²]	–	0.08 ... 0.56	0.06 ... 0.56	0.06 ... 0.56	–	–	–
Nominal current per contact at 25°C [1]	[A]	20 (25) [2]	14	14	14	3.6	14	–
Specifications in accordance with DIN EN 61984:2009								–
Rated voltage	[V AC/DC]	630	630	630	630	60	630	–
Test/surge voltage	[kV AC]	6	6	6	6	1.5	6	–
Overvoltage category		III	III	III	III		III	
Pollution degree [3]		3	3	3	3		3	
Installation altitude	[m]	Up to 3000	Up to 3000	Up to 3000	Up to 3000		Up to 3000	
Cable clamping area [4]	Max. Ø [mm]	12.5	12.5	12.5	12.5		12.5	

[1] Determine the effective current carrying capacity in accordance with the application, if necessary, using a derating curve.
[2] 25 A in the case of assignment with 3 x 2.5 mm²
[3] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[4] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

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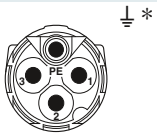
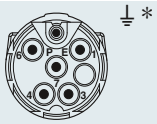
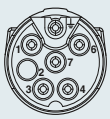
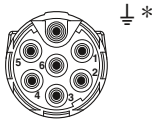
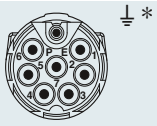
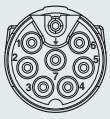
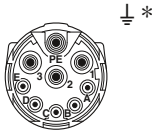
Number of positions	Contact chamber numbering (view of plug-in side) Male	Female
4-pos. (3+PE) Crimp		
6-pos. (5+PE) (contact chambers 2+5 closed) Crimp		
7-pos. (6+PE) Crimp		
8-pos. (7+PE) Crimp		
9-pos. (5+3+PE) Crimp		
	* with grounding spring **PE leading**	* with grounding spring **PE leading**

Note:
The connectors can be assembled with male or female contacts depending on the application.

For safety reasons, only use female contacts in the live part of the connector.

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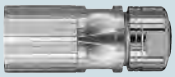
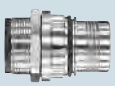
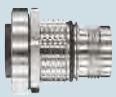
Selection guide

M17 power connectors, 4-, 6-, 7-, 8-, and 9-pos., up to 20 A/630 V, crimp ranges: 0.06 mm² to 2.5 mm²
– Cable connectors
– Coupler connectors
– Device connectors (device flanges)

The connectors are delivered pre-assembled. The connectors can be furnished with the corresponding crimp contacts.

Every housing type can be assembled with male or female contacts.
The cable connectors can be equipped with the SPEEDCON fast locking system or with M17 x 1 coarse-pitch thread as an option. The connectors with external thread are fully compatible with standard threads and the SPEEDCON fast locking system.

The product chart provides an overview of the available components.

	Connector type	
Shielded	**Cable connectors**	
	SPEEDCON fast locking system, M17 Compact, see page 134.	
	M17, see page 136.	Square mounting flange for cable and coupler connectors for wall mounting, see page 179.
	M17 x 1 standard locking, M17, see page 136. 	
Shielded	**Coupler connectors / panel feed-throughs**	
	Coupler connector M17 Compact, see page 134.	M17, see page 137.
	Panel feed-through M17 Compact, see page 135.	
Shielded	**Device connectors**	
	Straight, M17 Compact, see page 135.	Straight, M17, see page 137.
	Straight, with central fastening thread, front mounting, M17, see page 139. 	Straight, with central fastening thread, rear mounting, M17, see page 139. 
	Angled, rotatable, M17, see page 138.	

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All housings can be fitted with male or female crimp contacts

Crimp contacts

Female contacts

Turned, see page 140.

Male contacts

Turned, see page 140.

Note:
For safety reasons, only use female contacts in the live part of the connector.

Tools/accessories

Crimping tools

Crimping pliers with digital display for turned crimp contacts, see page 177.

Tools/accessories

Unlocking tool for device connectors with contact carriers for snapping in from the device side, see page 179.

Color rings for individually marking the connectors, see page 180.

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Cable connectors, M17 Compact

– High packing density in a compact product
– Individual marking of connectors with color rings

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Cable clamping area	Ordering data						Ordering data					
		Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Cable connector, with contact carrier, **without** contacts, for **female assembly**													
	3.5 mm ... 5.5 mm	1618312	1	1618621	1	1618632	1	1618633	1	1618674	1		
	5 mm ... 9.2 mm	1618408	1	1618620	1	1618631	1	1618634	1	1618675	1		
	9 mm ... 11.2 mm	1618603	1	1618619	1	1618630	1	1618635	1	1618676	1		
Cable connector, with contact carrier, **without** contacts, for **male assembly**													
	3.5 mm ... 5.5 mm	1618602	1	1618614	1	1618622	1	1618640	1	1618681	1		
	5 mm ... 9.2 mm	1618574	1	1618615	1	1618623	1	1618639	1	1618680	1		
	9 mm ... 11.2 mm	1618575	1	1618616	1	1618624	1	1618638	1	1618679	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

Coupler connectors, M17 Compact

– Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
– Individual marking of connectors with color rings

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Cable clamping area	Ordering data						Ordering data					
		Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Coupler connector, with contact carrier, **without** contacts, for **female assembly**													
	3.5 mm ... 5.5 mm	1618695	1	1618696	1	1618708	1	1618716	1	1618748	1		
	5 mm ... 9.2 mm	1618694	1	1618697	1	1618709	1	1618717	1	1618749	1		
	9 mm ... 11.2 mm	1618693	1	1618698	1	1618710	1	1618718	1	1618750	1		
Coupler connector, with contact carrier, **without** contacts, for **male assembly**													
	3.5 mm ... 5.5 mm	1620614	1	1618703	1	1618704	1	1618712	1	1618740	1		
	5 mm ... 9.2 mm	1618406	1	1618702	1	1618705	1	1618713	1	1618741	1		
	9 mm ... 11.2 mm	1618690	1	1618701	1	1618706	1	1618714	1	1618742	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Panel feed-throughs, M17 Compact

- Panel feed-throughs suitable for front and rear mounting
- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Individual marking of connectors with color rings
- **Flange dimensions: 25.7 mm x 25.7 mm**

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Cable clamping area	Ordering data						Ordering data					
		Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Panel feed-through, with contact carrier, **without** contacts, for **female assembly**													
	3.5 mm ... 5.5 mm	1618762	1	1618772	1	1618780	1	1618787	1	1618825	1		
	5 mm ... 9 mm	1618763	1	1618773	1	1618781	1	1618786	1	1618824	1		
	9 mm ... 11 mm	1618764	1	1618774	1	1618782	1	1618785	1	1618823	1		
Panel feed-through, with contact carrier, **without** contacts, for **male assembly**													
	3.5 mm ... 5.5 mm	1618402	1	1618767	1	1618776	1	1618788	1	1618818	1		
	5 mm ... 9 mm	1618407	1	1618768	1	1618777	1	1618790	1	1618819	1		
	9 mm ... 11 mm	1618760	1	1618769	1	1618778	1	1618791	1	1618820	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

Device connectors, M17 Compact, front mounting

- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Individual marking of connectors with color rings
- **Flange dimensions: 21.6 mm x 21.6 mm**

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Ordering data						Ordering data					
	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Device connector, with contact carrier, **without** contacts, for **female assembly**												
Contact insert for support on the device	1607694	1	1607728	1	1613589	1	1607769	1	1613631	1		
Device connector, with contact carrier, **without** contacts, for **male assembly**												
Contact insert for support on the device	1607675	1	1607711	1	1613570	1	1607747	1	1613612	1		
Device connector, with contact carrier, **without** contacts, for **female assembly**												
Contact insert can be snapped in	1607692	1	1607727	1	1613588	1	1607768	1	1613630	1		
Device connector, with contact carrier, **without** contacts, for **male assembly**												
Contact insert can be snapped in	1607674	1	1607710	1	1613569	1	1607746	1	1613611	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**
Unlocking tool for contact carriers	**See page 179**	**See page 179**

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Cable connectors, SPEEDCON fast locking system

– SPEEDCON fast locking system or M17 standard interlocking
– Standard knurled nut compatible with mating connectors with SPEEDCON and M17 standard external thread
– Individual marking of connectors with color rings

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Cable clamping area	Ordering data						Ordering data					
		Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Cable connector, with contact carrier, **without** contacts, for **female assembly**													
	5 mm ... 8 mm	1607683	1	1607718	1	1613578	1	1607756	1	1613620	1		
	8 mm ... 10 mm	1607685	1	1607720	1	1613580	1	1607759	1	1613622	1		
	10 mm ... 12.5 mm	1624538	1	1624544	1	1624550	1	1624556	1	1624639	1		
Cable connector, with contact carrier, **without** contacts, for **male assembly**													
	5 mm ... 8 mm	1607665	1	1607700	1	1613559	1	1607736	1	1613601	1		
	8 mm ... 10 mm	1607667	1	1607702	1	1613561	1	1607738	1	1613603	1		
	10 mm ... 12.5 mm	1624535	1	1624541	1	1624547	1	1624553	1	1624637	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

Cable connectors, M17 standard locking

– Standard knurled nut compatible with mating connectors with SPEEDCON and M17 standard external thread
– Individual marking of connectors with color rings

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Cable clamping area	Ordering data						Ordering data					
		Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Cable connector, with contact carrier, **without** contacts, for **female assembly**													
	5 mm ... 8 mm	1607682	1	1607717	1	1613577	1	1607755	1	1613619	1		
	8 mm ... 10 mm	1607684	1	1607719	1	1613579	1	1607758	1	1613621	1		
	10 mm ... 12.5 mm	1624537	1	1624543	30	1624549	1	1624555	1	1624638	1		
Cable connector, with contact carrier, **without** contacts, for **male assembly**													
	5 mm ... 8 mm	1607663	1	1607699	1	1613558	1	1607735	1	1613600	1		
	8 mm ... 10 mm	1607666	1	1607701	1	1613560	1	1607737	1	1613602	1		
	10 mm ... 12.5 mm	1624534	1	1624540	1	1624546	1	1624552	1	1624636	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Coupler connectors

– Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
– Individual marking of connectors with color rings

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Cable clamping area	Ordering data						Ordering data					
		Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Coupler connector, with contact carrier, **without** contacts, for **female assembly**													
	5 mm ... 8 mm	1607688	1	1607723	1	1613583	1	1607764	1	1613625	1		
	8 mm ... 10 mm	1607689	1	1607724	1	1613584	1	1607765	1	1613626	1		
	10 mm ... 12.5 mm	1624539	1	1624545	1	1624551	1	1624557	1	1624654	1		
Coupler connector, with contact carrier, **without** contacts, for **male assembly**													
	5 mm ... 8 mm	1607670	1	1607706	1	1613564	1	1607741	1	1613606	1		
	8 mm ... 10 mm	1607671	1	1607707	1	1613565	1	1607742	1	1613607	1		
	10 mm ... 12.5 mm	1624536	1	1624542	1	1624548	1	1624554	1	1624653	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

Device connectors, straight, front mounting

– Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
– Contact insert for support on the device or can be snapped in
– Individual marking of connectors with color rings
– **Flange dimensions: 25.7 mm x 25.7 mm**

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Ordering data						Ordering data					
	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Device connector, with contact carrier, **without** contacts, for **female assembly**												
Contact insert for support on the device	1619189	1	1619191	1	1619193	1	1619195	1	1620459	1		
Device connector, with contact carrier, **without** contacts, for **male assembly**												
Contact insert for support on the device	1619186	1	1619190	1	1619192	1	1619194	1	1620460	1		
Device connector, with contact carrier, **without** contacts, for **female assembly**												
Contact insert can be snapped in	1619212	1	1619214	1	1619216	1	1619218	1	1620461	1		
Device connector, with contact carrier, **without** contacts, for **male assembly**												
Contact insert can be snapped in	1619209	1	1619213	1	1619215	1	1619217	1	1620462	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**
Unlocking tool for contact carriers	**See page 179**	**See page 179**

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Device connectors, angled, rotatable, front mounting

- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Housing can be freely rotated up to 308°
- Individual marking of connectors with color rings
- Flange versions for M2.5 or M3 fixing
- **Flange dimensions: 25.7 mm x 25.7 mm**

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Ordering data						Ordering data					
	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Device connector, angled, rotatable, with contact carrier, **without** contacts, for **female contacts**												
Fixing with M2.5	1620428	1	1620432	1	1620434	1	1620436	1	1620438	1		
Device connector, angled, rotatable, with contact carrier, **without** contacts, for **male contacts**												
Fixing with M2.5	1620427	1	1620431	1	1620433	1	1620435	1	1620437	1		
Device connector, angled, rotatable, with contact carrier, **without** contacts, for **female contacts**												
Fixing with M3	1620443	1	1620447	1	1620449	1	1620451	1	1620453	1		
Device connector, angled, rotatable, with contact carrier, **without** contacts, for **male contacts**												
Fixing with M3	1620444	1	1620448	1	1620450	1	1620452	1	1620454	1		

	Accessories	Accessories
Crimp contacts	**Order separately, see page 140 onwards**	**Order separately, see page 140 onwards**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Device connectors, central fastening thread, front and rear mounting

- Compatible with mating connectors with SPEEDCON or M17 standard knurled nuts
- Snapping in the contact carriers from the device side
- Individual marking of connectors with color rings

3+PE, 5+PE, 6+PE-pos.

7+PE, 5+3+PE-pos.

Description	Ordering data						Ordering data					
	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	3+PE-pos.		5+PE-pos.		6+PE-pos.		7+PE-pos.		5+3+PE-pos.			
Device connector,front mounting, M18 x 0.75 fastening thread, with contact carrier, **without** contacts, **for female contacts**	1613546	1	1613550	1	1613572	1	1613592	1	1613614	1		
Device connector, front mounting, M18 x 0.75 fastening thread, with contact carrier, **without** contacts, **for male contacts**	1613544	1	1613548	1	1613553	1	1613590	1	1613595	1		
Device connector,rear mounting, M20 x 1.5 fastening thread, with contact carrier, **without** contacts, **for female contacts**	1613547	1	1613551	1	1613587	1	1613593	1	1613629	1		
Device connector,rear mounting, M20 x 1.5 fastening thread, with contact carrier, **without** contacts, **for male contacts**	1613545	1	1613549	1	1613568	1	1613591	1	1613610	1		

Description	Accessories			Accessories		
	Type	Order No.	Pcs./ Pkt.	Type	Order No.	Pcs./ Pkt.
Locking nut, for mounting bore holes and polarization						
M18 x 0.75	ST-E2015151	1613831	10	ST-E2015151	1613831	10
M20 x 1.5	RC-13041	1600417	10	RC-13041	1600417	10
Crimp contacts	Order separately, see page 140 onwards			Order separately, see page 140 onwards		
Color rings, 50 pcs. in set (to be ordered separately)	See page 180			See page 180		
Protective caps (to be ordered separately)	See page 181			See page 181		
Unlocking tool for contact carriers	See page 179			See page 179		

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Crimp contacts, turned

Depending on the number of positions, assemble the M17 power connectors with Ø 2 mm, Ø 1 mm or Ø 0.6 mm contacts (see table below).

Note: Depending on the litz wire used, the connection cross sections (crimp ranges) may deviate from the listed values. For safety reasons, only use female contacts in the live part of the plug.

Crimp contacts, female

Crimp contacts, male

Description	Connection cross section [mm²]	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Contact, female, Ø 2.0 mm							
	0.25 ... 1.0	**ST-20KS010**	1607657	50			
	1.0 ... 2.5	**ST-20KS020**	1607658	50			
Contact, Ø 1.0 mm, for signal							
	0.06 ... 0.25	**ST-10KS010**	1618239	100			
	0.34 ... 0.50	**ST-10KS020**	1618251	100			
	0.25 ... 1.0	**ST-10KS035**	1618464	100			
Contact, female, Ø 0.6 mm							
	0.06 ... 0.25	**ST-06KS010**	1607580	100			
	0.14 ... 0.34	**ST-06KS020**	1607581	100			
	0.34 ... 0.50	**ST-06KS030**	1607582	100			
Contact, male, Ø 2.0 mm							
	0.25 ... 1.0				**ST-20KP010**	1607655	50
	1.0 ... 2.5				**ST-20KP020**	1607656	50
Contact, Ø 1.0 mm, for signal							
	0.06 ... 0.25				**ST-10KP010**	1618255	100
	0.34 ... 0.50				**ST-10KP020**	1618256	100
	0.25 ... 1.0				**ST-10KP035**	1618458	100
Contact, male, Ø 0.6 mm							
	0.06 ... 0.25				**ST-06KP010**	1607577	100
	0.14 ... 0.34				**ST-06KP020**	1607578	100
	0.34 ... 0.50				**ST-06KP030**	1607579	100
		Accessories			**Accessories**		
Crimping tools		**Order separately, see page 177**			**Order separately, see page 177**		

Contact diameter

Number of positions	Number of contacts	Contact Ø [mm]
4(3+PE)	4	2
6(5+PE)	6	1
7(6+PE)	7	1
8(7+PE)	8	1
9(5+3+PE)	5+3+PE	0.6+1+1
17	17	0.6

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Mechanical and electrical data

Mechanical data	
Housing material:	Die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick layer passivated (can be coated)
Insulating body:	Polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FPM)
Ambient temperature:	-40°C ... 125°C
Cable entry:	External cable diameter 5.5 to 17 mm
Type of locking:	M23 ONECLICK fast locking system, cable connector M23 x 1 coarse-pitch thread as an option
Mechanical insertion cycles:	Standard: 100
Protection class:	IP66/IP68

Electrical data

Number of positions		**6 (5+PE)**	**8 (4+3+PE)**				
Contacts		5 + PE	4	+	3	+	PE
Contact Ø	[mm]	2	1		2		2
Litz wire cross sections							
Short version, cable Ø max. 14 mm	[mm²]	0.25 ... 2.5	0.06 ... 1.0		0.25 ... 2.5		0.25 ... 2.5
Long version, cable Ø max. 18 mm	[mm²]	0.25 ... 4.0	0.06 ... 1.0		0.25 ... 4.0		0.25 ... 4.0
Device connectors	[mm²]	0.25 ... 4.0	0.06 ... 1.0		0.25 ... 4.0		0.25 ... 4.0
Nominal current per contact at 25°C [1]	[A]	30	9		30		–
Specifications in accordance with DIN EN 61984:2009							–
Rated voltage	[V AC/DC]	630 [2]	250		630 [2]		–
Test/surge voltage	[kV AC]	6	4		6		–
Overvoltage category		III			III		
Pollution degree [3]		3			3		
Installation altitude	[m]	Up to 2000			Up to 2000		
Cable clamping area [4]	Max. Ø [mm]	17			17		

[1] Determine the effective current carrying capacity depending on the application, if necessary, using a derating curve.
[2] 400 V when assembled with punched-rolled C-HC contacts
[3] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[4] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

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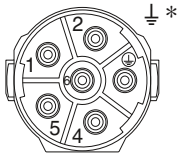
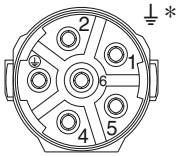
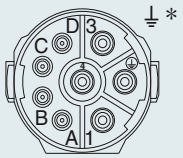
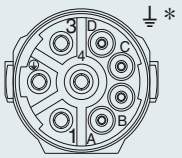
	Contact chamber numbering (view of plug-in side)			
Number of positions	**Male**		**Female**	
6-pos. **(5 + PE)** Crimp		* with grounding spring, **pos. 3 leading**		* with grounding spring, pos. 3
8-pos. **(4 + 3 + PE)** Crimp		* with grounding spring, pos. 2		* with grounding spring, **pos. 2 leading**

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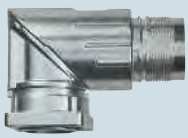
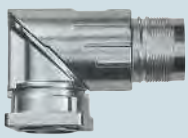
Selection guide

M23 PRO series power connectors up to 30 A / 630 V, crimping range up to 4 mm²

– Cable connectors
– Device connectors (device flanges)

The connectors are delivered pre-assembled. The connectors can be furnished with the corresponding crimp contacts.

Every housing type can be assembled with male or female contacts. The product chart provides an overview of the available components.

	Connector type
Shielded	**Cable connectors, short design** M23 ONECLICK fast locking system, see page 146. ONECLICK Technology Designed by PHOENIX CONTACT M23 x 1 standard locking, see page 146.
Shielded	**Cable connectors, long design** M23 ONECLICK fast locking system, see page 146. ONECLICK Technology Designed by PHOENIX CONTACT M23 x 1 standard locking, see page 146.
Shielded	**Device connectors** Angled, rotatable, flange dimensions: 26 mm x 26 mm, see page 147.  Angled, rotatable, flange dimensions: 28 mm x 28 mm, see page 147. 

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Female contact
Male contact

Female contact
Male contact

Female contact
Male contact

All housings can be fitted with male or female crimp contacts

Crimp contacts

Female contacts

Turned, see page 148.

Male contacts

Turned, see page 148.

Tools/accessories

Crimping pliers with digital display for turned crimp contacts, see page 177.

Note:
For safety reasons, only use female contacts in the live part of the connector.

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Cable connectors, short and long design, ONECLICK fast locking system

– Cross-manufacturer connection compatibility
– All housings can be fitted with male or female contacts

Notes:
Touch protection only on the female side

new

Cable connector, female assembly

new

Cable connector, male assembly

Description	Cable clamping area	Ordering data: Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Ordering data: Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		5+PE-pos.		4+3+PE-pos.		5+PE-pos.		4+3+PE-pos.	
Cable connector, short, with contact carrier, **without** contacts, crimp connection									
Universal gasket	5.5 mm ... 15 mm	1628815	1	1628811	1	1628871	1	1628867	1
	5.5 mm ... 8 mm	1628818	1	1628813	1	1628874	1	1628869	1
	7.5 mm ... 12 mm	1628817	1	1628814	1	1628873	1	1628870	1
	9.5 mm ... 14.5 mm	1628816	1	1628812	1	1628872	1	1628868	1
Cable connector, long, with contact carrier, **without** contacts, crimp connection									
Universal gasket	7.5 mm ... 17 mm	1628796	1	1628791	1	1628852	1	1628847	1
	5.5 mm ... 8 mm	1628800	1	1628795	1	1628856	1	1628850	1
	7.5 mm ... 12 mm	1628799	1	1628794	1	1628855	1	1628851	1
	9.5 mm ... 14.5 mm	1628798	1	1628793	1	1628854	1	1628849	1
	14 mm ... 17 mm	1628797	1	1628792	1	1628853	1	1628848	1

Accessories	Accessories
Crimp contacts	Order separately, see page 148 onwards	Order separately, see page 148 onwards

Cable connectors, short and long design, M23 standard locking

– Cross-manufacturer connection compatibility
– All housings can be fitted with male or female contacts

Notes:
Touch protection only on the female side

new

Cable connector, female assembly

new

Cable connector, male assembly

Description	Cable clamping area	Ordering data: Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Ordering data: Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		5+PE-pos.		4+3+PE-pos.		5+PE-pos.		4+3+PE-pos.	
Cable connector, short, with contact carrier, **without** contacts, crimp connection									
Universal gasket	5.5 mm ... 15 mm	1628823	1	1628819	1	1628879	1	1628875	1
	5.5 mm ... 8 mm	1628826	1	1628822	1	1628882	1	1628878	1
	7.5 mm ... 12 mm	1628825	1	1628821	1	1628881	1	1628877	1
	9.5 mm ... 14.5 mm	1628824	1	1628820	1	1628880	1	1628876	1
Cable connector, long, with contact carrier, **without** contacts, crimp connection									
Universal gasket	7.5 mm ... 17 mm	1628806	1	1628801	1	1628862	1	1628857	1
	5.5 mm ... 8 mm	1628810	1	1628805	1	1628866	1	1628861	1
	7.5 mm ... 12 mm	1628809	1	1628804	1	1628865	1	1628860	1
	9.5 mm ... 14.5 mm	1628808	1	1628803	1	1628864	1	1628859	1
	14 mm ... 17 mm	1628807	1	1628802	1	1628863	1	1628858	1

Accessories	Accessories
Crimp contacts	Order separately, see page 148 onwards	Order separately, see page 148 onwards

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Device connectors, angled, rotatable

- Cross-manufacturer connection compatibility
- All housings can be fitted with male or female contacts

Notes:

Touch protection only on the female side

new

Device connector, female assembly

new

Device connector, male assembly

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		5+PE-pos.		4+3+PE-pos.		5+PE-pos.		4+3+PE-pos.	
Device connector, angled, rotatable, with contact carrier, **without** contacts									
Flange dimensions: 26 mm x 26 mm		1628491	1	1628490	1	1628487	1	1628486	1
Device connector, angled, rotatable, with contact carrier, **without** contacts									
Flange dimensions: 28 mm x 28 mm		1628489	1	1628488	1	1628485	1	1628484	1
		Accessories				Accessories			
Crimp contacts		Order separately, see page 148 onwards				Order separately, see page 148 onwards			

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Crimp contacts, turned

Assemble the 5+PE-pos. M23 power connectors with 5 x Ø 2 mm contacts. The 4+3+PE-pos. M23 power connectors are assembled with 4 x Ø 1 mm and 4 x Ø 2 mm contacts.

Crimp contacts, female

Crimp contacts, male

Description	Connection cross section [mm²]	Ordering data: Type	Ordering data: Order No.	Ordering data: Pcs./Pkt.	Ordering data: Type	Ordering data: Order No.	Ordering data: Pcs./Pkt.
Contact Ø 1.0 mm							
	0.06 ... 0.25	**ST-10KS010**	1618239	100	**ST-10KP010**	1618255	100
	0.34 ... 0.50	**ST-10KS020**	1618251	100	**ST-10KP020**	1618256	100
	0.25 ... 1.0	**ST-10KS035**	1618464	100	**ST-10KP035**	1618458	100
Contact Ø 2.0 mm							
	0.25 ... 1.0	**SF-20KS021**	1621576	50	**SF-20KP011**	1050147	50
	1.0 ... 2.5	**SF-20KS022**	1621577	50	**SF-20KP012**	1050205	50
	2.5 ... 4.0	**SF-20KS023**	1621578	50	**SF-20KP013**	1050210	50

Accessories	Accessories
Crimping tools	**Order separately, see page 177 onwards**	**Order separately, see page 177 onwards**

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Mechanical and electrical data

Mechanical data	
Housing material:	Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated / thick layer passivated (can be coated)
Insulating body:	Polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FPM)
Ambient temperature:	-40°C ... 125°C
Cable entry:	Cable and coupler connectors for an outer cable diameter of 7.5 to 18 mm, shielded
Type of locking:	M23 SPEEDCON screw locking, cable connector M23 x 1 coarse-pitch thread as an option
Mechanical insertion cycles:	Standard: 100
Protection class:	IP67 when locked

Electrical data

Number of positions		**6 (5+PE)**	**8 (4+3+PE)**				
Contacts		5 + PE	4	+	3	+	PE
Contact Ø	[mm]	2	1		2		2
Litz wire cross sections							
Short version, cable Ø max. 14 mm	[mm²]	0.25 ... 2.5	0.06 ... 1.0		0.25 ... 2.5		0.25 ... 2.5
Long version, cable Ø max. 18 mm	[mm²]	0.25 ... 4.0	0.06 ... 1.0		0.25 ... 4.0		0.25 ... 4.0
Device connectors	[mm²]	0.25 ... 4.0	0.06 ... 1.0		0.25 ... 4.0		0.25 ... 4.0
Nominal current per contact at 25°C [1]	[A]	30	9		30		–
Specifications in accordance with DIN EN 61984:2009							–
Rated voltage	[V AC/DC]	630 [2]	250		630 [2]		–
Test/surge voltage	[kV AC]	6	4		6		–
Overvoltage category		III			III		
Pollution degree [3]		3			3		
Installation altitude	[m]	Up to 3000			Up to 3000		
Cable clamping area [4]	Max. Ø [mm]	18			18		

[1] Determine the effective current carrying capacity depending on the application, if necessary, using a derating curve.
[2] 400 V when assembled with punched-rolled C-HC contacts
[3] The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, seal the connector using a protective cap ≥ IP54.
[4] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

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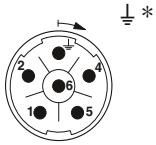
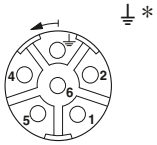
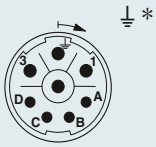
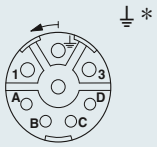
Pin assignments and coding

	Contact chamber numbering (view of plug-in side)			
Number of positions	**Male**		**Female**	
6-pos. **(5 + PE)** Crimp		* with grounding spring, **pos. 3 leading**		* with grounding spring, pos. 3
8-pos. **(4 + 3 + PE)** Crimp		* with grounding spring, pos. 2		* with grounding spring, **pos. 2 leading**

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Selection guide

M23 power connectors up to 30 A/630 V, crimp ranges up to 4 mm²
– Cable connectors
– Coupler connectors
– Device connectors (device flanges)
– Feed-throughs/panel feed-throughs

The connectors are pre-assembled on delivery. The connectors can be furnished with the corresponding crimp contacts.

The product chart provides an overview of the available components.

	Connector type	
Shielded	**Cable connectors** Short, SPEEDCON fast locking system, see page 154. M23 x 1 standard interlocking, see page 154. 	Long, SPEEDCON fast locking system, see page 154. M23 x 1 standard interlocking, see page 154.
	Device connectors with knurled nut Straight, see page 157. 	Angled, see page 157.
Shielded	**Coupler connectors** Short, see page 155. With mounting flange Short, see page 158. 	Long, see page 155. With mounting flange Long, see page 158.
Shielded	**Device connectors** Straight, see page 156. Angled, rotatable, flange dimensions: 26 mm x 26 mm, see page 156. 	Angled, rotatable, flange dimensions: 28 mm x 28 mm see page 156.
	Panel feed-throughs External female – internal male, see page 159. 	Panel feed-throughs are supplied fully wired.

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Female contacts

Male contacts

Male contacts

Crimp contacts

Female contacts

Turned, see page 160.

Male contacts

Turned, see page 160.

Tools/accessories

Crimping pliers with digital display for turned crimp contacts, see page 177.

Accessories

Color rings for individually marking the connectors, see page 180.

Note:
For safety reasons, only use female contacts in the live part of the connector.

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Cable connectors, long and short design

- SPEEDCON fast locking system or M23 standard interlocking
- Standard knurled nut compatible with mating connectors with SPEEDCON and M23 standard external thread
- Individual marking of connectors with color rings

Cable connector, SPEEDCON

Cable connector, M23 standard interlocking

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		5+PE-pos.		4+3+PE-pos.		5+PE-pos.		4+3+PE-pos.	
Cable connector, short, with contact carrier, **without** contacts, **for cable Ø 7.5 mm to 14 mm,** connection cross section up to 2.5 mm²									
Universal gasket	7.5 mm ... 14 mm	1618197	1	1618207	1	1605532	1	1605602	1
	7.5 mm ... 9 mm	1618194	1	1618204	1	1605524	1	1605595	1
	9 mm ... 11 mm	1618195	1	1618205	1	1605526	1	1605596	1
	11 mm ... 14 mm	1618196	1	1618206	1	1605529	1	1605597	1
Cable connector, long, with contact carrier, **without** contacts, **for cable Ø 7.5 mm to 18 mm,** connection cross section up to 4 mm²									
Universal gasket	7.5 mm ... 18 mm	1618202	1	1618212	1	1605549	1	1605617	1
	7.5 mm ... 9 mm	1618201	1	1618211	1	1605548	1	1605614	1
	9 mm ... 12 mm	1618200	1	1618210	1	1605546	1	1605610	1
	12 mm ... 15 mm	1618199	1	1618209	1	1605545	1	1605607	1
	15 mm ... 18 mm	1618198	1	1618208	1	1605543	1	1605605	1

	Accessories	Accessories
Crimp contacts	**For female contacts, see page 160**	**For female contacts, see page 160**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Coupler connectors, long and short design

– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut
– Individual marking of connectors with color rings

Coupler connector, short

Coupler connector, long

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		5+PE-pos.		4+3+PE-pos.		5+PE-pos.		4+3+PE-pos.	
Coupler connector, short, with contact carrier, **without** contacts, **for cable Ø 7.5 mm to 14 mm,** connection cross section up to 2.5 mm²									
Universal gasket	7.5 mm ... 14 mm	1605499	1	1605575	1				
	7.5 mm ... 9 mm	1605494	1	1605568	1				
	9 mm ... 11 mm	1605496	1	1605570	1				
	11 mm ... 14 mm	1605498	1	1605571	1				
Coupler connector, long, with contact carrier, **without** contacts, **for cable Ø 7.5 mm to 18 mm,** connection cross section up to 4 mm²									
Universal gasket	7.5 mm ... 18 mm					1605510	1	1605583	1
	7.5 mm ... 9 mm					1605509	1	1605582	1
	9 mm ... 12 mm					1605508	1	1605581	1
	12 mm ... 15 mm					1605507	1	1605580	1
	15 mm ... 18 mm					1605505	1	1605578	1

	Accessories	Accessories
Crimp contacts	**For male contacts, see page 160**	**For male contacts, see page 160**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Device connectors, straight and angled, rotatable

– Compatible with mating connectors with SPEEDCON and M23 standard knurled nut

Device connector, straight

Device connector, angled rotatable

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	5+PE-pos.		4+3+PE-pos.		5+PE-pos.		4+3+PE-pos.	
Device connector, with contact carrier **without** contacts								
Flange dimensions: 26 mm x 26 mm	1605520	1	1605589	1	1620657	1	1620660	1
Device connector, with **reinforced contact carrier** (black) for angled mating connectors, **without** contacts								
Flange dimensions: 26 mm x 26 mm	1620619	1	1620620	1				
Device connector with contact carrier **without** contacts								
Flange dimensions: 28 mm x 28 mm					1620661	1	1620662	1

	Accessories	Accessories
Crimp contacts	**For male contacts, see page 160**	**For male contacts, see page 160**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Device connectors, with knurled nut

Only assemble device connectors with knurled nut with female contacts.
– Standard knurled nut compatible with mating connectors with SPEEDCON and M23 standard external thread

Device connector with knurled nut, straight

Device connector with knurled nut, angled fixed

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	5+PE-pos.		4+3+PE-pos.		5+PE-pos.		4+3+PE-pos.	
Device connector, with knurled nut, **straight**, with contact carrier, without contacts	1607082	1	1605622	1				
Device connector, with knurled nut, **angled, fixed**, with contact carrier, without contacts					1607405	1	1607429	1
	Accessories				Accessories			
Crimp contacts	For female contacts, see page 160				For female contacts, see page 160			
Protective caps (to be ordered separately)	See page 181				See page 181			

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Panel feed-throughs, long and short design

– Rear mounting
– Compatible with mating connectors with M23 standard knurled nuts

Panel feed-through, short

Panel feed-through, long

Description	Cable clamping area	Ordering data: Order No.	Pcs./Pkt.	Ordering data: Order No.	Pcs./Pkt.	Ordering data: Order No.	Pcs./Pkt.	Ordering data: Order No.	Pcs./Pkt.
		5+PE-pos.		4+3+PE-pos.		5+PE-pos.		4+3+PE-pos.	
Panel feed-through, short, with contact carrier, without contacts, for cable Ø 7.5 to 14 mm, connection cross section up to 2.5 mm²									
Universal gasket	7.5 mm ... 14 mm	1605517	1	1607051	1				
	7.5 mm ... 9 mm	1605516	1	1607048	1				
	9 mm ... 11 mm	1607037	1	1607049	1				
	11 mm ... 14 mm	1607038	1	1607050	1				
Panel feed-through, long, with contact carrier, without contacts, for cable Ø 7.5 to 18 mm, connection cross section up to 4 mm²									
Universal gasket	7.5 mm ... 18 mm					1605518	1	1607056	1
	7.5 mm ... 9 mm					1607042	1	1607055	1
	9 mm ... 12 mm					1607041	1	1607054	1
	12 mm ... 15 mm					1607040	1	1607053	1
	15 mm ... 18 mm					1607039	1	1607052	1

Accessories	Accessories	Accessories
Crimp contacts	**For male contacts, see page 160**	**For male contacts, see page 160**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Panel feed-throughs, fully wired

– Front mounting
– Internally fully wired and fitted with contacts
– Compatible with mating connectors with M23 standard knurled nuts

Panel feed-through, male/female

	Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	5+PE-pos.		4+3+PE-pos.	
Panel feed-through, male inside - female outside, fully wired, **with** contacts	1605492	1	1605567	1

Accessories	
Protective caps (to be ordered separately)	**See page 181**

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Crimp contacts, turned

Assemble the 6-pos. (5+PE) versions with two Ø 2 mm contacts. Assemble the 8-pos. (4+3+PE) versions with four Ø 1 mm signal contacts and four Ø 2 mm contacts.

Note: observe the crimp ranges for cable and coupler connectors.

– Short version: connection cross sections up to 2.5 mm², max. cable Ø of 14 mm
– Long version: connection cross sections up to 4 mm², max. cable Ø of 18 mm

Crimp contacts, female

Crimp contacts, male

EAC

Description	Connection cross section [mm²]	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Contact, female Ø 2.0 mm for cable and device connectors with knurled nuts, power and PE contacts							
	0.25 ... 1.0	**SF-7PS2000**	1605636	50			
	0.75 ... 1.5	**SF-7NS2000**	1605631	50			
	1.0 ... 2.5	**SF-7QS2000**	1605643	50			
	4.0	**SF-7MS2000**	1605628	50			
Contact, female Ø 1.0 mm for cable and device connectors with knurled nuts, signal contacts							
	0.06 ... 0.2	**SF-6CS2000**	1605562	100			
	0.14 ... 0.5	**SF-10KS004**	1607356	100			
	0.5 ... 1.0	**SF-6AS2000**	1605557	100			
Contact, male Ø 2.0 mm for coupler connectors, power and PE contacts							
	0.14 ... 0.25				**SF-7RP2000**	1605646	50
	0.25 ... 1.0				**SF-7PP2000**	1605634	50
	0.75 ... 1.5				**SF-20KP004**	1607376	50
	1.0 ... 2.5				**SF-7QP2000**	1605639	50
	4.0				**SF-7MP2000**	1605626	50
Contact, male Ø 1.0 mm for coupler connectors, signal contacts							
	0.06 ... 0.2				**SF-6CP2000**	1605559	100
	0.14 ... 0.5				**SF-10KP004**	1607355	100
	0.5 ... 1.0				**SF-6AP2000**	1605554	100
Contact, male Ø 2.0 mm for device connectors, power and PE contacts							
	0.14 ... 0.25				**SF-7RP2000**	1605646	50
	0.25 ... 1.0				**SF-7PP2000**	1605634	50
	0.75 ... 1.5				**SF-20KP004**	1607376	50
	1.0 ... 2.5				**SF-7QP2000**	1605639	50
	4.0				**SF-7MP2000**	1605626	50
Contact, male Ø 1.0 mm for device connectors, signal contacts							
	0.06 ... 0.2				**SF-6CP2000**	1605559	100
	0.14 ... 0.5				**SF-10KP004**	1607355	100
	0.5 ... 1.0				**SF-6AP2000**	1605554	100
		Accessories			**Accessories**		
Crimping tools		Order separately, see page 177 onwards			Order separately, see page 177 onwards		

Contact diameter

Number of positions	Number of contacts	Contact Ø [mm]
6(5+PE)	5+PE	2+2
8(4+3+PE)	4+3+PE	1+2+2

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Mechanical and electrical data

Mechanical data	
Housing material:	Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)
Housing surface:	Nickel-plated/thick layer passivated (can be coated)
Insulating body:	Polyamide (PA 66)
Contact material:	Copper zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with gold coating (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FKM)
Ambient temperature:	-40°C ... 125°C
Cable entry:	Outer cable diameter 9.0 to 26.5 mm, shielded
Type of locking:	M40 SPEEDCON fast locking system, cable connector with M40 x 1.5 coarse-pitch thread as an option
Mechanical insertion/withdrawal cycles:	Standard: 50
Protection class	IP67 when locked

Electrical data

Number of positions		**6 (2 + 3 + PE)**					**8 (4 + 3 + PE)**				
Contacts		2	+	3	+	PE	4	+	3	+	PE
Contact Ø	[mm]	2.0		3.6		3.6	2.0		3.6		3.6
Litz wire cross sections											
Cable and coupler connectors	[mm²]	0.14 ... 4.0		0.75 ... 10		0.75 ... 10	0.14 ... 4.0		0.75 ... 10		0.75 ... 10
Device connectors	[mm²]	0.14 ... 4.0		0.75 ... 10		0.75 ... 10	0.14 ... 4.0		0.75 ... 10		0.75 ... 10
Nominal current per contact at 25°C [1]	[A]	30		70		–	30		70		–
Specifications in accordance with DIN EN 1984:2009											
Rated voltage	[V AC/DC]	250		630		–	250		630		–
Test/surge voltage	[kV]	4		6		–	4		6		–
Overvoltage category				III					III		
Pollution degree				3					3		
Installation height	[m]			Up to 3000					Up to 3000		
Cable clamping area [2]	Max. Ø [mm]			26.5					26.5		

[1] Determine the effective current carrying capacity in accordance with the application, if necessary, using a derating curve.
[2] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

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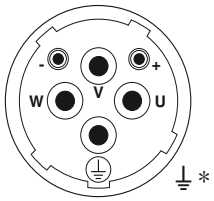
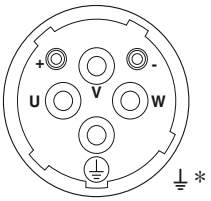
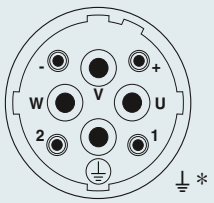
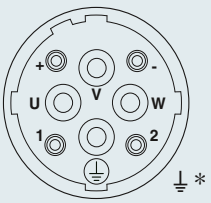
Number of positions	Contact chamber numbering (view of plug-in side) Male	Female
6-pos. **(2 + 3 + PE)** Crimp		
8-pos. **(4 + 3 + PE)** Crimp		

* with grounding spring

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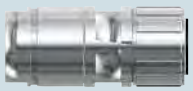
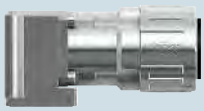
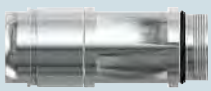
Selection guide

M40 power connectors up to 70 A/630 V, crimp ranges up to 16 mm²
– Cable connectors
– Coupler connectors
– Device connectors (device flanges)
– Feed-throughs/panel feed-throughs

The connectors are pre-assembled on delivery. The connectors can be furnished with the corresponding crimp contacts.

M40 connectors with knurled nuts can be supplied with SPEEDCON fast locking system or with M40 x 1.5 coarse-pitch thread as an option.

The product chart provides an overview of the available components.

	Connector type
Shielded	**Cable connectors** SPEEDCON fast locking system, see page 166. Mounting flange for wall mounting, see page 179. M40 x 1.5 standard interlocking, see page 166. 
Shielded	**Device connectors with knurled nut** Straight, see page 167. Angled, see page 167. 
Shielded	**Coupler connectors** See page 166. 
Shielded	**Device connectors** Angled, rotatable, see page 168. Straight, see page 166.

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Female contacts

Male contacts

Crimp contacts

Female contacts

Turned, see page 169.

Male contacts

Turned, see page 169.

Tools/accessories

Crimping tools

Crimping pliers, see page 177.

Crimping pliers with digital display for turned crimp contacts, see page 177.

Accessories

Color rings for individually marking the connectors, see page 180.

Note:
For safety reasons, only use female contacts in the live part of the connector.

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Cable connectors

- SPEEDCON fast locking system or M40 standard interlocking
- Standard knurled nut compatible with mating connectors with SPEEDCON or M40 standard external thread
- Individual marking of connectors with color rings

Cable connector, SPEEDCON

Cable connector

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		2+3+PE-pos.		4+3+PE-pos.		2+3+PE-pos.		4+3+PE-pos.	
Cable connector housing, with contact carrier, **without** contacts, connection cross section up to 16 mm²									
	9 mm ... 14 mm	1613428	1	1613434	1	1613518	1	1613528	1
	14 mm ... 20.5 mm	1613429	1	1613435	1	1613519	1	1613529	1
	20.5 mm ... 26.5 mm	1613430	1	1613436	1	1613520	1	1613530	1

Accessories	Accessories	Accessories
Crimp contacts	For female contacts, see page 169	For female contacts, see page 169
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

Coupler and device connectors

- Compatible with mating connectors with SPEEDCON and M40 standard knurled nut
- Individual marking of connectors with color rings

Coupling connector

Device connector, straight

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		2+3+PE-pos.		4+3+PE-pos.		2+3+PE-pos.		4+3+PE-pos.	
Coupler connector, with contact carrier, **without** contacts, connection cross section up to 16 mm²									
	9 mm ... 14 mm	1613425	1	1613431	1				
	14 mm ... 20.5 mm	1613426	1	1613432	1				
	20.5 mm ... 26.5 mm	1613427	1	1613433	1				
Device connector, straight, with contact carrier, **without** contacts									
Connection cross section up to 10 mm²						1613517	1	1613527	1

Accessories	Accessories	Accessories
Crimp contacts	For male contacts, see page 169	For male contacts, see page 169
Color rings, 50 pcs. in set (to be ordered separately)	See page 180	See page 180
Protective caps (to be ordered separately)	See page 181	See page 181

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Device connectors, with knurled nut

– SPEEDCON fast locking system or M40 standard interlocking
– Standard knurled nut compatible with mating connectors with SPEEDCON or M40 standard external thread
– Only assemble device connectors with knurled nut with female contacts

Device connector with knurled nut, straight, SPEEDCON

Device connector with knurled nut, straight

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	2+3+PE-pos.		4+3+PE-pos.		2+3+PE-pos.		4+3+PE-pos.	
Device connector, with SPEEDCON knurled nut, **straight,** with contact carrier, **without** contacts								
Connection cross section up to 16 mm²	1613524	1	1613534	1				
Device connector, with standard knurled nut, **straight,** with contact carrier, **without** contacts								
Connection cross section up to 16 mm²					1605823	1	1605865	1

	Accessories	Accessories
Crimp contacts	**For female contacts, see page 169**	**For female contacts, see page 169**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

Device connectors, with knurled nut

Only assemble device connectors with knurled nut with female contacts.

Device connector with knurled nut, angled, SPEEDCON

Device connector with knurled nut, angled

Description	Ordering data				Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	2+3+PE-pos.		4+3+PE-pos.		2+3+PE-pos.		4+3+PE-pos.	
Device connector, with SPEEDCON knurled nut, **angled,** with contact carrier, **without** contacts								
Connection cross section up to 16 mm²	1613525	1	1613535	1				
Device connector, with knurled nut, **angled,** with contact carrier, **without** contacts								
Connection cross section up to 16 mm²					1607532	1	1607543	1

	Accessories	Accessories
Crimp contacts	**For female contacts, see page 169**	**For female contacts, see page 169**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**	**See page 180**
Protective caps (to be ordered separately)	**See page 181**	**See page 181**

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Device connectors, angled, rotatable

- Compatible with mating connectors with SPEEDCON and M40 standard knurled nut
- The rotatable angled housing can be rotated freely through 310°.
- Individual marking of connectors with color rings

Device connector, angled rotatable

Ordering data

Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	2+3+PE-pos.		4+3+PE-pos.	
Device connector, angled, rotatable, with contact carrier, **without** contacts				
Connection cross section up to 10 mm²	1620663	1	1620664	1

Accessories

Crimp contacts	**For male contacts, see page 169**
Color rings, 50 pcs. in set (to be ordered separately)	**See page 180**
Protective caps (to be ordered separately)	**See page 181**

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Crimp contacts, turned

Assemble the 6-pos. (2+3+PE) versions with two Ø 2 mm signal contacts and four Ø 3.6 mm contacts (three power contacts and one PE contact).

Assemble the 8-pos. (4+3+PE) versions with four Ø 2 mm signal contacts and four Ø 3.6 mm contacts (three power contacts and one PE contact).

Note: Depending on the litz wire used, the connection cross sections (crimp ranges) can differ from the values listed below.

Crimp contacts, female

Crimp contacts, male

Description	Connection cross section [mm²]	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Contact, female Ø 3.6 mm, for cable and device connectors with knurled nuts, power and PE contacts							
	1.0 ... 2.5	SM-36KS001	1605756	20			
	2.5 ... 4.0	SM-36KS002	1605758	20			
	4.0 ... 6.0	SM-36KS003	1605760	20			
	6.0 ... 10.0	SM-36KS004	1605762	20			
	16	SM-36KS016	1623972	20			
Contact, female Ø 2.0 mm, for cable and device connectors with knurled nuts, signal contacts							
	0.25 ... 1.0	SF-7PS2000	1605636	50			
	0.75 ... 1.5	SF-7NS2000	1605631	50			
	1.0 ... 2.5	SF-7QS2000	1605643	50			
	4.0	SF-7MS2000	1605628	50			
Contact, male Ø 3.6 mm, for coupler connectors, power and PE contacts							
	1.0 ... 2.5				SM-36KP005	1605749	20
	2.5 ... 4.0				SM-36KP006	1605750	20
	4.0 ... 6.0				SM-36KP008	1605754	20
	6.0 ... 10.0				SM-36KP007	1605752	20
	16				SM-36KP016	1623970	20
Contact, male Ø 2.0 mm, for coupler connectors, signal contacts							
	0.25 ... 1.0				SM-20KP006	1605738	50
	0.75 ... 1.5				SM-20KP005	1605736	50
	1.0 ... 2.5				SM-20KP007	1605739	50
	4.0				SM-20KP008	1605741	50
Contact, male Ø 3.6 mm, for device connectors, power and PE contacts							
	0.75 ... 1.5				SM-36KP001	1605743	20
	1.0 ... 2.5				SM-36KP009	1607057	20
	4.0 ... 6.0				SM-36KP003	1605745	20
	6.0 ... 10.0				SM-36KP004	1605747	20
Contact, male Ø 2.0 mm, for device connectors, signal contacts							
	0.14 ... 0.25				SF-7RP2000	1605646	50
	0.25 ... 1.0				SF-7PP2000	1605634	50
	0.75 ... 1.5				SF-20KP004	1607376	50
	1.0 ... 2.5				SF-7QP2000	1605639	50
	4.0				SF-7MP2000	1605626	50

Accessories	Accessories
Crimping tools	Order separately, see page 177

Number of positions	Number of contacts	Contact Ø [mm]
6(2+3+PE)	2+3+PE	2+3.6+3.6
8(4+3+PE)	4+3+PE	2+3.6+3.6

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Mechanical and electrical data

Mechanical data	
Housing material:	Aluminum
Housing surface:	Aluminum, anodized
Insulating body:	Polyamide (PA 66)
Contact surface:	Power and PE contacts: silver-plated (Ag), signal contacts: gold-plated (Au)
Connection technology:	Crimp connection
Sealing and O-ring:	Fluororubber (FPM)
Ambient temperature:	-40°C ... 120°C
Cable entry:	Cable and coupler connectors for an outer cable diameter of 17 to 3 mm, shielded
Type of locking:	M58 x 2 screw locking
Mechanical insertion/withdrawal cycles:	Standard: 100
Protection class:	IP67 when locked

Electrical data

Number of positions		**6 (2 + 3 + PE)**					**8 (4 + 3 + PE)**				
Contacts		2	+	3	+	PE	4	+	3	+	PE
Contact Ø	[mm]	1.6		10		10	1.6		10		10
Litz wire cross section											
Crimp contacts, turned	[mm^2]	0.75 ... 1.5		10 ... 50		10 ... 50	0.75 ... 1.5		10 ... 50		10 ... 50
Nominal current per contact at 25°C [1]	[A]	12		150		–	12		150		–
Specifications in accordance with DIN EN 61984:2009											
Rated voltage	[V AC/DC]	250		630		–	250		630		–
Test/surge voltage	[kV AC]	4		6		–	4		6		–
Overvoltage category				III					III		
Pollution degree				3					3		
Installation height	[m]			Up to 2000					Up to 2000		
Cable clamping area [2]	Max. Ø [mm]			36					36		

[1] Determine the effective current carrying capacity in accordance with the application, if necessary, using a derating curve.
[2] The cable clamping areas specified on the following pages may vary depending on the cable material and structure. Selection and testing is the responsibility of the user.

Note:
In contrast to connecting equipment, connectors may only be inserted/withdrawn with the power supply disconnected.

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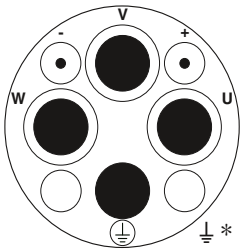
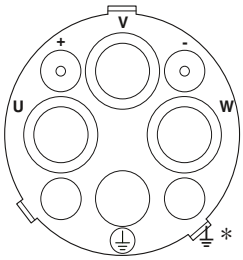
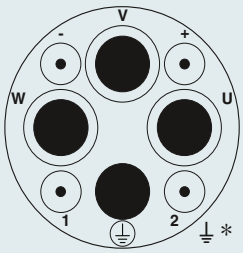
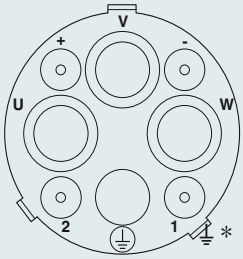
Number of positions	Contact chamber numbering (view of plug-in side) Male	Female
6-pos. **(2 + 3 + PE)** Crimp		
8-pos. **(4 + 3 + PE)** Crimp		

*** with grounding spring, PE leading**

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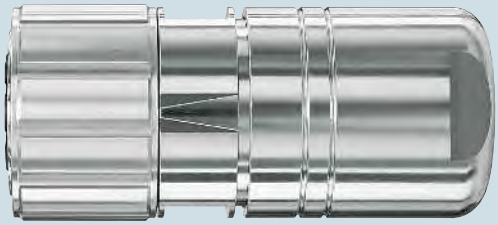
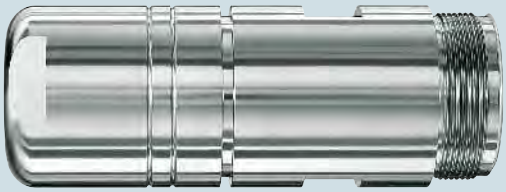
Selection guide

M58 power connectors up to 150 A/630 V, crimp ranges up to 50 mm²

– Cable connectors
– Coupler connectors
– Device connectors, straight

The connectors are pre-assembled on delivery. The connectors can be furnished with the corresponding crimp contacts.

The product chart provides an overview of the available components.

Connector type	
Shielded	**Cable connectors**  See page 174.
Shielded	**Coupler connectors**  See page 174.
Shielded	**Device connectors** See page 174.

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Female contacts

Male contacts

Male contacts

Crimp contacts

Female contacts

Turned, see page 175.

Male contacts

Turned, see page 175.

Tools/accessories

Crimping tools

Crimping device for power and PE contacts Ø 10 mm, see page 178.

Crimping pliers for signal contacts Ø 1.6 mm, see page 178.

Note:
For safety reasons, only use female contacts in the live part of the connector.

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Cable and coupler connectors

– High transmission capacities of up to 630 V and 150 A
– Connection cross sections up to 50 mm²
– Cable clamping area from 17 mm to 36 mm

Cable connector

Coupling connector

Description	Cable clamping area	Ordering data				Ordering data			
		Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		2+3+PE-pos.		4+3+PE-pos.		2+3+PE-pos.		4+3+PE-pos.	
Connector housing, with contact carrier, **without** contacts, for cable diameter:									
	17 mm ... 25 mm	1607503	1	1607508	1	1607500	1	1607506	1
	25 mm ... 36 mm	1607501	1	1607507	1	1607499	1	1607505	1
		Accessories				Accessories			
Crimp contacts		For female contacts, see page 175				For male contacts, see page 175			
Protective caps (to be ordered separately)		See page 181				See page 181			

Device connectors for front mounting

Assemble the coupler and device connectors with male contacts and the cable connectors with female contacts.

Device connector, straight

Description	Ordering data			
	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	2+3+PE-pos.		4+3+PE-pos.	
Device connector, straight, with contact carrier, **without** contacts				
	1615686	1	1615687	1
	Accessories			
Crimp contacts	For male contacts, see page 175			
Protective caps (to be ordered separately)	See page 181			

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Crimp contacts, turned

Assemble the 6-pos. (2+3+PE) versions with two Ø 1.6 mm signal contacts and four Ø 10 mm contacts (three power contacts and one PE contact).

Assemble the 8-pos. (4+3+PE) versions with four Ø 1.6 mm signal contacts and four Ø 10 mm contacts (three power contacts and one PE contact).

Note: Depending on the litz wire used, the connection cross sections (crimp ranges) can differ from the values listed below.

Crimp contacts, female

Crimp contacts, male

Description	Connection cross section [mm²]	Ordering data: Type	Ordering data: Order No.	Ordering data: Pcs./Pkt.	Ordering data: Type	Ordering data: Order No.	Ordering data: Pcs./Pkt.
Contact, female Ø 10.0 mm for cable connectors, power and PE contacts							
	10.0	**SL-1CKS010**	1607916	4			
	16.0	**SL-1CKS020**	1607917	4			
	25.0	**SL-1CKS030**	1607918	4			
	35.0	**SL-1CKS040**	1607919	4			
	50.0	**SL-1CKS050**	1607920	4			
Contact, female Ø 1.6 mm for cable connectors, signal contacts							
	0.75 ... 1.5	**SL-16KS010**	1607956	4			
Contact, male Ø 10.0 mm for coupler and device connectors, power and PE contacts							
	10.0				**SL-1CKP010**	1607911	4
	16.0				**SL-1CKP020**	1607912	4
	25.0				**SL-1CKP030**	1607913	4
	35.0				**SL-1CKP040**	1607914	4
	50.0				**SL-1CKP050**	1607915	4
Contact, male Ø 1.6 mm for coupler and device connectors, signal contacts							
	0.75 ... 1.5				**SL-16KP010**	1607909	4
		Accessories			**Accessories**		
Crimping tools		Order separately, see page 178 onwards			Order separately, see page 178 onwards		

Number of positions	Number of contacts	Contact Ø [mm]
6(2+3+PE)	2+3+PE	1.6+10+10
8(4+3+PE)	4+3+PE	1.6+10+10

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Special wrench

The torque screw driver is specially adapted to the M23 circular connectors and simplifies the process of tightening and loosening the knurled nut safely even in places where space is restricted.

The tool consists of a hook spanner as well as a torque screw driver with a set torque of 2.5 Nm.

Torque screw driver for M23 connectors with knurled nuts

Special screw key for screwing the adapter

Description	Wrench size [mm]	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Torque screw driver incl. hook wrench							
For M23 connectors with knurled nuts		**SF-Z0028**	1607456	1			
Replacement hook spanner for torque screw driver							
		SF-Z0027	1607455	1			
Special wrench for cable or coupler connectors for screwing the adapter. Connection dimensions for torque spanner: 8.9 mm x 11.9 mm							
for M17 connectors, WAF 19					**ST-Z0012**	1613667	1
for M23 connectors, WAF 24					**RF-Z0007**	1614347	1
for M40 connectors, WAF 41					**SM-Z0012**	1614349	1
for M58 connectors, WAF 55					**SL-Z0016**	1614348	1

Crimping tools and accessories for M23 signal connectors

The RC-Z2130 and RC-Z2514 crimping pliers are used for rolled or turned RC crimp contacts.

The RC-Z2514 crimping pliers with 4-mandrel crimping are suitable for turned RC contacts. Detailed operating instructions are included in the packaging.

Crimping tools for rolled or turned RC contacts

Insertion and contact removal tool for RC contacts

Description	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Crimping pliers for rolled RC crimp contacts Ø 1 mm						
Litz wire cross section 0.08 ... 0.56 mm²	**RC-Z2130**	1604267	1			
Crimping pliers for turned RC crimp contacts Ø 1 mm / Ø 1.5 mm / Ø 2 mm						
Litz wire cross section of 0.08 ... 2.5 mm²	**RC-Z2514**	1614590	1			
Insertion and contact removal tool for RC crimp contacts						
Female / male Ø 1 mm				**RC-Z2494**	1614123	1
Female / male Ø 1.5 mm				**RC-Z2274**	1604409	1
Female / male Ø 2 mm				**RC-Z2490**	1611803	1

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Crimping tools for turned contacts

The crimping pliers are suitable for turned contacts with Ø 0.6 mm, Ø 1 mm, Ø 2 mm, and Ø 3.6 mm (excluding M23 signal connectors). A pneumatic crimping tool is available for large litz wire cross sections.

Notes:

For crimping tools for M23 signal connectors, see page 176

Manual crimping pliers

EAC

Description	Litz wire cross section [mm²]	Type	Order No.	Pcs./Pkt.
		Ordering data		
Manual crimping pliers with digital display for turned crimp contacts with Ø 1 mm, Ø 2 mm, Ø 3.6 mm	0.06 ... 6	**SF-Z0025**	1607452	1
Positioners for crimping the SF-6FS2000 / SF-6DP2000 contacts with a connection cross section of 1.5 mm²		**SF-Z0042**	1613666	1
Manual crimping pliers with digital display for turned crimp contacts with Ø 0.6 mm, Ø 1 mm, Ø 2 mm	0.06 ... 2.5	**SF-Z0054**	1615585	1
Manual crimping pliers with digital display for turned crimp contacts with Ø 2 mm, Ø 3.6 mm	1.5 ... 10	**SF-Z0026**	1607454	1
Locator for **SF-Z0026** crimping pliers, for crimping turned M40 hybrid contacts, Ø 3.6 mm	2.5 ... 6	**SB-Z0026**	1624618	1
Manual crimping pliers, for turned crimp contacts, Ø 3.6 mm	10 ... 16	**SB-Z0016**	1624515	1

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Crimping tools for turned contacts for M58 power connectors

The SF-Z0025 manual crimping pliers are used for turned crimp contacts with Ø 1.6 mm for M58 power connectors. The Ø 10 mm contacts can be crimped conveniently using the SL-Z0007 electric crimping tool.

The crimping stamps for the Ø 10 mm contacts are used in pairs. The stamps are tailored to the connection cross sections and marked.

Electro-hydraulic crimping device

Manual crimping pliers

EAC

Description	Connection cross section [mm²]	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Electro-hydraulic crimping device incl. charger and rechargeable battery, for Litz wire cross section 10 ... 50 mm² (power and PE contacts Ø 10 mm)		**SL-Z0007**	1613484	1			
Crimping stamp for crimping device SL-Z0007	10	**SL-Z0011**	1613488	1			
Crimping stamp for crimping device SL-Z0007	16	**SL-Z0012**	1613489	1			
Crimping stamp for crimping device SL-Z0007	25	**SL-Z0013**	1613490	1			
Crimping stamp for crimping device SL-Z0007	35	**SL-Z0014**	1613491	1			
Crimping stamp for crimping device SL-Z0007	50	**SL-Z0015**	1613492	1			
Crimping tool with digital display	0.06 ... 6				**SF-Z0025**	1607452	1
Accessories for electro-hydraulic crimping device SL-Z0007							
	Replacement battery	**SL-Z0008**	1613485	1			
	Table holder incl. foot actuation switch	**SL-Z0010**	1613487	1			

Notes:
The SF-Z0025 manual crimping pliers with digital display are also suitable for crimping ST / SF / SM turned crimp contacts.

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Contact removal tools, square mounting flange

The removal tool is used for those contact carriers which are snapped into the housing without rear support. They are removed from the plug-in side using the removal tool.

The square mounting flange is used for cable and coupling connectors. In this way, the product range is easily expanded with connectors as panel feed-throughs.

Contact removal tool for snap-in contact carriers

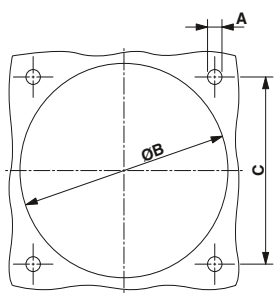
Square mounting flange for cable or coupler connectors for wall mounting

Description	Wall mounting	Ordering data: Type	Order No.	Pcs./Pkt.	Ordering data: Type	Order No.	Pcs./Pkt.
Contact removal tool for contact carriers, device connectors							
	for M17 signal or power connectors	**ST-Z0001**	1607770	1			
	For M23 feedback connectors	**RF-Z0001**	1607904	1			
	For M23 signal connectors	**CA-Z0001**	1620699	1			
Square mounting flange, metal, with O-ring gasket, for M17 (excluding M17 Compact) cable and coupler connectors for wall mounting							
	4 x Ø 2.7 mm				**ST-Z0002**	1607771	1
	4 x M3				**ST-Z0003**	1607772	1
Square mounting flange, metal, without O-ring gasket, for M17 (excluding M17 Compact) cable and coupler connectors for wall mounting							
	4 x Ø 2.7 mm				**ST-Z0004**	1607773	1
	4 x M3				**ST-Z0005**	1607775	1
Square mounting flange, metal, with O-ring gasket, for M23 feedback cable and coupler connectors for wall mounting							
	4 x M3				**RF-Z0003**	1607905	1
Square mounting flange, metal, with O-ring gasket, for M40 cable and coupler connectors for wall mounting							
	4 x Ø 4.3 mm				**SM-Z0003**	1607935	1
Square mounting flange, metal, without O-ring gasket, for M40 cable and coupler connectors for wall mounting							
	4 x Ø 4.3 mm				**SM-Z0004**	1607937	1

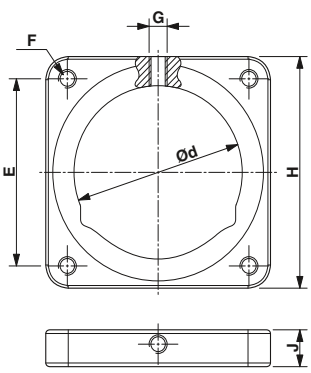
Installation dimensions for square mounting flanges

Type	Installation dimensions A	B	C	Flange dimensions d	E	F	G	H	J
ST-Z0002 **ST-Z0003** **ST-Z0004** **ST-Z0005**	4x M2,5 / Ø 3.2	Ø 22.9 + 0.2	□ 22.6 ± 0.1	Ø 21.6	□ 22.6 ± 0.1	4x M3 / Ø 2.7	M2,5	□ 28.0 ± 0.1	5
RF-Z0003	4x Ø 3.2	Ø 27.9 ± 0.1	□ 28.3 ± 0.1	Ø 26.2	□ 28.3 ± 0.1	4x M3	M3	□ 35.0	6
SM-Z0003 **SM-Z0004**	4x M4 / Ø 4.2	Ø 46.1 ± 0.1	□ 42.4 ± 0.1	Ø 45.0	□ 42.4 ± 0.1	4x Ø 4.3	M3	□ 55.0 ± 0.1	5.5

Installation dimensions



Flange dimensions



Note:
For insulating wall mounting, plastic mounting flanges are available on request.

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Color rings

The color rings are used for individually marking the connectors

Color rings for marking connectors with cable entry

Color rings for marking device connectors

Description	Color	Ordering data			Ordering data		
		Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Color rings for M17 connectors, 50 pcs. in set							
	green	ST-Z0016	1617993	50	ST-Z0019	1620621	50
	orange	ST-Z0017	1618049	50	ST-Z0020	1620622	50
	black	ST-Z0018	1618050	50	ST-Z0021	1620623	50
Color rings for M23 signal connectors, 50 pcs. in set							
	green	RF-Z0014	1620588	50			
	orange	RF-Z0015	1620592	50			
	black	RF-Z0016	1620593	50			
Color rings for M23 signal device connectors, front mounting, Pg13.5 and M20 fastening thread/rear mounting, central fastening thread, 50 pcs. in set							
	green				CA-Z0110	1620700	50
	orange				CA-Z0111	1620701	50
	black				CA-Z0112	1620702	50
Color rings for M23 signal device connectors, front mounting, flange dimensions: 25 mm x 25 mm, 50 pcs. in set							
	green				CA-Z0120	1620704	50
	orange				CA-Z0121	1620705	50
	black				CA-Z0122	1620706	50
Color rings for M23 feedback connectors and M23 signal device connectors, angled, rotatable, 50 pcs. in the set							
	green	RF-Z0014	1620588	50	RF-Z0017	1620624	50
	orange	RF-Z0015	1620592	50	RF-Z0018	1620625	50
	black	RF-Z0016	1620593	50	RF-Z0019	1620626	50
Color rings for M23 hybrid and power connectors, 50 pcs. in set							
	green	SF-Z0064	1620585	50	RF-Z0017	1620624	50
	orange	SF-Z0065	1620586	50	RF-Z0018	1620625	50
	black	SF-Z0066	1620587	50	RF-Z0019	1620626	50
Color rings for M40 hybrid and power connectors, 50 pcs. in the set							
	green	SM-Z0025	1620558	50	SM-Z0028	1620627	50
	orange	SM-Z0026	1620559	50	SM-Z0029	1620628	50
	black	SM-Z0027	1620560	50	SM-Z0030	1620629	50

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Protective caps, plastic

A range of protective caps is available for signal connectors and power connectors to protect the contact elements in the case of a separate plug connection.

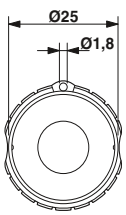
These prevent penetration of dust and humidity.

Plastic protective caps enable IP40 degree of protection when locked into place.

Plastic protective cap

EAC

Description	Degree of protection when locked	Ordering data: Type	Order No.	Pcs./Pkt.
Plastic protective cap, for signal or power connectors, with M17 external thread	IP40	**ST-Z0006**	1607776	25
Plastic protective cap, for signal or power connectors, with M17 knurled nut (SPEEDCON and standard)	IP40	**ST-Z0007**	1607777	25
Plastic protective cap, for signal or power connectors, with M17 external thread (M17 COMPACT)	IP40	**ST-Z0023**	1621049	25
Plastic protective cap, for signal or power connectors, with M17 knurled nut (M17 COMPACT)	IP40	**ST-Z0024**	1621904	25
Plastic protective cap with lug, for signal or power connectors, with M23 external thread	IP40	**SF-Z0019**	1607449	25
Plastic protective cap, for signal or power connectors and for hybrid connectors, with M23 knurled nut	IP40	**RC-Z2058**	1604223	25
Plastic protective cap, for signal or power connectors, with M23 external thread	IP40	**RC-Z2059**	1604225	25
Plastic protective cap, anti-static, black, for signal or power connectors, with M23 knurled nut	IP40	**RC-Z2468**	1611796	25
Plastic protective cap, for hybrid connectors, with M23 external thread	IP40	**SH-Z2304**	1622137	25
Plastic protective cap, anti-static, black, for signal or power connectors, with M23 external thread	IP40	**RC-Z2469**	1611797	25
Plastic protective cap, for power connectors and for hybrid connectors, with M40 external thread	IP40	**SM-Z0001**	1605866	25
Plastic protective cap, for signal or power connectors and for hybrid connectors, with M40 external thread	IP40	**SM-Z0031**	1624199	25
Plastic protective cap, for power connectors, with M58 external thread	IP40	**SL-Z0005**	1607926	25



SF-Z0019, eye for fixing cord

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Protective caps, metal

Metal protective caps are available for higher demands on the degree of protection. These enable IP67 when locked.

The steel wire is fastened to the housing panel. The metal protective cap is therefore captive.

Metal protective cap

Description	Degree of protection when locked	Ordering data		
		Type	Order No.	Pcs./Pkt.
Metal protective cap, for signal or power connectors, with M17 external thread	IP67	ST-Z0014	1616069	10
Metal protective cap with steel wire and lug, device fastening, for signal or power connectors, with M17 external thread	IP67	ST-Z0013	1616068	10
Metal protective cap with steel wire and loop, cable fastening, for signal or power connectors, with M17 knurled nut	IP67	ST-Z0077	1627217	10
Metal protective cap, for signal connectors, with M23 external thread	IP67	RC-Z2104	1604260	10
Metal protective cap with steel wire and lug, device fastening, for signal connectors, with M23 external thread	IP67	RC-Z2068	1604236	10
Metal protective cap with steel wire and lug, device fastening, for signal connectors, with M23 knurled nut	IP67	RC-Z2062	1604228	10
Metal protective cap with steel wire and loop, cable fastening, for signal connectors, with M23 knurled nut	IP67	CA-Z0077	1627224	1
Metal protective cap, for power connectors, with M23 external thread	IP67	SC-Z2319	1605456	10
Metal protective cap with steel wire and lug, device fastening, for power connectors, with M23 external thread	IP67	SC-Z2320	1605457	10
Metal protective cap, for hybrid and power connectors, with M23 external thread	IP67	SH-Z2301	1622140	10
Metal protective cap with steel wire and lug, device fastening, for hybrid and power connectors, with M23 knurled nut	IP67	SH-Z2300	1622141	10
Metal protective cap with steel wire and loop, cable fastening, for hybrid and power connectors, with M23 knurled nut	IP67	SH-Z0077	1627226	1
Metal protective cap, for hybrid connectors, with M23 external thread	IP67	SH-Z2303	1622138	10
Metal protective cap with steel wire and lug, device fastening, for hybrid connectors, with M23 external thread	IP67	SH-Z2302	1622139	10
Metal protective cap, for hybrid and power connectors, with M40 external thread	IP67	SB-Z0001	1623827	1
Metal protective cap with steel wire and lug, device fastening, for hybrid and power connectors, with M40 external thread	IP67	SB-Z0002	1623828	1
Metal protective cap with steel wire and loop, cable fastening, for hybrid and power connectors, with M40 knurled nut	IP67	SM-Z0077	1627218	1

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Sensor/actuator cabling

A one-stop-shop for the entire range of solutions for field installation

In decentral connection technology, passive distributor systems connect the I/O devices to the PLC. Phoenix Contact provides the most comprehensive range of sensor/actuator cabling on the market. Passive M8, and M12 components consisting of distributor boxes, cables, and connectors for assembly are available from stock. A comprehensive selection of valve connectors rounds out the range.

The 1/2" and 7/8" range for the North American market can be found on our website.

Customer and industry-specific solutions

So as to respond flexibly to your requirements, cables and distributor boxes can be individually configured with various cable lengths and types (e.g., other materials or colors).

Phoenix Contact offers a range of suitable product series for increased requirements, such as the railway or food industry, the long-term use of products outdoors and cables for flexible use in drag chains or robot applications.

Your web code: #0564

Assembled cables

3-pos. cables with connectors	**186**
4-pos. cables with connectors	**194**
5-pos. cables with connectors	**200**
6-pos. cables with connectors	**205**
8-pos. cables with connectors	**207**
12 and 17-pos. cables with connectors	**212**
Assembled M17 to M40 cables	**216**
Cables with valve connectors	**228**
Distributors and adapters	**248**
Distributor boxes	**260**
Cabling for the railway industry	**268**
Cabling for the food industry	**270**
Cabling for outdoor applications	**272**
Cabling for robots and drag chains	**274**
M12 cabling for power applications	**276**
By the meter – cable coils, cable drums	**302**
Accessories	**306**
Cable range	**318**

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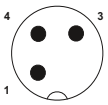
M8 SAC cable, snap-in, 3- and 4-pos., cable type: PUR

Notes:

For information about the cable qualities, see page 318

	Free end	M12 male connector, 3-pos.
		

	Ordering data		Ordering data		Ordering data
M8 female connector, snap-in, 3-pos., straight		**Order No.**		**Order No.**	**Order No.**
	5 m	1519875			
	Variable	1697593	Variable	1696853	
M8 female connector, snap-in, 3-pos., angled					
	5 m	1519891			
	Variable	1697629	Variable	1696882	
M8 female connector, snap-in, 3-pos., with LEDs, angled					
	Variable	1513402	Variable	1515675	
M8 female connector, snap-in, 4-pos., straight					
	Variable	1513389			
M8 female connector, snap-in, 4-pos., angled					
	Variable	1513392			
M8 female connector, snap-in, 4-pos., with LEDs, angled					
	Variable	1511954			

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Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, with a straight 3-pos. M12 male and a straight M8 snap-in female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1696853	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

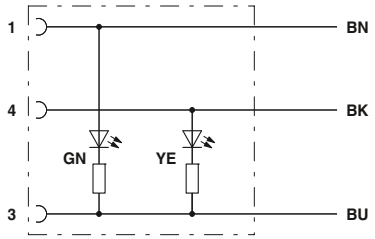
Cable description	Cable type	Suitable for
PUR, halogen-free – black E221474	PUR	3-/4-pos.
PUR, halogen-free – gray E221474	280	3-pos.
TPE-U highly flexible – gray E221474	800	3-/4-pos.

Color coding	Pin assignment 3-pos.
BN	1
BK	4
BU	3

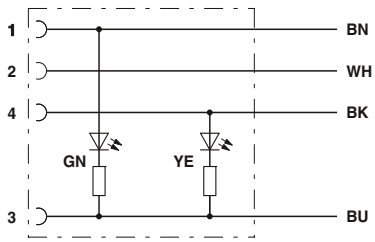
Color coding	Pin assignment 4-pos.
BN	1
WH	2
BK	4
BU	3

With a combination of M12 and M8 connectors, the limiting M8 value applies to the rated voltage.

		Technical data	Technical data	Technical data	Technical data
		M8 3-pos.	M8 3-pos., with LEDs	M8 4-pos.	M8 4-pos., with LED
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC	48 V AC / 60 V DC	24 V / 24 V DC
Rated current	[A]	4	4	4	4
Contact material		CuSn	CuSn	CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au	Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data					
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90	-25 ... 90	-25 ... 90



Contact assignment of the M8 female connector with LED, 3-pos.



Contact assignment of the M8 female connector with LED, 4-pos.

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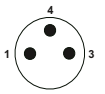
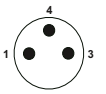
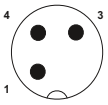
M8 and M12 SAC cable, 3-pos., cable type: PUR

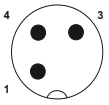
Notes:

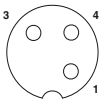
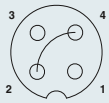
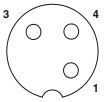
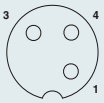
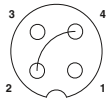
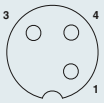
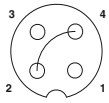
For information about the cable qualities, see page 318









	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**		**Order No.**		**Order No.**
			1.5 m	1681664	1.5 m	1681693	1.5 m	1668014	1.5 m	1668137
			3 m	1681677	3 m	1681703	3 m	1668027	3 m	1668140
			5 m	1681680	5 m	1681716	5 m	1668030	5 m	1668153
			10 m	1693584	10 m	1694114	10 m	1682566	10 m	1694444
			Variable	1697548	Variable	1697551	Variable	1696662	Variable	1696675
M8 female connector, straight										
	1.5 m	1669712	0.3 m	1681907	0.3 m	1682029	0.3 m	1668797	0.3 m	1668878
	3 m	1669725	0.6 m	1681910	0.6 m	1682032	0.6 m	1668807	0.6 m	1668881
	5 m	1669628	1.5 m	1681923	1.5 m	1682045	1.5 m	1668810	1.5 m	1668894
	10 m	1694101	3 m	1681936	3 m	1682058	3 m	1668823	3 m	1668904
	Variable	1697580	Variable	1697632	Variable	1697661	Variable	1696840	Variable	1696895
M8 female connector, angled										
	1.5 m	1669738	0.3 m	1681949	0.3 m	1682061	0.3 m	1668836	0.3 m	1668917
	3 m	1669741	0.6 m	1681952	0.6 m	1682074	0.6 m	1668849	0.6 m	1668920
	5 m	1669631	1.5 m	1681965	1.5 m	1682087	1.5 m	1668852	1.5 m	1668933
	10 m	1694169	3 m	1681978	3 m	1682090	3 m	1668865	3 m	1668946
	Variable	1697603	Variable	1697645	Variable	1697674	Variable	1696866	Variable	1696905
M8 female connector, angled, with 2 LEDs										
	1.5 m	1671069	0.3 m	1681981	0.3 m	1682100	0.3 m	1694884		
	3 m	1671072	0.6 m	1681994	0.6 m	1682113	0.6 m	1694897		
	5 m	1671085	1.5 m	1682003	1.5 m	1682126	1.5 m	1694907		
	10 m	1683594	3 m	1682016	3 m	1682139	3 m	1694910		
	Variable	1697616	Variable	1697658	Variable	1697687	Variable	1696879	Variable	1696918
M12 female connector, straight										
	1.5 m	1694486	0.3 m	1682304	0.3 m	1682388	0.3 m	1681509		
	3 m	1694499	0.6 m	1682317	0.6 m	1682391	0.6 m	1681512		
	5 m	1683510	1.5 m	1682320	1.5 m	1682401	1.5 m	1681525		
	10 m	1693034	3 m	1682333	3 m	1682414	3 m	1681538		
	Variable	1696688	Variable	1697690	Variable	1697726	Variable	1696756		
M12 female connector, straight, pin 2- 4 bridged										
	1.5 m	1668072					0.3 m	1668315	0.3 m	1668551
	3 m	1668085					0.6 m	1668328	0.6 m	1668564
	5 m	1668098					1.5 m	1668331	1.5 m	1668577
	10 m	1694208					3 m	1668344	3 m	1668580
	Variable	1696691					Variable	1696769	Variable	1696811
M12 female connector, straight, with LED										
	1.5 m	1694185								
	3 m	1694198								
	5 m	1694787								
	10 m	1694790								
	Variable	1696701	Variable	1514197			Variable	1511802	Variable	1524763
M12 female connector, angled										
	1.5 m	1694509	0.3 m	1682346	0.3 m	1682427	0.3 m	1681541		
	3 m	1694512	0.6 m	1682359	0.6 m	1682430	0.6 m	1681554		
	5 m	1694525	1.5 m	1682362	1.5 m	1682443	1.5 m	1681567		
	10 m	1694538	3 m	1682375	3 m	1682456	3 m	1681570		
	Variable	1696714	Variable	1697700	Variable	1697739	Variable	1696772		
M12 female connector, angled, pin 2 - 4 bridged										
	1.5 m	1668195					0.3 m	1668399	0.3 m	1668632
	3 m	1668205					0.6 m	1668409	0.6 m	1668645
	5 m	1668218					1.5 m	1668412	1.5 m	1668658
	10 m	1681017					3 m	1668425	3 m	1668661
	Variable	1696727					Variable	1696785	Variable	1696824
M12 female connector, angled with LED										
	1.5 m	1694392	0.3 m	1693351	0.3 m	1682469	0.3 m	1694554		
	3 m	1694402	0.6 m	1693364	0.6 m	1682472	0.6 m	1694567		
	5 m	1694415	1.5 m	1693380	1.5 m	1682485	1.5 m	1694570		
	10 m	1694428	3 m	1693403	3 m	1682498	3 m	1694583		
	Variable	1696730	Variable	1697713	Variable	1697742	Variable	1696798		
M12 female connector, angled, with LED, pin 2 - 4 bridged										
	1.5 m	1668250					0.3 m	1668438		
	3 m	1668263					0.6 m	1668441		
	5 m	1668276					1.5 m	1668454		
	10 m	1681059					3 m	1668467		
	Variable	1696743					Variable	1696808	Variable	1696837

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Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, with a straight 3-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1696756	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

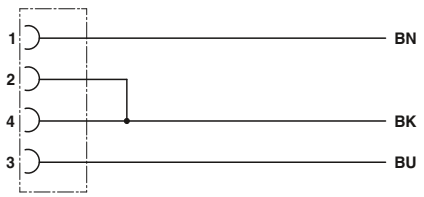
Minimum order amount:
25 pcs.

Cable description	Cable type	Suitable for:
PUR, halogen-free – black E221474	PUR	M8/M12
PUR, halogen-free – gray E221474	280	M8/M12
TPE-U highly flexible – gray E221474	800	M8/M12
PUR irradiated – orange E221474	150	M12
PVC – black E221474	PVC	M8/M12
PVC – gray E221474	500	M8/M12
PVC – yellow E221474	540	M12
PVC 105° – yellow E221474	542	M12

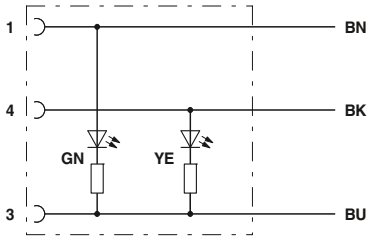
Color coding	Pin assignment
BN	1
BK	4
BU	3

With a combination of M12 and M8 connectors, the limiting M8 value applies to the rated voltage.

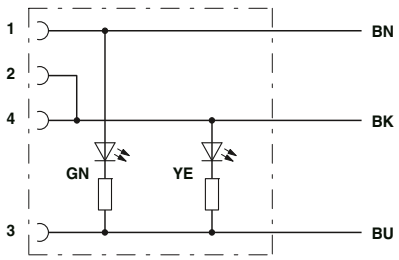
		Technical data	Technical data	Technical data	Technical data
		M8 3-pos.	M8 3-pos., with LEDs	M12 3-pos.	M12 3-pos., with LEDs
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC	250 V AC / 250 V DC	24 V / 24 V DC
Rated current	[A]	4	4	4	4
Contact material		CuSn	CuSn	CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au	Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	-	-
M12 circular connector in accordance with:		-	-	IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data					
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90	-25 ... 90	-25 ... 90



Contact assignment of M12 female connectors, bridged



Contact assignment of M8/M12 female connectors with two LEDs



Contact assignment of M12 female connectors with 2 LEDs, bridged

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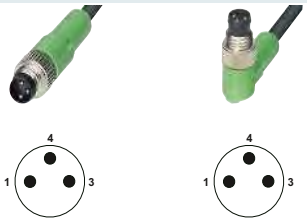
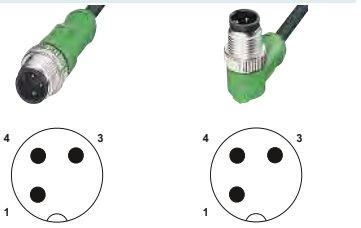
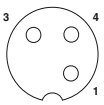
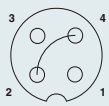
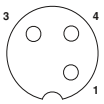
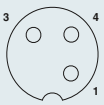
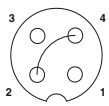
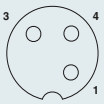
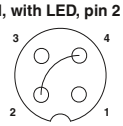
M8 and M12 SAC cable, 3-pos., cable type: PVC

Notes:

For information about the cable qualities, see page 318





Free end	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.		Order No.		Order No.
			1.5 m	1415861	1.5 m	1415865	1.5 m	1414434	1.5 m	1414447
			3 m	1415862	3 m	1415866	3 m	1414435	3 m	1414448
			5 m	1415863	5 m	1415867	5 m	1693173	5 m	1414449
			10 m	1447280	10 m	1415869	10 m	1414437	10 m	1414450
			Variable	1697548	Variable	1697551	Variable	1696662	Variable	1696675
M8 female connector, straight										
	1.5 m	1415870	0.3 m	1415877	0.3 m	1415881	0.3 m	1415525	0.3 m	1415534
	3 m	1415871	0.6 m	1415878	0.6 m	1415882	0.6 m	1415527	0.6 m	1415535
	5 m	1510748	1.5 m	1415879	1.5 m	1415883	1.5 m	1415528	1.5 m	1415536
	10 m	1506532	3 m	1415880	3 m	1415884	3 m	1415529	3 m	1415537
	Variable	1697580	Variable	1697632	Variable	1697661	Variable	1696840	Variable	1696895
M8 female connector, angled										
	1.5 m	1415872	0.3 m	1415886	0.3 m	1415891	0.3 m	1415530	0.3 m	1415538
	3 m	1446320	0.6 m	1415888	0.6 m	1415892	0.6 m	1415531	0.6 m	1415539
	5 m	1403253	1.5 m	1415889	1.5 m	1415893	1.5 m	1415532	1.5 m	1415540
	10 m	1403773	3 m	1415890	3 m	1415894	3 m	1415533	3 m	1415541
	Variable	1697603	Variable	1697645	Variable	1697674	Variable	1696866	Variable	1696905
M8 female connector, angled, with 2 LEDs										
	1.5 m	1415874	0.3 m	1415896	0.3 m	1415901				
	3 m	1415875	0.6 m	1415897	0.6 m	1415902				
	5 m	1508174	1.5 m	1415898	1.5 m	1415903				
	10 m	1415876	3 m	1415899	3 m	1415904				
	Variable	1697616	Variable	1697658	Variable	1697687	Variable	1696879	Variable	1696918
M12 female connector, straight										
	1.5 m	1414451					0.3 m	1414576		
	3 m	1414452					0.6 m	1414577		
	5 m	1400505					1.5 m	1414578		
	10 m	1403486					3 m	1414579		
	Variable	1696688	Variable	1697690	Variable	1697726	Variable	1696756		
M12 female connector, straight, pin 2- 4 bridged										
	Variable	1696691					Variable	1696769	Variable	1696811
M12 female connector, straight, with 2 LEDs										
	1.5 m	1414556								
	3 m	1414561								
	5 m	1508459								
	10 m	1414565								
	Variable	1696701	Variable	1514197			Variable	1511802	Variable	1524763
M12 female connector, angled										
	1.5 m	1414552					0.3 m	1414580		
	3 m	1414553					0.6 m	1414581		
	5 m	1579051					1.5 m	1415519		
	10 m	1453821					3 m	1415520		
	Variable	1696714	Variable	1697700	Variable	1697739	Variable	1696772		
M12 female connector, angled, pin 2 - 4 bridged										
	Variable	1696727					Variable	1696785	Variable	1696824
M12 female connector, angled, with 2 LEDs										
	1.5 m	1414571					0.3 m	1415521		
	3 m	1414573					0.6 m	1415522		
	5 m	1505326					1.5 m	1415523		
	10 m	1414575					3 m	1415524		
	Variable	1696730	Variable	1697713	Variable	1697742	Variable	1696798		
M12 female connector, angled, with LED, pin 2 - 4 bridged										
	Variable	1696743					Variable	1696808	Variable	1696837

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Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PVC - black, with a straight 3-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1696756	PVC	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

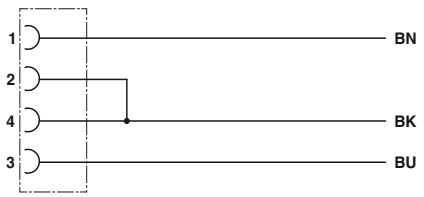
Minimum order amount:
25 pcs.

Cable description	Cable type	Suitable for:
PVC – black E221474	PVC	M8/M12
PVC – gray E221474	500	M8/M12
PVC – yellow E221474	540	M12
PVC 105° – yellow E221474	542	M12
PUR, halogen-free – black E221474	PUR	M8/M12
PUR irradiated – orange E221474	150	M12
PUR, halogen-free – gray E221474	280	M8/M12
TPE-U highly flexible – gray E221474	800	M8/M12

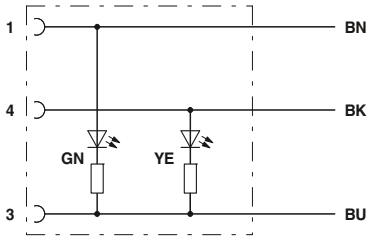
Color coding	Pin assignment
BN	1
BK	4
BU	3

With a combination of M12 and M8 connectors, the limiting M8 value applies to the rated voltage.

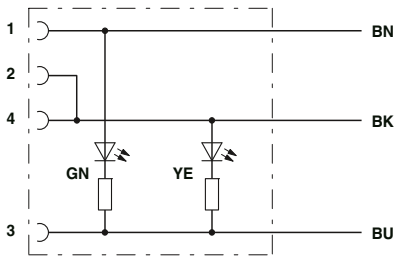
		Technical data	Technical data	Technical data	Technical data
		M8 3-pos.	M8 3-pos., with LEDs	M12 3-pos.	M12 3-pos., with LEDs
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC	250 V AC / 250 V DC	24 V / 24 V DC
Rated current	[A]	4	4	4	4
Contact material		CuSn	CuSn	CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au	Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	-	-
M12 circular connector in accordance with:		-	-	IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data					
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90	-25 ... 90	-25 ... 90



Contact assignment of M12 female connectors, bridged



Contact assignment of M8/M12 female connectors with two LEDs



Contact assignment of M12 female connectors with 2 LEDs, bridged

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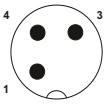
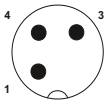
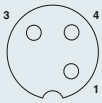
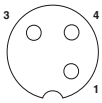
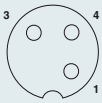
M12 SAC cable, 3-pos., cable type: 800

Notes:
For information about the cable qualities, see page 324





Free end		Ordering data Order No.	M12 male connector	Ordering data Order No.		Ordering data Order No.
				1.5 m	1456734	1.5 m	1456899
				3 m	1456747	3 m	1456909
				5 m	1456750	5 m	1456912
				10 m	1456763	10 m	1456925
				Variable	1696662	Variable	1696675
M12 female connector, straight							
		1.5 m	1456679	0.3 m	1456776		
		3 m	1456682	0.6 m	1456789		
		5 m	1456695	1.5 m	1456792		
		10 m	1456705	3 m	1456802		
		Variable	1696688	Variable	1696756		
M12 female connector, angled							
		1.5 m	1454260	0.3 m	1456815		
		3 m	1456718	0.6 m	1456828		
		5 m	1454273	1.5 m	1456831		
		10 m	1454299	3 m	1456844		
		Variable	1696714	Variable	1696772		
M12 female connector, angled, with 2 LEDs							
		1.5 m	1454312	0.3 m	1456857		
		3 m	1456721	0.6 m	1456860		
		5 m	1454325	1.5 m	1456873		
		10 m	1454341	3 m	1456886		
		Variable	1696730	Variable	1696798		

Information for products with fixed cable length:

Products with fixed cable length are produced with the highly flexible **800** cable type and are available from stock.

Cable description	Cable type
TPE-U highly flexible – gray Robots and drag chains	800

Color coding		Pin assignment
BN		1
BK		4
BU		3

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, TPE-U 800, with a straight 3-pos. M12 connector and free cable end, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1696662	800	4.5

Minimum order amount:
25 pcs.

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

		Technical data M12 3-pos.	Technical data M12 3-pos., with LEDs
Rated voltage		250 V AC / 250 V DC	24 V / 24 V DC
Rated current	[A]	4	4
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
Material, knurls		Zinc die-cast, nickel-plated	Zinc die-cast, nickel-plated
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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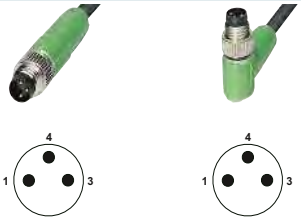
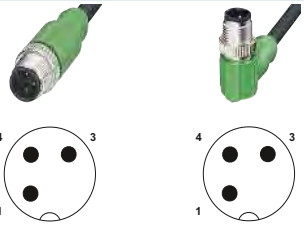
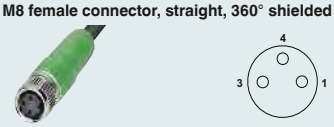
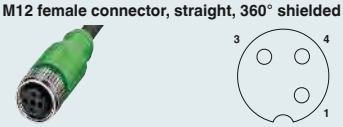
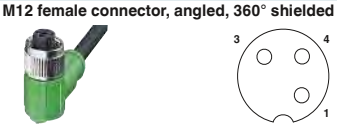
M8 and M12 SAC cable, 3-pos., shielded, cable type: PUR

Notes:

For information about the cable qualities, see page 318





Free end	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.		Order No.		Order No.
			1.5 m	1521614	1.5 m	1521669	1.5 m	1682650	1.5 m	1682689
			3 m	1521527	3 m	1521672	3 m	1682663	3 m	1682692
			5 m	1521630	5 m	1521685	5 m	1682676	5 m	1682702
			10 m	1521643	10 m	1521698	10 m	1500664	10 m	1500677
			Variable	1521656	Variable	1521708	Variable	1697425	Variable	1697438
M8 female connector, straight, 360° shielded										
	1.5 m	1521711	0.3 m	1456310						
	3 m	1521724	0.6 m	1456323						
	5 m	1521737	1.5 m	1455285						
	10 m	1521740	3 m	1455298						
	Variable	1521753	Variable	1552052	Variable	1552078				
M8 female connector, angled, 360° shielded										
	1.5 m	1521766								
	3 m	1521779								
	5 m	1521782								
	10 m	1521795								
	Variable	1521805	Variable	1552065	Variable	1552081				
M12 female connector, straight, 360° shielded										
	1.5 m	1682786					0.3 m	1500800		
	3 m	1682799					0.6 m	1500813		
	5 m	1682809					1.5 m	1500826		
	10 m	1500680					3 m	1500839		
	Variable	1697441					Variable	1536049	Variable	1536065
M12 female connector, angled, 360° shielded										
	1.5 m	1682812					0.3 m	1500923		
	3 m	1682825					0.6 m	1500936		
	5 m	1682838					1.5 m	1500949		
	10 m	1500693					3 m	1500952		
	Variable	1697454					Variable	1536052	Variable	1536078

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Cable description	Cable type	Suitable for:
PUR, halogen-free – black E221474	PUR	M8/M12
PVC – black E221474	PVC	M12
PVC – gray E221474	500	M12

Color coding	Pin assignment
BN	1
BK	4
BU	3

Ordering data for products with variable cable:

For a 4.5 m long shielded sensor/actuator cable, PUR, halogen-free, black, with a straight 3-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1536049	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

With a combination of M12 and M8 connectors, the limiting M8 value applies to the rated voltage.

		Technical data	Technical data
		M8 3-pos., shielded	**M12 3-pos., shielded**
Rated voltage		48 V AC / 60 V DC	48 V AC / 60 V DC
Rated current	[A]	4	4
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104	-
M12 circular connector in accordance with:		-	IEC 61076-2-101
Degree of protection		IP65 / IP67	IP65 / IP67
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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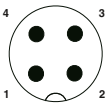
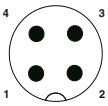
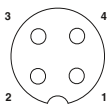
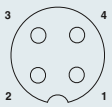
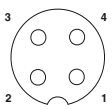
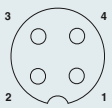
M8 and M12 SAC cable, 4-pos., cable type: PUR

Notes:

For information about the cable qualities, see page 318





Free end	Ordering data Order No.		Ordering data Order No.		Ordering data Order No.		Ordering data Order No.		Ordering data Order No.	
			1.5 m	1681787	1.5 m	1681813	1.5 m	1668043	1.5 m	1668166
			3 m	1681790	3 m	1681826	3 m	1668056	3 m	1668179
			5 m	1681800	5 m	1681839	5 m	1668069	5 m	1668182
			10 m	1694143	10 m	1694156	10 m	1682993	10 m	1694457
			Variable	1697755	Variable	1697768	Variable	1696947	Variable	1696950
M8 female connector, straight										
	1.5 m	1681842	0.3 m	1682142	0.3 m	1682223	0.3 m	1694923		
	3 m	1681855	0.6 m	1682155	0.6 m	1682236	0.6 m	1693076		
	5 m	1681868	1.5 m	1682168	1.5 m	1682249	1.5 m	1693089		
	10 m	1683484	3 m	1682171	3 m	1682252	3 m	1694936		
	Variable	1697771	Variable	1697797	Variable	1697810	Variable	1697072	Variable	1507874
M8 female connector, angled										
	1.5 m	1681871	0.3 m	1682184	0.3 m	1682265			0.3 m	1671551
	3 m	1681884	0.6 m	1682197	0.6 m	1682278			0.6 m	1671564
	5 m	1681897	1.5 m	1682207	1.5 m	1682281			1.5 m	1671577
	10 m	1694172	3 m	1682210	3 m	1682294			3 m	1671580
	Variable	1697784	Variable	1697807	Variable	1697823	Variable	1697085		
M8 female connector, angled, with 2 LEDs										
	Variable	1517673					Variable	1515031		
M12 female connector, straight										
	1.5 m	1668108					0.3 m	1668357	0.3 m	1668593
	3 m	1668111					0.6 m	1668360	0.6 m	1668603
	5 m	1668124					1.5 m	1668373	1.5 m	1668616
	10 m	1683002					3 m	1668386	3 m	1668629
	Variable	1696963	Variable	1506697			Variable	1697001	Variable	1697030
M12 female connector, straight, with 2 LEDs										
	1.5 m	1694800								
	3 m	1694813								
	5 m	1694826								
	10 m	1694839								
	Variable	1696976								
M12 female connector, angled										
	1.5 m	1668221					0.3 m	1668470	0.3 m	1668713
	3 m	1668234					0.6 m	1668483	0.6 m	1668726
	5 m	1668247					1.5 m	1668496	1.5 m	1668739
	10 m	1681389					3 m	1668506	3 m	1668742
	Variable	1696989	Variable	1511718	Variable	1697836	Variable	1697014	Variable	1697043
M12 female connector, angled, with 3 LEDs										
	1.5 m	1668289					0.3 m	1668519	0.3 m	1668755
	3 m	1668292					0.6 m	1668522	0.6 m	1668768
	5 m	1668302					1.5 m	1668535	1.5 m	1668771
	10 m	1681020					3 m	1668548	3 m	1668784
	Variable	1696992					Variable	1697027	Variable	1697056

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Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, with a straight 4-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1697001	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

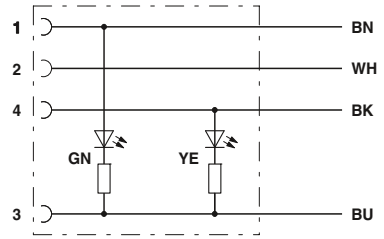
Minimum order amount:
25 pcs.

Cable description	Cable type	Suitable for:
PUR, halogen-free – black E221474	PUR	M8/M12
PUR, halogen-free – yellow E221474	240	M12
PUR, halogen-free – gray E221474	280	M8/M12
TPE-U highly flexible – gray E221474	800	M8/M12
PUR irradiated – orange E221474	150	M12
PUR irradiated – yellow E221474	160	M12
PVC – black E221474	PVC	M8/M12
PVC – gray E221474	500	M8/M12
PVC – yellow E221474	540	M12
PVC 105° – yellow E221474	542	M12

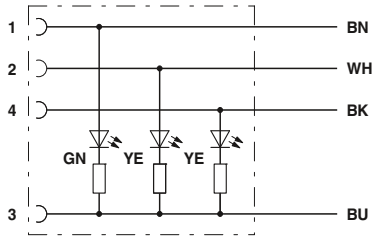
Color coding	Pin assignment
BN	1
WH	2
BK	4
BU	3

With a combination of M12 and M8 connectors, the limiting M8 value applies to the rated voltage.

		Technical data	Technical data	Technical data	Technical data
		M8 4-pos.	**M8 4-pos., with LED**	**M12 4-pos.**	**M12 4-pos., with LED**
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC	250 V AC / 250 V DC	24 V / 24 V DC
Rated current	[A]	4	4	4	4
Contact material		CuSn	CuSn	CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au	Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	-	-
M12 circular connector in accordance with:		-	-	IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data					
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90	-25 ... 90	-25 ... 90



Contact assignment of M8/M12 female connectors with LED



Contact assignment of M12 female connectors with LED

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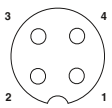
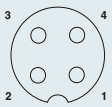
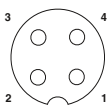
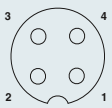
M8 and M12 SAC cable, 4-pos., cable type: PVC

Notes:

For information about the cable qualities, see page 318

Free end			M8 male connector				M12 male connector			
	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.		Order No.		Order No.
			1.5 m	1415542	1.5 m	1415546	1.5 m	1415585	1.5 m	1415591
			3 m	1415543	3 m	1415547	3 m	1415588	3 m	1415592
			5 m	1415544	5 m	1415548	5 m	1415589	5 m	1415593
			10 m	1415545	10 m	1415549	10 m	1415590	10 m	1415594
			Variable	1697755	Variable	1697768	Variable	1696947	Variable	1696950
M8 female connector, straight										
	1.5 m	1415550	0.3 m	1415556	0.3 m	1415576	0.3 m	1415671		
	3 m	1415551	0.6 m	1415557	0.6 m	1415577	0.6 m	1415672		
	5 m	1403252	1.5 m	1415558	1.5 m	1415578	1.5 m	1415673		
	10 m	1401062	3 m	1415560	3 m	1415579	3 m	1415674		
	Variable	1697771	Variable	1697797	Variable	1697810	Variable	1697072	Variable	1507874
M8 female connector, angled										
	1.5 m	1415552	0.3 m	1415562	0.3 m	1415580			0.3 m	1415667
	3 m	1415554	0.6 m	1415572	0.6 m	1415581			0.6 m	1415668
	5 m	1403254	1.5 m	1415573	1.5 m	1415582			1.5 m	1415669
	10 m	1401064	3 m	1415574	3 m	1415583			3 m	1415670
	Variable	1697784	Variable	1697807	Variable	1697823	Variable	1697085		
M8 female connector, angled, with 2 LEDs										
	Variable	1517673					Variable	1515031		
M12 female connector, straight										
	1.5 m	1544976					0.3 m	1415611	0.3 m	1415627
	3 m	1404407					0.6 m	1415612	0.6 m	1415628
	5 m	1404408					1.5 m	1415613	1.5 m	1415635
	10 m	1446333					3 m	1415614	3 m	1415636
	Variable	1696963	Variable	1506697			Variable	1697001	Variable	1697030
M12 female connector, straight, with 2 LEDs										
	1.5 m	1415596								
	3 m	1415597								
	5 m	1415602								
	10 m	1415605								
	Variable	1696976								
M12 female connector, angled										
	1.5 m	1415606					0.3 m	1415617	0.3 m	1415642
	3 m	1693526					0.6 m	1454817	0.6 m	1415643
	5 m	1693539					1.5 m	1415618	1.5 m	1415644
	10 m	1415608					3 m	1415619	3 m	1415645
	Variable	1696989	Variable	1511718	Variable	1697836	Variable	1697014	Variable	1697043
M12 female connector, angled, with 3 LEDs										
	1.5 m	1415609					0.3 m	1415620	0.3 m	1415646
	3 m	1415610					0.6 m	1415623	0.6 m	1415647
	5 m	1404961					1.5 m	1415624	1.5 m	1415648
	10 m	1401063					3 m	1415625	3 m	1415650
	Variable	1696992					Variable	1697027	Variable	1697056

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Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PVC - black, with a straight 4-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1697001	PVC	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

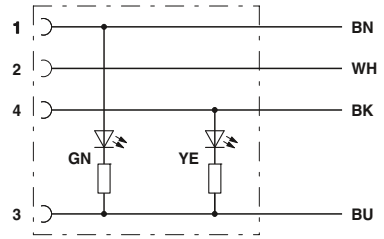
Minimum order amount: 25 pcs.

Cable description	Cable type	Suitable for:
PVC – black E221474	PVC	M8/M12
PVC – gray E221474	500	M8/M12
PVC – yellow E221474	540	M12
PVC 105° – yellow E221474	542	M12
PUR, halogen-free – black E221474	PUR	M8/M12
PUR, halogen-free – yellow E221474	240	M12
PUR, halogen-free – gray E221474	280	M8/M12
PUR irradiated – orange E221474	150	M12
PUR irradiated – yellow E221474	160	M12
TPE-U highly flexible – gray E221474	800	M8/M12

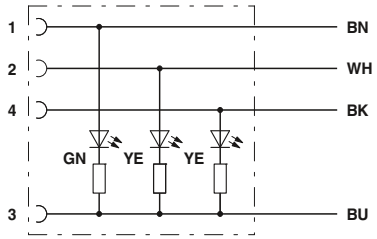
Color coding	Pin assignment
BN	1
WH	2
BK	4
BU	3

With a combination of M12 and M8 connectors, the limiting M8 value applies to the rated voltage.

		Technical data	Technical data	Technical data	Technical data
		M8 4-pos.	M8 4-pos., with LED	M12 4-pos.	M12 4-pos., with LED
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC	250 V AC / 250 V DC	24 V / 24 V DC
Rated current	[A]	4	4	4	4
Contact material		CuSn	CuSn	CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au	Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	-	-
M12 circular connector in accordance with:		-	-	IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data					
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90	-25 ... 90	-25 ... 90



Contact assignment of M8/M12 female connectors with LED



Contact assignment of M12 female connectors with LED

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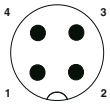
M12 SAC cable, 4-pos., cable type: 800

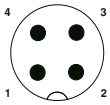
Notes:

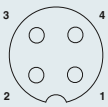
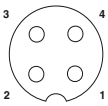
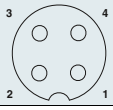
For information about the cable qualities, see page 324

Free end

M12 male connector





Free end		Ordering data Order No.		Ordering data Order No.		Ordering data Order No.
				1.5 m	1457018	1.5 m 1457128
				3 m	1457021	3 m 1457131
				5 m	1457034	5 m 1457144
				10 m	1457047	10 m 1457157
				Variable	1696947	Variable 1696950
M12 female connector, straight						
		1.5 m	1456938	0.3 m	1457050	
		3 m	1456941	0.6 m	1457063	
		5 m	1567322	1.5 m	1567270	
		10 m	1567335	3 m	1457076	
		Variable	1696963	Variable	1697001	
M12 female connector, angled						
		1.5 m	1456954	0.3 m	1457089	
		3 m	1456967	0.6 m	1567225	
		5 m	1456970	1.5 m	1567238	
		10 m	1456983	3 m	1457092	
		Variable	1696989	Variable	1697014	
M12 female connector, angled, with 3 LEDs						
		1.5 m	1456996	0.3 m	1457102	
		3 m	1457005	0.6 m	1567173	
		5 m	1567351	1.5 m	1567199	
		10 m	1567364	3 m	1457115	
		Variable	1696992	Variable	1697027	

Information for products with fixed cable length:

Products with fixed cable length are produced with the highly flexible **800** cable type and are available from stock.

Cable description	Cable type
TPE-U highly flexible – gray Robots and drag chains	800

Color coding		Pin assignment
BN		1
WH		2
BK		4
BU		3

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, TPE-U 800, with a straight 4-pos. M12 connector and free cable end, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1696947	800	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

		Technical data M12 4-pos.	Technical data M12 4-pos., with LED
Rated voltage		250 V AC / 250 V DC	24 V / 24 V DC
Rated current	[A]	4	4
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
Material, knurls		Zinc die-cast, nickel-plated	Zinc die-cast, nickel-plated
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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M8 and M12 SAC cable, 4-pos., shielded, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end			M8 male connector, 360° shielded				M12 male connector, 360° shielded			
		Ordering data	Ordering data		Ordering data		Ordering data		Ordering data	
Free end		Order No.		Order No.		Order No.		Order No.		Order No.
			1.5 m	1521818	1.5 m	1521863	1.5 m	1682715	1.5 m	1682870
			3 m	1521821	3 m	1521876	3 m	1682618	3 m	1682883
			5 m	1521834	5 m	1521889	5 m	1682647	5 m	1682896
			10 m	1521847	10 m	1521892	10 m	1694389	10 m	1500703
			Variable	1521850	Variable	1521902	Variable	1697467	Variable	1697470
M8 female connector, straight, 360° shielded										
		1.5 m	1521915	0.3 m	1574580					
		3 m	1521928	0.6 m	1455722					
		5 m	1521931	1.5 m	1455735					
		10 m	1521944	3 m	1574603					
		Variable	1521957	Variable	1552094	Variable	1552104			
M8 female connector, angled, 360° shielded										
		1.5 m	1521960							
		3 m	1521973							
		5 m	1521986							
		10 m	1521999							
		Variable	1522008	Variable	1552065	Variable	1552120			
M12 female connector, straight, 360° shielded										
		1.5 m	1682841					0.3 m	1500842	
		3 m	1682854					0.6 m	1500855	
		5 m	1682867					1.5 m	1500868	
		10 m	1500716					3 m	1500871	
		Variable	1697483					Variable	1536081	Variable 1536104
M12 female connector, angled, 360° shielded										
		1.5 m	1682906					0.3 m	1500965	
		3 m	1682919					0.6 m	1500978	
		5 m	1682922					1.5 m	1500981	
		10 m	1500729					3 m	1500994	
		Variable	1697496					Variable	1536094	Variable 1536117

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Cable description	Cable type	Suitable for:
PUR, halogen-free – black E221474	PUR	M8/M12
PVC – black E221474	PVC	M12
PVC – gray E221474	500	M12

Color coding	Pin assignment
BN	1
WH	2
BK	4
BU	3

Ordering data for products with variable cable:

For a 4.5 m long shielded sensor/actuator cable, PUR, halogen-free, black, with a straight 4-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1536081	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

With a combination of M12 and M8 connectors, the limiting M8 value applies to the rated voltage.

		Technical data	Technical data
		M8 4-pos., shielded	M12 4-pos., shielded
Rated voltage		48 V AC / 60 V DC	48 V AC / 60 V DC
Rated current	[A]	4	4
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104	-
M12 circular connector in accordance with:		-	-
Degree of protection		IP65 / IP67	IP65 / IP67
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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M8 SAC cable, 5-pos., B-coded, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end

M8 male connector

Free end		Ordering data Order No.		Ordering data Order No.		Ordering data Order No.	
				1.5 m 3 m 5 m 10 m	1404461 1404462 1404463 1404464	1.5 m 3 m 5 m 10 m	1404465 1404466 1404467 1404468
M8 female connector, straight							
		1.5 m 3 m 5 m 10 m	1404470 1404471 1404473 1404474	0.3 m 0.6 m 1.5 m 3 m	1404479 1404480 1404481 1404482		
M8 female connector, angled							
		1.5 m 3 m 5 m 10 m	1404475 1404476 1404477 1404478				

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **115** cable type and are available from stock.

Cable description	Cable type
PUR, halogen-free – black	**115**

Color coding		Pin assignment
BN		1
WH		2
BK		4
BU		3
GY		5

		Technical data
		M8, 5-pos.
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	3
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Material, knurls		Zinc die-cast, nickel-plated
M8 circular connector in accordance with:		IEC 61076-2-104
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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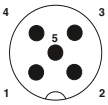
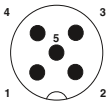
M12 SAC cable, 5-pos., cable type: PUR

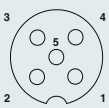
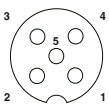
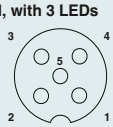
Notes:
For information about the cable qualities, see page 318

Free end

M12 male connector





Free end		Ordering data Order No.		Ordering data Order No.		Ordering data Order No.
			1.5 m	1669767	1.5 m	1669796
			3 m	1669770	3 m	1669806
			5 m	1669783	5 m	1669819
			10 m	1683361	10 m	1694460
			Variable	1697098	Variable	1697108
M12 female connector, straight						
		1.5 m	1669822	0.3 m	1681583	
		3 m	1669835	0.6 m	1681596	
		5 m	1669848	1.5 m	1681606	
		10 m	1683374	3 m	1681619	
		Variable	1697111	Variable	1697140	Variable 1508734
M12 female connector, angled						
		1.5 m	1669851	0.3 m	1681622	
		3 m	1669864	0.6 m	1681635	
		5 m	1669877	1.5 m	1681648	
		10 m	1694541	3 m	1681651	
		Variable	1697124	Variable	1697153	Variable 1529506
M12 female connector, angled, with 3 LEDs						
		1.5 m	1669880	0.3 m	1694635	
		3 m	1669893	0.6 m	1694648	
		5 m	1669903	1.5 m	1694651	
		10 m	1694431			
		Variable	1697137	Variable	1697166	Variable 1552159

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, with a straight 5-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1697140	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

Cable description	Cable type
PUR, halogen-free – black E221474	PUR
PUR, halogen-free – black, 5th wire gray E221474	115
TPE-U highly flexible – gray, 5th wire gray E221474	800
PUR irradiated – orange E221474	150
PVC – black E221474	PVC
PVC – black, 5th wire gray E221474	515
PVC – gray E221474	500
PVC 105° – yellow E221474	540
PVC 105° – yellow, 5th wire gray E221474	542

Color coding	Pin assignment
BN	1
WH	2
BK	4
BU	3
GNYE	5

		Technical data M12 5-pos.	Technical data M12 5-pos., with LED
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC
Rated current	[A]	4	4
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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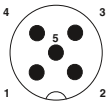
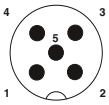
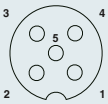
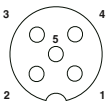
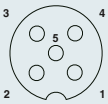
M12 SAC cable, 5-pos., cable type: PVC

Notes:

For information about the cable qualities, see page 318





Free end		Ordering data Order No.		M12 male connector Ordering data Order No.		Ordering data Order No.	
				1.5 m	1415675	1.5 m	1415679
				3 m	1415676	3 m	1415680
				5 m	1415677	5 m	1415681
				10 m	1415678	10 m	1415682
				Variable	1697098	Variable	1697108
M12 female connector, straight							
		1.5 m	1415683	0.3 m	1415695		
		3 m	1415684	0.6 m	1415696		
		5 m	1453889	1.5 m	1415697		
		10 m	1415685	3 m	1415698		
		Variable	1697111	Variable	1697140	Variable	1508734
M12 female connector, angled							
		1.5 m	1415686	0.3 m	1415699		
		3 m	1415687	0.6 m	1415700		
		5 m	1415688	1.5 m	1415701		
		10 m	1415689	3 m	1415702		
		Variable	1697124	Variable	1697153	Variable	1529506
M12 female connector, angled, with 3 LEDs							
		1.5 m	1415690	0.3 m	1415703		
		3 m	1415691	0.6 m	1415704		
		5 m	1415693	1.5 m	1415705		
		10 m	1415694	3 m	1415706		
		Variable	1697137	Variable	1697166	Variable	1552159

Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PVC - black, with a straight 5-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1697140	/ PVC	/ 4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

Cable description	Cable type
PVC – black E221474	PVC
PVC – black, 5th wire gray E221474	515
PVC – gray E221474	500
PVC 105° – yellow E221474	540
PVC 105° – yellow, 5th wire gray E221474	542
PUR, halogen-free – black E221474	PUR
PUR, halogen-free – black, 5th wire gray E221474	115
PUR irradiated – orange E221474	150
TPE-U highly flexible – gray, 5th wire gray E221474	800

Color coding	Pin assignment
BN	1
WH	2
BK	4
BU	3
GNYE	5

		Technical data M12 5-pos.	Technical data M12 5-pos., with LED
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC
Rated current	[A]	4	4
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		-	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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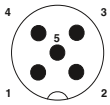
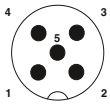
M12 SAC cable, 5-pos., cable type: 802

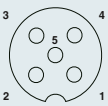
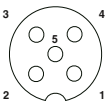
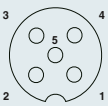
Notes:
For information about the cable qualities, see page 324

Free end

M12 male connector





		Ordering data		Ordering data		Ordering data	
Free end			**Order No.**		**Order No.**		**Order No.**
				1.5 m	1457225	1.5 m	1457322
				3 m	1457238	3 m	1457335
				5 m	1457241	5 m	1457348
				10 m	1457254	10 m	1457351
				Variable	1697098	Variable	1697108
M12 female connector, straight							
		1.5 m	1454419	0.3 m	1457267		
		3 m	1457160	0.6 m	1454561		
		5 m	1454422	1.5 m	1454587		
		10 m	1454448	3 m	1457270		
		Variable	1697111	Variable	1697140		
M12 female connector, angled							
		1.5 m	1457173	0.3 m	1457283		
		3 m	1457186	0.6 m	1454516		
		5 m	1457199	1.5 m	1454532		
		10 m	1457209	3 m	1457296		
		Variable	1697124	Variable	1697153		
M12 female connector, angled, with 3 LEDs							
		1.5 m	1454367	0.3 m	1457306		
		3 m	1457212	0.6 m	1454464		
		5 m	1454370	1.5 m	1454480		
		10 m	1454396	3 m	1457319		
		Variable	1697137	Variable	1697166		

Information for products with fixed cable length:

Products with fixed cable length are produced with the **802** cable type and are available from stock.

Cable description	Cable type
TPE-U highly flexible – gray Robots and drag chains	802

Color coding	Pin assignment
BN	1
WH	2
BK	4
BU	3
GNYE	5

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, TPE-U 802, with a straight 5-pos. M12 connector and free cable end, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1697098	802	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

		Technical data	Technical data
		M12 5-pos.	**M12 5-pos., with LED**
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC
Rated current	[A]	4	4
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
Material, knurls		Zinc die-cast, nickel-plated	Zinc die-cast, nickel-plated
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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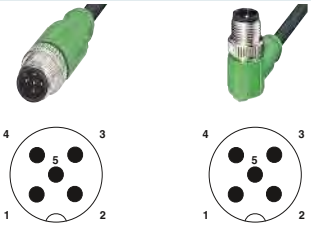
M12 SAC cable, 5-pos., shielded, cable type: PUR

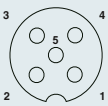
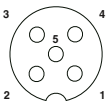
Notes:

For information about the cable qualities, see page 318

Free end

M12 male connector, 360° shielded



Free end		Ordering data Order No.		Ordering data Order No.		Ordering data Order No.	
				1.5 m	1682728	1.5 m	1682757
				3 m	1682744	3 m	1682760
				5 m	1682731	5 m	1682773
				10 m	1500732	10 m	1500745
				Variable	1697506	Variable	1697519
M12 female connector, straight, 360° shielded							
		1.5 m	1682935	0.3 m	1500884		
		3 m	1682948	0.6 m	1500897		
		5 m	1682951	1.5 m	1500907		
		10 m	1500758	3 m	1500910		
		Variable	1697522	Variable	1536120	Variable	1536146
M12 female connector, angled, 360° shielded							
		1.5 m	1682964	0.3 m	1501003		
		3 m	1682977	0.6 m	1501029		
		5 m	1682980	1.5 m	1501045		
		10 m	1500761	3 m	1501058		
		Variable	1697535	Variable	1536133	Variable	1536159

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long shielded sensor/actuator cable, PUR, halogen-free, black, with a straight 5-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1536120	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

Cable description	Cable type
PUR, halogen-free – black E221474	PUR
PVC – black E221474	PVC
PVC – gray E221474	500

Color coding	Pin assignment
BN	1
WH	2
BK	4
BU	3
GY	5

		Technical data M12 5-pos., shielded
Rated voltage		48 V AC / 60 V DC
Rated current	[A]	4
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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M8 SAC cable, 6-pos., cable type: PUR

Notes:
For information about the cable qualities, see page 318

	Free end	M8 male connector	

		Ordering data		Ordering data		Ordering data	
Free end			**Order No.**		**Order No.**		**Order No.**
				1.5 m	1522095	1.5 m	1522147
				3 m	1522105	3 m	1522150
				5 m	1522118	5 m	1522163
				10 m	1522121	10 m	1522176
				Variable	1522134	Variable	1522189
M8 female connector, straight							
		1.5 m	1522192				
		3 m	1522202				
		5 m	1522215				
		10 m	1522228				
		Variable	1522231	Variable	1551927	Variable	1551943
M8 female connector, angled							
		1.5 m	1522244				
		3 m	1522257				
		5 m	1522260				
		10 m	1522273				
		Variable	1522286	Variable	1551930	Variable	1551956

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Cable description	Cable type
PUR, halogen-free – black E221474	PUR

Color coding	Pin assignment
BN	1
WH	2
BU	3
BK	4
GY	5
PK	6

Ordering data for products with variable cable:

For a 4.5 m long shielded sensor/actuator cable, PUR, halogen-free, black, with a straight 6-pos. M8 connector and open cable end, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1522134	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

		Technical data
		M8 6-pos.
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	1.5
Contact material		CuZn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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M8 SAC cable, 6-pos., shielded, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end	M8 male connector, 360° shielded	

Free end	Ordering data Order No.		Ordering data Order No.		Ordering data Order No.	
			1.5 m	1522299	1.5 m	1522341
			3 m	1522309	3 m	1522354
			5 m	1522312	5 m	1522367
			10 m	1522325	10 m	1522370
			Variable	1522338	Variable	1522383
M8 female connector, straight, 360° shielded						
		1.5 m	1522396			
		3 m	1522406			
		5 m	1522419			
		10 m	1522422			
		Variable	1522435	Variable	1552010	Variable 1552036
M8 female connector, angled, 360° shielded						
		1.5 m	1522448			
		3 m	1522451			
		5 m	1522464			
		10 m	1522477			
		Variable	1522480	Variable	1552023	Variable 1552049

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Cable description	Cable type
PUR, halogen-free – black E221474	PUR

Color coding		Pin assignment
BN		1
WH		2
BU		3
BK		4
GY		5
PK		6

Ordering data for products with variable cable:

For a 4.5 m long shielded sensor/actuator cable, PUR, halogen-free, black, with a straight 6-pos. M8 male and a straight M8 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1552010	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

		Technical data M8 6-pos., shielded
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	1.5
Contact material		CuZn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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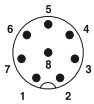
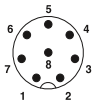
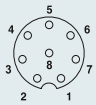
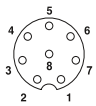
M8 SAC cable, 8-pos., cable type: PUR

Notes:
For information about the cable qualities, see page 318

Free end	M8 male connector	
		

	Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**
			1.5 m	1404178	1.5 m	1404182
			3 m	1404180	3 m	1404186
			5 m	1404181	5 m	1404185
			10 m	1404179	10 m	1404183
M8 female connector, straight						
	1.5 m	1404187	0.3 m	1404196		
	3 m	1404188	0.6 m	1404198		
	5 m	1404189	1.5 m	1404199		
	10 m	1404190	3 m	1404200		
M8 female connector, angled						
	1.5 m	1404191	0.3 m	1404201		
	3 m	1404192	0.6 m	1404202		
	5 m	1404193	1.5 m	1404203		
	10 m	1404194	3 m	1404204		

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Cable description	Cable type
PUR, halogen-free – black	**PUR**

Color coding		Pin assignment
WH		1
BN		2
GN		3
YE		4
GY		5
PK		6
BU		7
RD		8

		Technical data
		M8 8-pos.
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	1.5
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Material, knurls		Zinc die-cast, nickel-plated
M8 circular connector in accordance with:		IEC 61076-2-104
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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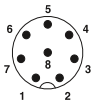
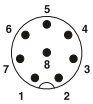
Assembled cables

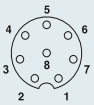
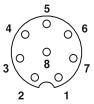
M12 SAC cable, 8-pos., cable type: PUR

Notes:

For information about the cable qualities, see page 318





		Ordering data		Ordering data		Ordering data	
Free end			**Order No.**		**Order No.**		**Order No.**
				1.5 m	1522493	1.5 m	1522545
				3 m	1522503	3 m	1522558
				5 m	1522516	5 m	1522561
				10 m	1522529	10 m	1522574
				Variable	1522532	Variable	1522587
M12 female connector, straight							
		1.5 m	1522590	0.3 m	1522671		
		3 m	1522600	0.6 m	1522684		
		5 m	1520369	1.5 m	1522697		
		10 m	1520372	3 m	1522707		
		Variable	1522613	Variable	1522710	Variable	1551969
M12 female connector, angled							
		1.5 m	1522626	0.3 m	1522723		
		3 m	1522639	0.6 m	1522736		
		5 m	1522642	1.5 m	1522749		
		10 m	1522655	3 m	1522752		
		Variable	1522668	Variable	1522765	Variable	1551972

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, with a straight 8-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1522710	PUR	4.5

Minimum order amount: 25 pcs.

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Cable description	Cable type
PUR, halogen-free – black E221474	PUR
TPE-U highly flexible – gray E221474	800
PVC – black E221474	PVC
PVC – gray E221474	500

Color coding	Pin assignment
WH	1
BN	2
GN	3
YE	4
GY	5
PK	6
BU	7
RD	8

		Technical data
		M12 8-pos.
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	2
Contact material		CuZn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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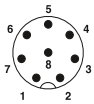
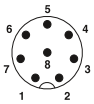
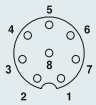
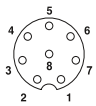
M12 SAC cable, 8-pos., cable type: PVC

Notes:
For information about the cable qualities, see page 318

	Free end	M12 male connector	
			

	Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**
			1.5 m	1415716	1.5 m	1415720
			3 m	1415717	3 m	1415721
			5 m	1415718	5 m	1415722
			10 m	1415719	10 m	1415723
			Variable	1522532	Variable	1522587
M12 female connector, straight						
	1.5 m	1415724	0.3 m	1415737		
	3 m	1415725	0.6 m	1415738		
	5 m	1415726	1.5 m	1415739		
	10 m	1415727	3 m	1415740		
	Variable	1522613	Variable	1522710	Variable	1551969
M12 female connector, angled						
	1.5 m	1415732	0.3 m	1415745		
	3 m	1415734	0.6 m	1415746		
	5 m	1415735	1.5 m	1415747		
	10 m	1415736	3 m	1415748		
	Variable	1522668	Variable	1522765	Variable	1551972

Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PVC - black, with a straight 8-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1522710	PVC	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

Cable description	Cable type
PVC – black E221474	PVC
PVC – gray E221474	500
PUR, halogen-free – black E221474	PUR
TPE-U highly flexible – gray E221474	800

Color coding	Pin assignment
WH	1
BN	2
GN	3
YE	4
GY	5
PK	6
BU	7
RD	8

		Technical data
		M12 8-pos.
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	2
Contact material		CuZn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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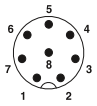
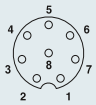
M8 SAC cable, 8-pos., shielded, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end	M8 male connector, 360° shielded
	

	Ordering data		Ordering data		Ordering data
Free end		**Order No.**		**Order No.**	**Order No.**
			1.5 m	1404137	
			3 m	1404140	
			5 m	1404141	
			10 m	1404138	
M8 female connector, straight, 360° shielded					
	1.5 m	1404147	0.3 m	1404133	
	3 m	1404148	0.6 m	1404134	
	5 m	1404149	1.5 m	1404135	
	10 m	1404150	3 m	1404136	

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Cable description	Cable type
PUR, halogen-free – black	**PUR**

Color coding		Pin assignment
WH		1
BN		2
GN		3
YE		4
GY		5
PK		6
BU		7
RD		8

		Technical data
		M8 8-pos.
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	1.5
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Material, knurls		Zinc die-cast, nickel-plated
M8 circular connector in accordance with:		IEC 61076-2-104
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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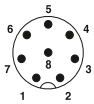
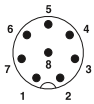
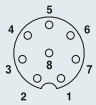
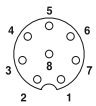
M12 SAC cable, 8-pos., shielded, cable type: PUR

Notes:
For information about the cable qualities, see page 318

Free end			M12 male connector, 360° shielded			M12 male connector, 360° shielded	
							
	Ordering data		Ordering data			Ordering data	
Free end		**Order No.**			**Order No.**		**Order No.**
			1.5 m		1522778	1.5 m	1522817
			3 m		1522781	3 m	1522820
			5 m		1526981	5 m	1522833
			10 m		1522794	10 m	1522846
			Variable		1522804	Variable	1522859
M12 female connector, straight, 360° shielded							
	1.5 m	1522862	0.3 m		1522969		
	3 m	1522875	0.6 m		1522972		
	5 m	1522888	1.5 m		1522985		
	10 m	1522891	3 m		1522998		
	Variable	1522901	Variable		1523007	Variable	1551998
M12 female connector, angled, 360° shielded							
	1.5 m	1522914	0.3 m		1523010		
	3 m	1522927	0.6 m		1523023		
	5 m	1522930	1.5 m		1523036		
	10 m	1522943	3 m		1523049		
	Variable	1522956	Variable		1523052	Variable	1552007

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long shielded sensor/actuator cable, PUR, halogen-free, black, with a straight 8-pos. M12 male and a straight M12 female, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1523007	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

Cable description	Cable type
PUR, halogen-free – black E221474	PUR
PUR, halogen-free – gray E221474	280
PVC – black E221474	PVC

Color coding	Pin assignment
WH	1
BN	2
GN	3
YE	4
GY	5
PK	6
BU	7
RD	8

		Technical data
		M12 8-pos., shielded
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	2
Contact material		CuZn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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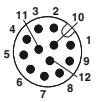
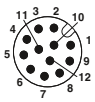
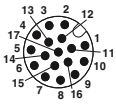
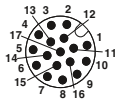
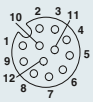
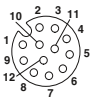
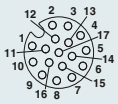
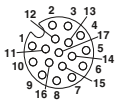
M12 SAC cable, 12 and 17-pos., cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end	M12 male connector, 12-pos.		M12 male connector, 12-pos.	
				

Free end	Ordering data		Ordering data		Ordering data		Ordering data	
	Order No.		Order No.		Order No.		Order No.	
		1.5 m	1430530	1.5 m	1430572	1.5 m	1430695	1.5 m	1430734
		3 m	1430543	3 m	1430585	3 m	1430705	3 m	1430747
		5 m	1430556	5 m	1430598	5 m	1430718	5 m	1430750
		10 m	1430569	10 m	1430608	10 m	1430721	10 m	1430763
M12 female, 12-pos., straight									
		1.5 m	1430611						
		3 m	1430624						
		5 m	1430637						
		10 m	1430640						
M12 female, 12-pos., angled									
		1.5 m	1430653						
		3 m	1430666						
		5 m	1430679						
		10 m	1430682						
M12 female, 17-pos., straight									
		1.5 m	1430776						
		3 m	1430789						
		5 m	1430792						
		10 m	1430802						
M12 female, 17-pos., angled									
		1.5 m	1430815						
		3 m	1430828						
		5 m	1430831						
		10 m	1430844						

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Cable description	Cable type
PUR, halogen-free – black	**PUR**

Color coding		Pin assignment, 12-pos.
BN		1
BU		2
WH		3
GN		4
PK		5
YE		6
BK		7
GY		8
RD		9
VT		10
GYPK		11
RDBU		12

Color coding		Pin assignment, 17-pos.
BN		1
BU		2
WH		3
GN		4
PK		5
YE		6
BK		7
GY		8
RD		9
VT		10
GYPK		11
RDBU		12
WHGN		13
BNGN		14
WHYE		15
YEBN		16
WHGY		17

		Technical data	Technical data
		M12 12-pos.	M12 17-pos.
Rated voltage		30 V AC / 30 V DC	30 V AC / 30 V DC
Rated current	[A]	1.5	1.5
Contact material		CuZn	CuZn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data			
Male connector/female connector	[°C]	-25 ... 85	-25 ... 90

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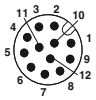
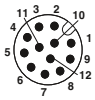
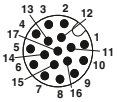
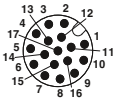
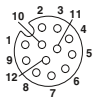
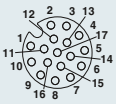
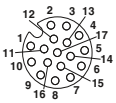
M12 SAC cable, 12 and 17-pos., cable type: PVC

Notes:

For information about the cable qualities, see page 318

Free end	M12 male connector, 12-pos.		M12 male connector, 12-pos.	
				

	Ordering data		Ordering data		Ordering data		Ordering data	
Free end	**Order No.**		**Order No.**		**Order No.**		**Order No.**	
		1.5 m	1554775	1.5 m	1554814	1.5 m	1555266	1.5 m	1555305
		3 m	1554788	3 m	1554827	3 m	1555279	3 m	1555318
		5 m	1554791	5 m	1554830	5 m	1555282	5 m	1555321
		10 m	1554801	10 m	1554843	10 m	1555295	10 m	1555334
M12 female, 12-pos., straight									
		1.5 m	1554856						
		3 m	1554869						
		5 m	1554872						
		10 m	1554885						
M12 female, 12-pos., angled									
		1.5 m	1554898						
		3 m	1554908						
		5 m	1554924						
		10 m	1554937						
M12 female, 17-pos., straight									
		1.5 m	1555347						
		3 m	1555350						
		5 m	1555363						
		10 m	1555376						
M12 female, 17-pos., angled									
		1.5 m	1555389						
		3 m	1555392						
		5 m	1555402						
		10 m	1555415						

Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Cable description	Cable type
PVC – black	PVC

Color coding	Pin assignment, 12-pos.
BN	1
BU	2
WH	3
GN	4
PK	5
YE	6
BK	7
GY	8
RD	9
VT	10
GYPK	11
RDBU	12

Color coding	Pin assignment, 17-pos.
BN	1
BU	2
WH	3
GN	4
PK	5
YE	6
BK	7
GY	8
RD	9
VT	10
GYPK	11
RDBU	12
WHGN	13
BNGN	14
WHYE	15
YEBN	16
WHGY	17

		Technical data	Technical data
		M12 12-pos.	M12 17-pos.
Rated voltage		30 V AC / 30 V DC	30 V AC / 30 V DC
Rated current	[A]	1.5	1.5
Contact material		CuZn	CuZn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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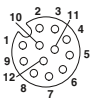
M12 SAC cable, 12-pos., shielded

Notes:

For information about the cable qualities, see page 318

Free end	M12 male connector, 360° shielded

		Ordering data	Ordering data		Ordering data	
Free end			**Order No.**		**Order No.**	
				1.5 m	1430048	1.5 m	1430080
				3 m	1430051	3 m	1430093
				5 m	1430064	5 m	1430103
				10 m	1430077	10 m	1430116
M12 female, straight, 360° shielded							
		0.5 m	1437083				
		1 m	1434730				
		1.5 m	1430129				
		3 m	1430132	3 m	1402551		
		5 m	1430145				
		10 m	1430158				
M12 female, angled, 360° shielded							
		1.5 m	1430161				
		3 m	1430174				
		5 m	1430187				
		10 m	1430190				

Information for products with fixed cable length:

Products with fixed cable length are produced with the **35T** cable type and are available from stock.

Cable description	Cable type
PUR/PVC – black, twisted pair	**35T**

Color coding		Pin assignment M12
BN		1
BU		2
WH		3
GN		4
PK		5
YE		6
BK		7
GY		8
RD		9
VT		10
GYPK		11
RDBU		12

		Technical data
		M12 12-pos.
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	1.5
Contact material		CuZn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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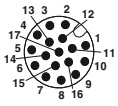
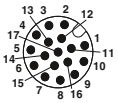
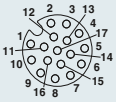
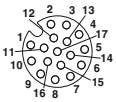
M12 SAC cable, 17-pos., shielded

Notes:
For information about the cable qualities, see page 318

Free end			M12 male connector, 360° shielded			
						
	Ordering data		Ordering data		Ordering data	
Free end		Order No.		Order No.		Order No.
			1.5 m	1430200	1.5 m	1430242
			3 m	1430213	3 m	1430255
			5 m	1430226	5 m	1430268
			10 m	1430239	10 m	1430271
M12 female, straight, 360° shielded						
		1.5 m	1430284			
		3 m	1430297			
		5 m	1430307	5 m	1402421	
		10 m	1430310	10 m	1402422	
M12 female, angled, 360° shielded						
		1.5 m	1430323			
		3 m	1430336			
		5 m	1430349			
		10 m	1430352			

Information for products with fixed cable length:

Products with fixed cable length are produced with the **35T** cable type and are available from stock.

Cable description	Cable type
PUR/PVC – black, twisted pair	**35T**

Color coding		Pin assignment M12
BN		1
BU		2
WH		3
GN		4
PK		5
YE		6
BK		7
GY		8
RD		9
VT		10
GYPK		11
RDBU		12
WHGN		13
BNGN		14
WHYE		15
YEBN		16
WHGY		17

		Technical data
		M12 17-pos.
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	1.5
Contact material		CuZn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
M12 circular connector in accordance with:		IEC 61076-2-101
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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Plastic-molded M17 and M23 signal connectors

- Feedback connectors
- Contact material gold-plated CuZn
- Flame-retardant TPU handle material
- CuZn or Gd-Zn knurl, nickel-plated
- IP67 degree of protection
- Connector head temperature range -40°C to +105°C
- Standard and counter direction contact numbering
- M17 and M23 standard thread, SPEEDCON fast locking system on request
- Angled versions rotatable

	M17, 17-position, female, standard, 60 V, 3.6 A		M23, 12-position, female, counter direction, 150 V, 9 A		M23, 12-position, female, counter direction, 150 V, 9 A	
	E01		E00		E00	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Free end	2 m 5 m 10 m	1624780 1624781 1624782	2 m 5 m 10 m	1619247 1619248 1619249	2 m 5 m 10 m	1619280 1619281 1619282
M17, 17-pos., male	2 m 5 m 10 m	1624778 1624783 1624784				
M23, 12-pos., male			2 m 5 m 10 m	1619289 1619290 1619291		
M23, 12-pos., male						
M23, 17-pos., male						

Cable information:

Type/ application	Color	Structure	Sheath/core material	Assignment		Temperature range
E00 Feedback	Orange	Shielded, 4 x 2x 0.25 + 2x 0.5	TPU/PP	1 - Pink 2 - Red 3 - Black 4 - Blue 5 - Brown 6 - Green	7 - Violet 8 - Gray 9 - Outer shield 10 - White 11 - n.c. 12 - Brown	**Mobile:** -20°C ... 60°C **Fixed:** -40°C ... 80°C
E01 Feedback	Green	Shielded, 3x 2x 0.14 + 2x 0.5 + 4x 0.14 + 4x 0.22	TPU/TPM	1 - Yellow 2 - Green 3 - Red 4 - n.c. 5 - Blue 6 - n.c. 7 - Brown-blue (encoder) 8 - Green-black (+temp.) 9 - Green-red (-temp.)	10 - Brown-red (P encoder) 11 - Black 12 - Brown 13 - Orange 14 - White-black 15 - Brown-gray (OV sense) 16 - Brown-yellow (sense) 17 - n.c. Inner shield on housing	**Mobile:** -30°C ... 60°C **Fixed:** -30°C ... 80°C

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M23, 12-position, female, standard, 150 V, 9 A	M23, 12-position, female, standard, 150 V, 9 A	M23, 17-position, female, standard, 100 V, 9 A	M23, 17-position, female, standard, 100 V, 9 A
E00	E00	E01	E01
Ordering data	Ordering data	Ordering data	Ordering data
Order No.	Order No.	Order No.	Order No.
2 m 1619250	2 m 1619285	2 m 1619277	2 m 1619286
5 m 1619273	5 m 1619283	5 m 1619278	5 m 1619287
10 m 1619274	10 m 1619284	10 m 1619279	10 m 1619288
2 m 1619292			
5 m 1619293			
10 m 1619294			
		2 m 1619295	
		5 m 1619296	
		10 m 1619297	

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Plastic-molded M17 power connectors

- Contact material gold-plated CuZn
- Flame-retardant TPU handle material
- CuZn or Gd-Zn knurl, nickel-plated
- IP67 degree of protection
- Connector head temperature range -40°C to +105°C
- Standard contact numbering
- M17 standard thread, SPEEDCON fast locking system on request

	M17, 3+PE-position, female, standard, 630 V, 18 A		M17, 3+PE-position, female, standard, 630 V, 26 A		M17, 5+PE-position, female, standard, 630 V, 12 A	
	B00		B01		C00	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Free end	2 m 5 m 10 m	1619298 1619299 1619300	2 m 5 m 10 m	1619301 1619302 1619303	2 m 5 m 10 m	1619307 1619308 1619309
M17, 3+PE-pos., male	2 m 5 m 10 m	1619304 1619305 1619306	2 m 5 m 10 m	1619326 1619327 1619328		
M17, 5+PE-pos., male					2 m 5 m 10 m	1619316 1619317 1619318
M17, 7+PE-pos., male						

Cable information:

Type	Color	Structure	Sheath/core material	Assignment		Temperature range
B00 Servo	Orange	Shielded, 4 x 1.50	PUR/TPM	1 - Black U 2 - Black V 3 - Black W PE - Green-yellow		**Mobile:** -20°C ... 60°C **Fixed:** -40°C ... 80°C
B01 Servo	Orange	Shielded, 4 x 2.50	TPU/TPM			**Mobile:** -20°C ... 70°C **Fixed:** -50°C ... 80°C
C00 Servo	Orange	Shielded, 4 x 0.75 + 2 x 0.5	PUR/TPM	1 - Black U 6 - Black V 7 - Black W PE - Green-yellow	3 - Black, 5 (brake) 4 - Black, 6 (brake)	**Mobile:** -30°C ... 70°C **Fixed:** -40°C ... 80°C
C01 Servo	Orange	Shielded, 4G1 + 2 x 0.5	PUR/TPE	1 - Black U 6 - Black V 7 - Black W PE - Green-yellow	3 - Black (brake) 4 - White (brake)	**Mobile:** -5°C ... 70°C **Fixed:** -30°C ... 70°C
D00 Servo	Orange	Shielded, 4 x 0.75 + 2 x 2 x 0.34	PUR/TPM	1 - Black U 2 - Black V 3 - Black W PE - Green-yellow	4 - Black 5 (brake) 5 - Black 6 (brake) 6 - Black 7 (temp. +) 7 - Black 8 (temp. -)	**Mobile:** -30°C ... 90°C **Fixed:** -40°C ... 90°C
D01 Servo	Orange	Shielded, 4 x 1.0 + 2 x 2 x 0.75	PUR/TPM			**Mobile:** -40°C ... 60°C **Fixed:** -40°C ... 80°C

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M17, 5+PE-position, female, standard, 630 V, 15 A	M17, 7+PE-position, female, standard, 630 V, 12 A	M17, 7+PE-position, female, standard, 630 V, 15 A
	D00	D01
Ordering data	**Ordering data**	**Ordering data**
Order No.	**Order No.**	**Order No.**
2 m 1619310	2 m 1624785	2 m 1619313
5 m 1619311	5 m 1624786	5 m 1619314
10 m 1619312	10 m 1624792	10 m 1619315
2 m 1619319		
5 m 1619321		
10 m 1619322		
	2 m 1624787	2 m 1619323
	5 m 1624788	5 m 1619324
	10 m 1624789	10 m 1619325

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Plastic-molded M23 power connectors

- Contact material gold-plated CuZn
- Flame-retardant TPU handle material
- CuZn or Gd-Zn knurl, nickel-plated
- IP67 degree of protection
- Connector head temperature range -40°C to +105°C
- Standard contact numbering
- M23 standard thread, SPEEDCON fast locking system on request
- Angled version rotatable (only with reinforced device connector 1620619)

	M23, 3+PE-position, female, standard, 630 V, 34 A		M23, 4+PE-position, female, standard, 630 V, 34 A		M23, 5+PE-position, female, standard, 630 V, 18 A	
	A00		A01		C02	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Free end	2 m	1624771	2 m	1625776	2 m	1618957
	5 m	1619622	5 m	1625777	5 m	1618958
	10 m	1624772	10 m	1625775	10 m	1618959
M23, 3+PE-pos., male	2 m	1624773				
	5 m	1619606				
	10 m	1624774				
M23, 4+PE-pos., male			2 m	1625779		
			5 m	1625781		
			10 m	1625780		
M23, 5+PE-pos., male					2 m	1618964
					5 m	1618965
					10 m	1618966

Cable information:

Type	Color	Structure	Sheath/core material	Assignment		Temperature range
A00 Energy	Gray	Shielded, 4x 4.0	PVC/PVC	1 - n.c. 2 - Black 3 PE - Green-yellow	4 - Black 1 5 - Black 2 6 - n.c.	**Fixed:** -40°C ... 90°C
A01 Energy	Gray	5x 4.0	PVC/PVC	1 - Black 4 2 - Black 3 PE - Green-yellow	4 - Black 1 5 - Black 2 6 - n.c.	**Fixed:** -40°C ... 90°C
C02 Servo	Orange	Shielded, 4x 1.50 + 2x 1.5	PUR/TPM	1 - Black U 2 - Black V 6 - Black W PE - Green-yellow	4 - Black, (BR1 brake) 5 - White, (BR2 brake)	**Mobile:** -20°C ... 60°C **Fixed:** -40°C ... 80°C
C03 Servo	Orange	Shielded, 4x 2.50 + 2x 1.5	TPU/TPM			**Mobile:** -20°C ... 70°C **Fixed:** -50°C ... 80°C

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M23, 5+PE-position, female, standard, 630 V, 18 A	M23, 5+PE-position, female, standard, 630 V, 26 A	M23, 5+PE-position, female, standard, 630 V, 26 A
C02	C03	C03
Ordering data	Ordering data	Ordering data
Order No.	Order No.	Order No.
2 m 1620415	2 m 1620396	2 m 1620418
5 m 1620416	5 m 1620397	5 m 1620419
10 m 1620417	10 m 1620398	10 m 1620420
	2 m 1620406	
	5 m 1620407	
	10 m 1620408	

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Plastic-molded M23 power connectors

- Contact material gold-plated CuZn
- Flame-retardant TPU handle material
- CuZn or Gd-Zn knurl, nickel-plated
- IP67 degree of protection
- Connector head temperature range -40°C to +105°C
- Standard contact numbering
- M23 standard thread, SPEEDCON fast locking system on request
- Angled version rotatable (only with reinforced device connector 1620620)

	M23, 4+3+PE-position, female, standard, 250 V/630 V, 18 A		M23, 4+3+PE-position, female, standard, 250 V/630 V, 18 A		M23, 4+3+PE-position, female, standard, 250 V/630 V, 26 A	
	D02		D02		D03	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Free end	2 m 5 m 10 m	1620399 1620400 1620401	2 m 5 m 10 m	1620421 1620422 1620423	2 m 5 m 10 m	1620402 1620404 1620405
M23, 4+3+PE-pos., male	2 m 5 m 10 m	1620409 1620410 1620411			2 m 5 m 10 m	1620412 1620413 1620414

Cable information:

Type	Color	Structure	Sheath/core material	Assignment		Temperature range
D02 Servo	Orange	Shielded, 4x 1.5 + 2x 2x 0.75	PUR/TPM	1 - Black U 3 - Black V 4 - Black W PE - Green-yellow	A - Black 5 (brake) B - Black 6 (brake) C - Black 7 (motor temp. +) D - Black 8 (motor temp. -)	**Mobile:** -20°C ... 60°C **Fixed:** -40°C ... 80°C
D03 Servo	Orange	Shielded, 4x 2.5 + 2x 2x 0.75	PUR/TPM			**Mobile:** -20°C ... 60°C **Fixed:** -40°C ... 80°C

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M23, 4+3+PE-position, female, standard, 250 V/630 V, 26 A

D03

Ordering data

	Order No.
2 m	1620424
5 m	1620425
10 m	1620426

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Assembled cables

Plastic-molded M40 power connectors

- Contact material gold-plated CuZn
- Flame-retardant TPU handle material
- CuZn or Gd-Zn knurl, nickel-plated
- IP67 degree of protection
- Connector head temperature range -40°C to +105°C
- Standard contact numbering
- M40 standard thread, SPEEDCON fast locking system on request

	M40, 2+3+PE-position, female, standard, 250 V/630 V, 26 A		M40, 2+3+PE-position, female, standard, 250 V/630 V, 34 A		M40, 2+3+PE-position, female, standard, 250 V/630 V, 44 A	
	C03		C04		C05	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Free end	2 m 5 m 10 m	1619329 1620309 1620310	2 m 5 m 10 m	1620311 1620313 1620314	2 m 5 m 10 m	1620316 1620317 1620318
M40, 2+3+PE-pos., male	2 m 5 m 10 m	1620345 1620346 1620347	2 m 5 m 10 m	1620348 1620349 1620375	2 m 5 m 10 m	1620376 1620377 1620378
M40, 4+3+PE-pos., male						

Cable information:

Type	Color	Structure	Sheath/core material	Assignment		Temperature range
C03 Servo	Orange	Shielded, 4 x 2.50 + 2 x 1.5	TPU/TPM	U - Black U V - Black V W - Black W PE - Green-yellow	+ - Black, (BR1) - - White, (BR2)	**Mobile:** -20°C ... 70°C **Fixed:** -50°C ... 80°C
C04 Servo	Orange	Shielded, 4 x 4.00 + 2 x 1.5	TPU/TPM			**Mobile:** -20°C ... 70°C **Fixed:** -50°C ... 80°C
C05 Servo	Orange	Shielded, 4 x 6.00 + 2 x 1.5	PUR/TPE			**Mobile:** -40°C ... 80°C **Fixed:** -50°C ... 90°C
C06 Servo	Orange	Shielded, 4 x 10.0 + 2 x 1.5	TPU/TPM			**Mobile:** -20°C ... 70°C **Fixed:** -50°C ... 80°C
D03 Servo	Orange	Shielded, 4 x 2.5 + 2 x 2 x 0.75	PUR/TPM	U - Black 1 V - Black 2 W - Black 3 PE - Green-yellow	+ - Black 7 (motor temp. +) - - Black 8 (motor temp. -) 1 - Black 5 (brake) 2 - Black 6 (brake)	**Mobile:** -20°C ... 60°C **Fixed:** -40°C ... 80°C
D04 Servo	Orange	Shielded, 4 x 4.0 + 2 x 1.5 + 2 x 1.0	PUR/TPM			**Mobile:** -30°C ... 80°C **Fixed:** -45°C ... 80°C
D05 Servo	Orange	Shielded, 4 x 6.0 + 2 x 1.5 + 2 x 1.0	PUR/TPM			**Mobile:** -30°C ... 60°C **Fixed:** -30°C ... 80°C
D06 Servo	Orange	Shielded, 4 x 10 + 2 x 1.5 + 2 x 1.0	PUR/TPM			**Mobile:** -20°C ... 60°C **Fixed:** -40°C ... 80°C

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M40, 2+3+PE-position, female, standard, 250 V/630 V, 61 A	M40, 4+3+PE-position, female, standard, 250 V/630 V, 26 A	M40, 4+3+PE-position, female, standard, 250 V/630 V, 34 A	M40, 4+3+PE-position, female, standard, 250 V/630 V, 44 A	M40, 4+3+PE-position, female, standard, 250 V/630 V, 61 A
C06	D03	D04	D05	D06
Ordering data	**Ordering data**	**Ordering data**	**Ordering data**	**Ordering data**
Order No.	**Order No.**	**Order No.**	**Order No.**	**Order No.**
2 m 1620319	2 m 1620322	2 m 1620325	2 m 1620339	2 m 1620342
5 m 1620320	5 m 1620323	5 m 1620337	5 m 1620340	5 m 1620343
10 m 1620321	10 m 1620324	10 m 1620338	10 m 1620341	10 m 1620344
2 m 1620379				
5 m 1620380				
10 m 1620381				
	2 m 1620382	2 m 1620385	2 m 1620390	2 m 1620393
	5 m 1620383	5 m 1620386	5 m 1620391	5 m 1620394
	10 m 1620384	10 m 1620387	10 m 1620392	10 m 1620395

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Plastic-molded M23 hybrid connectors

- Transmission of signals, data (CAT5, 100 Mbps), and power
- Rated voltage: 630 V AC/850 V DC
- Contact material gold-plated CuZn
- Flame-retardant TPU handle material
- CuZn or Gd-Zn knurl, nickel-plated
- IP67 degree of protection
- Connector head temperature range -40°C to +105°C
- SPEEDCON fast locking system, M23 standard thread on request
- Angled version can be rotated

	M23, 4+4+4+PE-position, female, standard, 50 V/630 V, 26 A		M23, 4+4+4+PE-position, male, standard, 50 V/630 V, 26 A		M23, 4+4+4+PE-position, female, standard, 50 V/630 V, 26 A	
	H00		H00		H00	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Free end	2 m	1622224	2 m	1622227	2 m	1622230
	5 m	1622225	5 m	1622228	5 m	1622231
	10 m	1622226	10 m	1622229	10 m	1622232
M23, 4+4+4+PE-pos., male	2 m	1622244				
	5 m	1622245				
	10 m	1622246				
M23, 4+4+4+PE-pos., male	2 m	1622247				
	5 m	1622248				
	10 m	1622249				
M23, 4+4+4+PE-pos., male					2 m	1622250
					5 m	1622251
					10 m	1622252

Cable information:

Type	Color	Structure	Sheath/core material	Assignment		Temperature range
H00 Hybrid	Orange	Shielded, (5 x 2.5 + 2 x (2 x 0.5) + (4 x AWG 22) C) C	PUR/TPE, polyolefin	A - Black BK1 (2.5 mm²) B - Black BK2 (2.5 mm²) C - Black BK3 (2.5 mm²) D - Black BK4 (2.5 mm²) PE - Green-yellow (2.5 mm²)	1 - Brown BN (0.5 mm²) 2 - Violet VT (0.5 mm²) 3 - Black BK (0.5 mm²) 4 - Green GN (0.5 mm²) 5 - Blue BU (0.34 mm²) 6 - Yellow YE (0.34 mm²) 7 - White WH (0.34 mm²) 8 - Orange OG (0.34 mm²)	**Mobile:** -30°C ... 60°C **Fixed:** -40°C ... 80°C

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M23, 4+4+4+PE-position, male, standard, 50 V/630 V, 26 A

H00

Ordering data

	Order No.
2 m	1622233
5 m	1622234
10 m	1622243

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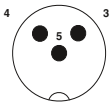
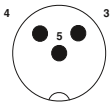
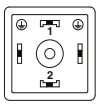
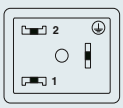
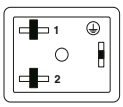
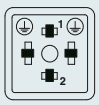
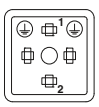
Valve connectors with Zener diode, cable type: PUR

Notes:

For information about the cable qualities, see page 318

	Free end	M12 male connector		M8 male connector
				

		Ordering data		Ordering data		Ordering data		Ordering data	Ordering data
Type A			**Order No.**		**Order No.**		**Order No.**		**Order No.**
		1.5 m	1434989	0.3 m	1434882	0.3 m	1434934		
		3 m	1434992	0.6 m	1434895	0.6 m	1434947		
		5 m	1435001	1.5 m	1434905	1.5 m	1434950		
		10 m	1435014	3 m	1434918	3 m	1434963		
		Variable	1435027	Variable	1434921	Variable	1434976	Variable	1405650
Type B									
		1.5 m	1435386	0.3 m	1435289	0.3 m	1435331		
		3 m	1435399	0.6 m	1435292	0.6 m	1435344		
		5 m	1435409	1.5 m	1435302	1.5 m	1435357		
		10 m	1435412	3 m	1435315	3 m	1435360		
		Variable	1435425	Variable	1435328	Variable	1435373	Variable	1405651
Type BI									
		1.5 m	1435234	0.3 m	1435137	0.3 m	1435182		
		3 m	1435247	0.6 m	1435140	0.6 m	1435195		
		5 m	1435250	1.5 m	1435153	1.5 m	1435205		
		10 m	1435263	3 m	1435166	3 m	1435218		
		Variable	1435276	Variable	1435179	Variable	1435221	Variable	1405652
Type C									
		1.5 m	1435535	0.3 m	1435438	0.3 m	1435483		
		3 m	1435548	0.6 m	1435441	0.6 m	1435496		
		5 m	1435551	1.5 m	1435454	1.5 m	1435506		
		10 m	1435564	3 m	1435467	3 m	1435519		
		Variable	1435726	Variable	1435629	Variable	1435674	Variable	1405653
Type CI									
		1.5 m	1435687	0.3 m	1435580	0.3 m	1435632		
		3 m	1435690	0.6 m	1435593	0.6 m	1435645		
		5 m	1435700	1.5 m	1435603	1.5 m	1435658		
		10 m	1435713	3 m	1435616	3 m	1435661		
		Variable	1435577	Variable	1435470	Variable	1435522	Variable	1405654

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for type A, B, BI, C, CI valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, type A valve connector with Zener diode, and a 3-pos. straight M12 male connector, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1434921	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Cable description	Cable type	M8	M12	A	B(I)	C(I)
PUR, halogen-free – black, 0.5 mm²	PUR	x	x	x	x	x
PUR, halogen-free – black, 1.0 mm²	121		x	x		
PUR, halogen-free – yellow, 0.5 mm²	240		x	x	x	x
PUR, halogen-free – gray, 0.5 mm²	280		x	x	x	x
PUR, irradiated – orange, 0.5 mm²	150		x	x	x	x
PUR, highly flexible – gray, 0.5 mm²	800		x	x	x	x
PVC – black, 0.5 mm²	PVC	x	x	x	x	x
PVC – black, 0.75 mm²	534		x	x	x	x
PVC – gray, 0.5 mm²	500		x	x	x	x

Color coding		Pin assignment M12
BK1	1	4
BK2	2	3
GNYE		5

Color coding M8		Pin assignment M8
BU		3
BN		4

		Technical data
		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	4
Contact material		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material of grip body		TPU
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90
Valve connectors	[°C]	-20 ... 85

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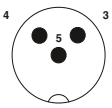
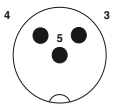
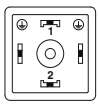
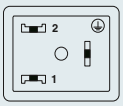
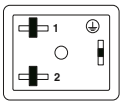
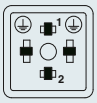
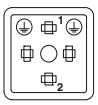
Valve connectors with Zener diode, cable type: PVC

Notes:

For information about the cable qualities, see page 318





		Ordering data		Ordering data		Ordering data		Ordering data		Ordering data
Type A			**Order No.**		**Order No.**		**Order No.**		**Order No.**	**Order No.**
		1.5 m	1438684							
		3 m	1415905							
		5 m	1439502							
		10 m	1439492							
		Variable	1435027	Variable	1434921	Variable	1434976	Variable	1405650	
Type B										
		1.5 m	1415922							
		3 m	1415923							
		5 m	1415924							
		10 m	1400610							
		Variable	1435425	Variable	1435328	Variable	1435373	Variable	1405651	
Type BI										
		1.5 m	1415929							
		3 m	1400609							
		5 m	1415930							
		10 m	1400607							
		Variable	1435276	Variable	1435179	Variable	1435221	Variable	1405652	
Type C										
		1.5 m	1439162							
		3 m	1439515							
		5 m	1439528							
		10 m	1439531							
		Variable	1435726	Variable	1435629	Variable	1435674	Variable	1405653	
Type CI										
		1.5 m	1439175							
		3 m	1415939							
		5 m	1415940							
		10 m	1400605							
		Variable	1435577	Variable	1435470	Variable	1435522	Variable	1405654	

Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for type A, B, BI, C, CI valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PVC – black, type A valve connector with Zener diode, and a 3-pos. straight M12 male connector, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1434921	PVC	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Cable description	Cable type	M8	M12	A	B(I)	C(I)
PVC – black, 0.5 mm²	PVC	x	x	x	x	x
PVC – black, 0.75 mm²	534		x	x	x	x
PVC – gray, 0.5 mm²	500		x	x	x	x
PUR, halogen-free – black, 0.5 mm²	PUR	x	x	x	x	x
PUR, halogen-free – black, 1.0 mm²	121		x	x		
PUR, halogen-free – yellow, 0.5 mm²	240		x	x	x	x
PUR, halogen-free – gray, 0.5 mm²	280		x	x	x	x
PUR, irradiated – orange, 0.5 mm²	150		x	x	x	x
PUR, highly flexible – gray, 0.5 mm²	800		x	x	x	x

Color coding	Pin assignment M12
BK1	4
BK2	3
GNYE	5

Color coding M8	Pin assignment M8
BU	3
BN	4

		Technical data
		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	4
Contact material		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material of grip body		TPU
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90
Valve connectors	[°C]	-20 ... 85

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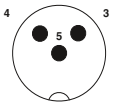
Valve connectors with 24 V varistor, cable type: PUR

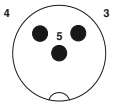
Notes:

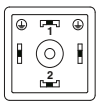
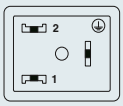
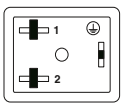
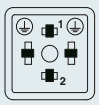
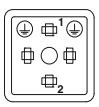
For information about the cable qualities, see page 318

Free end

M12 male connector





		Ordering data		Ordering data		Ordering data	
Type A			**Order No.**		**Order No.**		**Order No.**
		1.5 m	1443103				
		3 m	1443116				
		5 m	1443129				
		10 m	1443132				
		Variable	1400876	Variable	1400874	Variable	1400875
Type B							
		1.5 m	1443145				
		3 m	1443158				
		5 m	1443161				
		10 m	1443174				
		Variable	1400882	Variable	1400880	Variable	1400881
Type BI							
		1.5 m	1443187				
		3 m	1443190				
		5 m	1443200				
		10 m	1443213				
		Variable	1400879	Variable	1400877	Variable	1400878
Type C							
		1.5 m	1443226				
		3 m	1443239				
		5 m	1443242				
		10 m	1443255				
		Variable	1400894	Variable	1400892	Variable	1400893
Type CI							
		1.5 m	1443268				
		3 m	1443271				
		5 m	1443284				
		10 m	1443297				
		Variable	1400891	Variable	1400889	Variable	1400890

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for type A, B, BI, C, CI valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, type B valve connector with 24 V varistor, and a 3-pos. straight M12 male connector, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1400880	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Cable description	Cable type
PUR, halogen-free – black, 0.5 mm²	PUR
PUR, halogen-free – black, 1.0 mm² Type A valve connector only	121
PUR, halogen-free – yellow, 0.5 mm²	240
PUR, halogen-free – gray, 0.5 mm²	280
PUR, irradiated – orange, 0.5 mm²	150
PUR, highly flexible – gray, 0.5 mm²	800
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534
PVC – gray, 0.5 mm²	500

Color coding		Pin assignment
BK1	1	4
BK2	2	3
GNYE		5

Technical data

		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	4
Contact material		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material of grip body		TPU
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90
Valve connectors	[°C]	-20 ... 85

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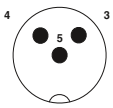
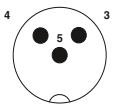
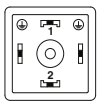
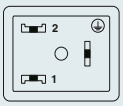
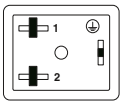
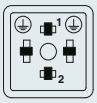
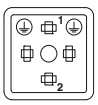
Valve connectors with 24 V varistor, cable type: PVC

Notes:
For information about the cable qualities, see page 318





		Free end		M12 male connector			
		Ordering data		Ordering data		Ordering data	
Type A			Order No.		Order No.		Order No.
		1.5 m	1415908				
		3 m	1415909				
		5 m	1415910				
		10 m	1415911				
		Variable	1400876	Variable	1400874	Variable	1400875
Type B							
		1.5 m	1415925				
		3 m	1415926				
		5 m	1415927				
		10 m	1415928				
		Variable	1400882	Variable	1400880	Variable	1400881
Type BI							
		1.5 m	1415931				
		3 m	1415932				
		5 m	1415933				
		10 m	1415934				
		Variable	1400879	Variable	1400877	Variable	1400878
Type C							
		1.5 m	1415935				
		3 m	1415936				
		5 m	1415937				
		10 m	1415938				
		Variable	1400894	Variable	1400892	Variable	1400893
Type CI							
		1.5 m	1415941				
		3 m	1415942				
		5 m	1415943				
		10 m	1415944				
		Variable	1400891	Variable	1400889	Variable	1400890

Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for type A, B, BI, C, CI valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PVC – black, type B valve connector with 24 V varistor, and a 3-pos. straight M12 male connector, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1400880	PVC	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Cable description	Cable type
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534
PVC – gray, 0.5 mm²	500
PUR, halogen-free – black, 0.5 mm²	PUR
PUR, halogen-free – black, 1.0 mm² Type A valve connector only	121
PUR, halogen-free – yellow, 0.5 mm²	240
PUR, halogen-free – gray, 0.5 mm²	280
PUR, irradiated – orange, 0.5 mm²	150
PUR, highly flexible – gray, 0.5 mm²	800

Color coding		Pin assignment
BK1	1	4
BK2	2	3
GNYE		5

Technical data		
		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	4
Contact material		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material of grip body		TPU
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90
Valve connectors	[°C]	-20 ... 85

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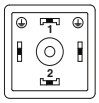
Valve connectors with 230 V varistor, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end

Type A		Ordering data	
			Order No.
		1.5 m	1402985
		3 m	1400694
		5 m	1400648
		10 m	1402986

		Technical data
		Connector
Rated voltage		230 V AC / 230 V DC
Rated current	[A]	4
Material contact surface valve connector		Sn
Degree of protection		IP65 / IP67
Temperature data		
Valve connectors	[°C]	-20 ... 85

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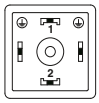
Valve connectors with 230 V varistor, cable type: PVC

Notes:
For information about the cable qualities, see page 318

Free end

Ordering data

Type A			Order No.
		1.5 m	1415912
		3 m	1415913
		5 m	1415914
		10 m	1415915

Technical data

		Connector
Rated voltage		230 V AC / 230 V DC
Rated current	[A]	4
Material contact surface valve connector		Sn
Degree of protection		IP65 / IP67
Temperature data		
Valve connectors	[°C]	-20 ... 85

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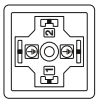
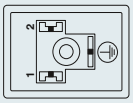
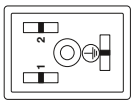
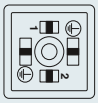
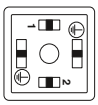
Valve connectors with energy-reducing function, 1 A

Notes:

For information about the cable qualities, see page 318

Free end 1 A

		Ordering data	
Type A			**Order No.**
		1.5 m 3 m 5 m 10 m	1413115 1413114 1413116 1413118
Type B			
		1.5 m 3 m 5 m 10 m	1401294 1401295 1401338 1401339
Type BI			
		1.5 m 3 m 5 m 10 m	1401340 1401350 1401358 1401359
Type C			
		1.5 m 3 m 5 m 10 m	1401434 1401435 1401448 1401465
Type CI			
		1.5 m 3 m 5 m 10 m	1401466 1401542 1401544 1401617

		Technical data
		Connector
Rated voltage		24 V DC ±20%
Rated current	[A]	1
Material contact surface valve connector		Ag
Degree of protection		IP67
Temperature data		
Valve connectors	[°C]	-25 ... 80

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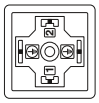
Valve connectors with energy-reducing function, 4 A

Notes:
For information about the cable qualities, see page 318

Free end 4 A

Ordering data			
Type A			**Order No.**
		1.5 m	1400827
		3 m	1401131
		5 m	1401136
		10 m	1401168

Technical data		
		Connector
Rated voltage		24 V DC ±20%
Rated current	[A]	4
Material contact surface valve connector		Ag
Degree of protection		IP67
Temperature data		
Valve connectors	[°C]	-25 ... 80

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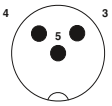
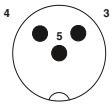
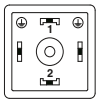
Valve connectors with freewheeling diode, cable type: PUR

Notes:

For information about the cable qualities, see page 318

	Free end	M12 male connector	
			
	Ordering data	Ordering data	Ordering data
Type A	Order No.	Order No.	Order No.
	1.5 m **1400589** 3 m **1400588** 5 m **1400798** 10 m **1400799** Variable **1417832**	Variable **1417833**	Variable **1417834**

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for type A valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, type A valve connector with freewheeling diode, and a 3-pos. straight M12 male connector, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1417833	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Cable description	Cable type
PUR, halogen-free – black, 0.5 mm²	PUR
PUR, halogen-free – black, 1.0 mm² Type A valve connector only	121
PUR, halogen-free – yellow, 0.5 mm²	240
PUR, halogen-free – gray, 0.5 mm²	280
PUR, irradiated – orange, 0.5 mm²	150
PUR, highly flexible – gray, 0.5 mm²	800
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534
PVC – gray, 0.5 mm²	500

Color coding		Pin assignment
BK1	1	4
BK2	2	3
GNYE		5

Technical data

		Connector
Rated voltage		24 V DC
Rated current	[A]	2
Contact material		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material of grip body		TPU
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90
Valve connectors	[°C]	-20 ... 85

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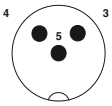
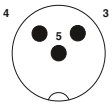
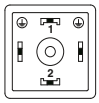
Valve connectors with freewheeling diode, cable type: PVC

Notes:
For information about the cable qualities, see page 318

	Free end	M12 male connector	
			
	Ordering data	Ordering data	Ordering data
Type A	Order No.	Order No.	Order No.
	1.5 m 1415916 3 m 1415917 5 m 1415918 10 m 1415919 Variable 1417832	Variable 1417833	Variable 1417834

Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for type A valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PVC – black, type A valve connector with freewheeling diode, and a 3-pos. straight M12 male connector, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1417833	PVC	4.5

Minimum order qty: 25 pcs.

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Cable description	Cable type
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534
PVC – gray, 0.5 mm²	500
PUR, halogen-free – black, 0.5 mm²	PUR
PUR, halogen-free – black, 1.0 mm² Type A valve connector only	121
PUR, halogen-free – yellow, 0.5 mm²	240
PUR, halogen-free – gray, 0.5 mm²	280
PUR, irradiated – orange, 0.5 mm²	150
PUR, highly flexible – gray, 0.5 mm²	800

Color coding		Pin assignment
BK1	1	4
BK2	2	3
GNYE		5

Technical data

		Connector
Rated voltage		24 V DC
Rated current	[A]	2
Contact material		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material of grip body		TPU
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90
Valve connectors	[°C]	-20 ... 85

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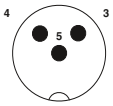
Valve connectors without wiring, cable type: PUR

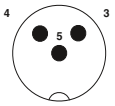
Notes:

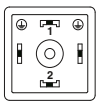
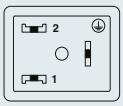
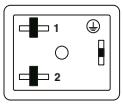
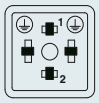
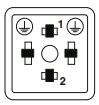
For information about the cable qualities, see page 318

Free end

M12 male connector





		Ordering data		Ordering data		Ordering data	
Type A			**Order No.**		**Order No.**		**Order No.**
		1.5 m 3 m 5 m 10 m Variable	1402983 1439544 1402984 1400732 1400897	Variable	1400895	Variable	1400896
Type B							
		Variable	1400909	Variable	1400903	Variable	1400905
Type BI							
		5 m 10 m Variable	1439065 1438862 1400902	Variable	1400900	Variable	1400901
Type C							
		5 m 10 m Variable	1400814 1400641 1400921	Variable	1400919	Variable	1400920
Type CI							
		Variable	1400918	Variable	1400916	Variable	1400917

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for type A, B, BI, C, CI valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, unwired type C valve connector, and a 3-pos. straight M12 male connector, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1400919	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Cable description	Cable type
PUR, halogen-free – black, 0.5 mm²	PUR
PUR, halogen-free – black, 1.0 mm² Type A valve connector only	121
PUR, halogen-free – yellow, 0.5 mm²	240
PUR, halogen-free – gray, 0.5 mm²	280
PUR, irradiated – orange, 0.5 mm²	150
PUR, highly flexible – gray, 0.5 mm²	800
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534
PVC – gray, 0.5 mm²	500

Color coding		Pin assignment
BK1	1	4
BK2	2	3
GNYE		5

		Technical data	Technical data
		Free end	**Connector**
Rated voltage		230 V AC / 230 V DC	48 V AC / 60 V DC
Rated current	[A]	6	4
Contact material		-	CuSn
Material contact surface M12		-	Ni/Au
Material contact surface valve connector		Sn	Sn
Material of grip body		-	TPU
Material, knurls		-	Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67	IP65 / IP67
Temperature data			
Male connector/female connector	[°C]	- ... -	-25 ... 90
Valve connectors	[°C]	-20 ... 85	-20 ... 85

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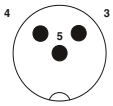
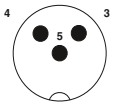
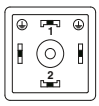
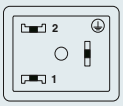
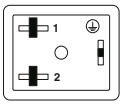
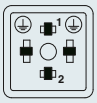
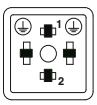
Valve connectors without wiring, cable type: PVC

Notes:
For information about the cable qualities, see page 318

		Free end		M12 male connector			
		Ordering data		Ordering data		Ordering data	
Type A			Order No.		Order No.		Order No.
		1.5 m	1415920				
		3 m	1415921				
		5 m	1402977				
		10 m	1402978				
		Variable	1400897	Variable	1400895	Variable	1400896
Type B							
		Variable	1400909	Variable	1400903	Variable	1400905
Type BI							
		Variable	1400902	Variable	1400900	Variable	1400901
Type C							
		Variable	1400921	Variable	1400919	Variable	1400920
Type CI							
		Variable	1400918	Variable	1400916	Variable	1400917

Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for type A, B, BI, C, CI valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PVC – black, unwired type C valve connector, and a 3-pos. straight M12 male connector, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1400919	PVC	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Cable description	Cable type
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534
PVC – gray, 0.5 mm²	500
PUR, halogen-free – black, 0.5 mm²	PUR
PUR, halogen-free – black, 1.0 mm² Type A valve connector only	121
PUR, halogen-free – yellow, 0.5 mm²	240
PUR, halogen-free – gray, 0.5 mm²	280
PUR, irradiated – orange, 0.5 mm²	150
PUR, highly flexible – gray, 0.5 mm²	800

Color coding		Pin assignment
BK1	1	4
BK2	2	3
GNYE		5

		Technical data	Technical data
		Free end	Connector
Rated voltage		230 V AC / 230 V DC	48 V AC / 60 V DC
Rated current	[A]	6	4
Contact material		-	CuSn
Material contact surface M12		-	Ni/Au
Material contact surface valve connector		Sn	Sn
Material of grip body		-	TPU
Material, knurls		-	Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67	IP65 / IP67
Temperature data			
Male connector/female connector	[°C]	- ... -	-25 ... 90
Valve connectors	[°C]	-20 ... 85	-20 ... 85

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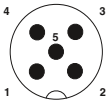
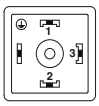
Valve connectors, pressure switches with 2 LEDs, cable type: PUR

Notes:

For information about the cable qualities, see page 318

	Free end	M12 male connector
		

		Ordering data		Ordering data		Ordering data
Type AD			**Order No.**		**Order No.**	**Order No.**
		1.5 m	1435085	0.3 m	1435030	
		3 m	1435098	0.6 m	1435043	
		5 m	1435108	1.5 m	1435056	
		10 m	1435111	3 m	1435069	
		Variable	1435124	Variable	1435072	

Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for type AD valve connector cables with 2 LEDs and variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, type AD valve connector with 2 LEDs, and a 5-pos. straight M12 connector, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1435072	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

Cable description	Cable type
PUR, halogen-free – black, 0.5 mm²	PUR
PUR, halogen-free – yellow, 0.5 mm²	240
PUR, halogen-free – gray, 0.5 mm²	280
PUR irradiated – orange, 0.5 mm²	150
PUR highly flexible – gray, 0.5 mm²	800
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534
PVC – gray, 0.5 mm²	500

Color coding		Pin assignment
BK1	1	1
BK2	2	2
BK3	3	4
BK2	4	3
GNYE		5

Technical data

		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	4
Contact material		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material of grip body		TPU
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90
Valve connectors	[°C]	-20 ... 85

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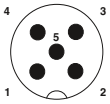
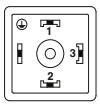
Valve connectors, pressure switches with 2 LEDs, cable type: PVC

Notes:
For information about the cable qualities, see page 318

	Free end	M12 male connector



Type AD		Ordering data	Order No.	Ordering data	Order No.	Ordering data	Order No.
		1.5 m	1415945				
		3 m	1415946				
		5 m	1438639				
		10 m	1438671				
		Variable	1435124	Variable	1435072		

Information for products with fixed cable length:

Products with fixed cable length are produced with the **PVC** cable type and are available from stock.

Ordering data for type AD valve connector cables with 2 LEDs and variable cable:

For a 4.5 m long sensor/actuator cable, PVC - black, type AD valve connector with 2 LEDs, and a 5-pos. straight M12 connector, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1435072	/ PVC	/ 4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

Cable description	Cable type
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534
PVC – gray, 0.5 mm²	500
PUR, halogen-free – black, 0.5 mm²	PUR
PUR, halogen-free – yellow, 0.5 mm²	240
PUR, halogen-free – gray, 0.5 mm²	280
PUR irradiated – orange, 0.5 mm²	150
PUR highly flexible – gray, 0.5 mm²	800

Color coding		Pin assignment
BK1	1	1
BK2	2	2
BK3	3	4
BK2	4	3
GNYE		5

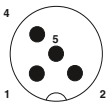
Technical data		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	4
Contact material		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material of grip body		TPU
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90
Valve connectors	[°C]	-20 ... 85

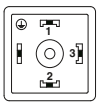
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Valve connectors, pressure switches without wiring

Notes:

For information about the cable qualities, see page 318

	Free end	M12 male connector
		

Type AD		Ordering data	Order No.	Ordering data	Order No.	Ordering data	Order No.
		3 m	1438956				
		Variable	1400899	Variable	1400898		

Ordering data for unwired type AD valve connector cables with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, unwired type AD valve connector, and a 4-pos. straight M12 connector, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1400898	/ PUR	/ 4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order amount:
25 pcs.

Cable description	Cable type
PUR, halogen-free – black, 0.5 mm²	PUR
PVC – black, 0.5 mm²	PVC
PVC – black, 0.75 mm²	534

Color coding		Pin assignment
BK1	1	1
BK2	2	2
BK3	3	4
GNYE		5

		Technical data	Technical data
		Free end	Connector
Rated voltage		230 V AC / 230 V DC	48 V AC / 60 V DC
Rated current	[A]	4	4
Contact material		-	CuSn
Material contact surface M12		-	Ni/Au
Material contact surface valve connector		Sn	Sn
Material of grip body		-	TPU
Material, knurls		-	Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67	IP65 / IP67
Temperature data			
Male connector/female connector	[°C]	- ... -	-25 ... 90
Valve connectors	[°C]	-20 ... 85	-20 ... 85

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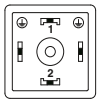
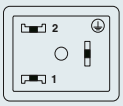
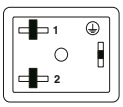
Double valve connectors with Zener diode

Notes:

For information about the cable qualities, see page 318

	Free end A = 10 cm		Free end A = 15 cm		Free end A = 20 cm	
	Ordering data		Ordering data		Ordering data	
Type A		**Order No.**		**Order No.**		**Order No.**
	1.5 m	1457982	1.5 m	1458020	1.5 m	1458062
	3 m	1457995	3 m	1458033	3 m	1458075
	5 m	1458004	5 m	1458046	5 m	1458088
	10 m	1458017	10 m	1458059	10 m	1458091
Type B						
	1.5 m	1458169	1.5 m	1458208	1.5 m	1458240
	3 m	1458172	3 m	1458211	3 m	1458253
	5 m	1458185	5 m	1458224	5 m	1458266
	10 m	1458198	10 m	1458237	10 m	1458279
Type BI						
	1.5 m	1458347	1.5 m	1458389	1.5 m	1458428
	3 m	1458350	3 m	1458392	3 m	1458431
	5 m	1458363	5 m	1458402	5 m	1458444
	10 m	1458376	10 m	1458415	10 m	1458457

		Technical data
		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	4
Material contact surface valve connector		Sn
Degree of protection		IP65 / IP67
Temperature data		
Valve connectors	[°C]	-25 ... 85

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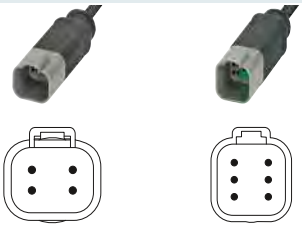
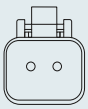
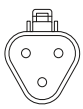
Valve connectors, Deutsch DT06 and DT04, without wiring

Notes:

For information about the cable qualities, see page 318



Free end		Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
			Order No.		Order No.		Order No.		Order No.		Order No.
						1.5 m 3 m 5 m 10 m	1414999 1415000 1415001 1415002	1.5 m 3 m 5 m 10 m	1415012 1415013 1415014 1415015	1.5 m 3 m 5 m 10 m	1415030 1415031 1415032 1415033
Female connector, 2-pos.											
		1.5 m 3 m 5 m 10 m	1410723 1410724 1410726 1410727	0.3 m 0.6 m 1.5 m 3 m	1414991 1414992 1414993 1414994						
Female connector, 3-pos.											
		1.5 m 3 m 5 m 10 m	1414995 1414996 1414997 1414998			0.3 m 0.6 m 1.5 m 3 m	1415003 1415004 1415005 1415006				
Female connector, 4-pos.											
		1.5 m 3 m 5 m 10 m	1415007 1415008 1415010 1415011					0.3 m 0.6 m 1.5 m 3 m	1415016 1415017 1415019 1415025		
Female connector, 6-pos.											
		1.5 m 3 m 5 m 10 m	1415026 1415027 1415028 1415029							0.3 m 0.6 m 1.5 m 3 m	1415035 1415036 1415037 1415038

		Technical data
		Connector
Rated voltage		48 V AC / 48 V DC
Rated current	[A]	8
Contact material		Cu alloy
Material contact surface M12		Nickel-plated
Material of grip body		PA
Material, knurls		not available
Degree of protection		IP67
Temperature data		
Male connector/female connector	[°C]	-20 ... 85

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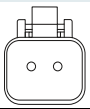
Valve connectors, Deutsch DT06-2S with LED

Notes:
For information about the cable qualities, see page 318

Free end

Ordering data

Female, 2-pos.		Order No.
	1.5 m	1410728
	3 m	1410729
	5 m	1410730
	10 m	1410731

Technical data

		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	8
Contact material		Cu alloy
Material contact surface M12		Nickel-plated
Material of grip body		PA
Material, knurls		not available
Degree of protection		IP67
Temperature data		
Male connector/female connector	[°C]	-20 ... 85

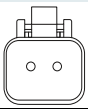
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Valve connectors, Deutsch DT06-2S with freewheeling diode

Notes:

For information about the cable qualities, see page 318

Free end

		Ordering data	
Female connector, 2-pos.			**Order No.**
		1.5 m	1410732
		3 m	1410733
		5 m	1410734
		10 m	1410735

		Technical data
		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	3
Contact material		Cu alloy
Material contact surface M12		Nickel-plated
Material of grip body		PA
Material, knurls		not available
Degree of protection		IP67
Temperature data		
Male connector/female connector	[°C]	-20 ... 85

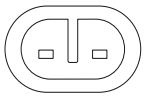
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

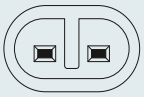
Valve connectors, Superseal

Notes:
For information about the cable qualities, see page 318

Free end

Connector



	Ordering data		Ordering data		Ordering data
Free end		**Order No.**		**Order No.**	**Order No.**
			1.5 m	1410752	
			3 m	1410753	
			5 m	1410755	
			10 m	1410756	
Female connector, straight					
	1.5 m	1410748	0.3 m	1410757	
	3 m	1410749	0.6 m	1410759	
	5 m	1410750	1.5 m	1410760	
	10 m	1410751	3 m	1410761	

		Technical data
		Connector
Rated voltage		24 V AC / 24 V DC
Rated current	[A]	8
Contact material		CuZn
Material of grip body		PA
Material, knurls		not available
Degree of protection		IP67
Temperature data		
Male connector/female connector	[°C]	-20 ... 85

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M8 Y cable, 3-pos., two cable outlets

Notes:

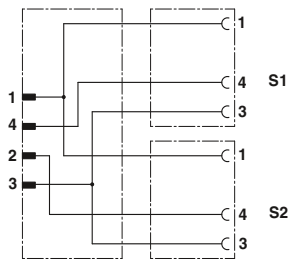
For information about the cable qualities, see page 318

M8 Y male connector

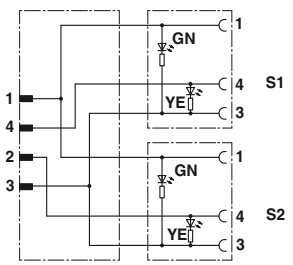
		Ordering data	
Free end			**Order No.**
		1.5 m	1458622
		3 m	1458635
		5 m	1458648
		10 m	1458651
M8 female connector, straight			
		0.3 m	1458664
		0.6 m	1458677
		1.5 m	1458680
		3 m	1458693
M8 female connector, angled			
		0.3 m	1458703
		0.6 m	1458716
		1.5 m	1458729
		3 m	1458732
M8 female connector, angled, with 2 LEDs			
		0.3 m	1458745
		0.6 m	1458758
		1.5 m	1458761
		3 m	1458774

Cable description	Cable type
PUR, halogen-free - black	PUR

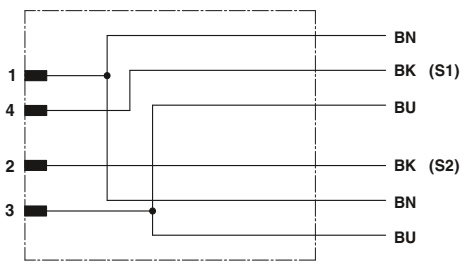
Color coding		Pin assignment, 3-pos.	
		Male	Female
BN		1	1
BK		2 + 4	4
BU		3	3



Contact assignment of the M8 connector and the M8 female connectors



Contact assignment of the M8 connector and the M8 female connectors, with LEDs



Contact assignment of the M8 Y connector

		Technical data	Technical data
		Y-M8	Y-M8 with LEDs
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC
Rated current	[A]	4	4
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
Material, knurls		Zinc die-cast, nickel-plated	Zinc die-cast, nickel-plated
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90

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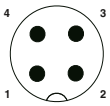
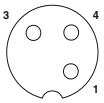
M12 Y distributors, 4-pos., one cable outlet

Notes:
For information about the cable qualities, see page 318
Further combinations on request.

Free end

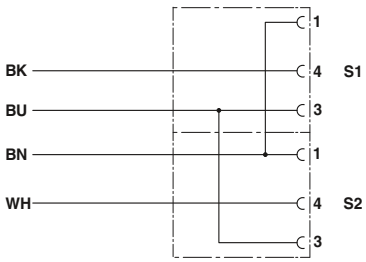
M12 male connector



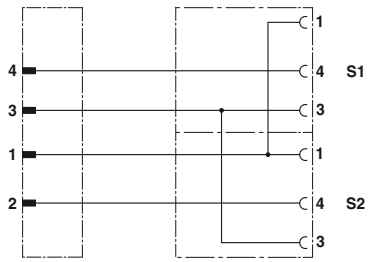
Y connector with 2 x M12 female connectors		Ordering data Order No.		Ordering data Order No.		Ordering data Order No.
		1.5 m	1436165	0.3 m	1436204	
		3 m	1436178	0.6 m	1436217	
		5 m	1436181	1.5 m	1436220	
		10 m	1436194	3 m	1436233	

Cable description	Cable type	Suitable for:
PUR, halogen-free - black	PUR	M12 4-pos.

Color coding		Pin assignment M12 4-pos.	M12-Y S1	M12-Y S2
BN		1	1	1
BK		4	4	–
WH		2	–	4
BU		3	3	3



Contact assignment: Y-distributor to free end



Contact assignment: Y-distributor to M12 SPEEDCON

Technical data		Y-M12
Rated voltage		48 V AC / 60 V DC
Rated current	[A]	4
Contact material		CuSn
Contact surface material		Ni/Au
Contact carrier material		TPU GF
M12 circular connector in accordance with:		IEC 61076-2-101
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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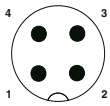
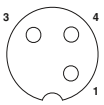
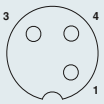
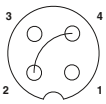
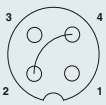
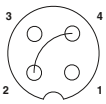
M12 Y-cable, 4-pos., two cable outlets

Notes:

For information about the cable qualities, see page 318

M12 Y male connector



Free end		Ordering data	Order No.
		1.5 m	1669686
		3 m	1669699
		5 m	1669754
		10 m	1694473
		Variable	1697357
M8 female connector, straight			
		0.3 m	1671331
		0.6 m	1671344
		1.5 m	1671357
		3 m	1671360
		Variable	1697399
M8 female connector, angled			
		0.3 m	1671373
		0.6 m	1671386
		1.5 m	1671399
		3 m	1671409
		Variable	1697409
M8 female connector, angled, with 2 LEDs			
		0.3 m	1671412
		0.6 m	1671425
		1.5 m	1671438
		3 m	1671441
		Variable	1697412
M12 female connector, straight			
		Variable	1699766
M12 female connector, angled			
		Variable	1506419
M12 female connector, straight, pin 2 – 4 bridged			
		0.3 m	1668959
		0.6 m	1668962
		1.5 m	1668975
		3 m	1668988
		Variable	1697360
M12 female connector, angled, pin 2 – 4 bridged			
		0.3 m	1668991
		0.6 m	1669000
		1.5 m	1669013
		3 m	1669026
		Variable	1697373
M12 female connector, angled, with LED, pin 2 – 4 bridged			
		0.3 m	1669039
		0.6 m	1669042
		1.5 m	1669055
		3 m	1669068
		Variable	1697386

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Information for products with fixed cable length:

Products with fixed cable length are produced with the halogen-free **PUR** cable type and are available from stock.

Ordering data for products with variable cable:

For a 4.5 m long sensor/actuator cable, PUR, halogen-free, black, with a straight 4-pos. M12 Y-connector and two straight M12 females, the ordering data is as follows:

Order No.	Cable type	Length [m] 40 m, maximum
1699766	PUR	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

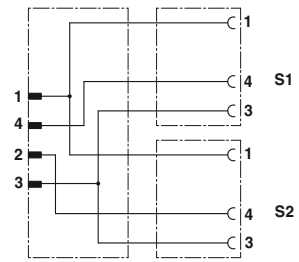
Minimum order amount:
25 pcs.

Cable description	Cable type	Suitable for:
PUR, halogen-free – black E221474	PUR	M8/M12
PUR, halogen-free – gray E221474	280	M12
TPE-U highly flexible – gray E221474	800	M8/M12
PUR irradiated – orange E221474	150	M12
PVC – black E221474	PVC	M8/M12
PVC – gray E221474	500	M8/M12
PVC – yellow E221474	540	M12
PVC 105° – yellow E221474	542	M12

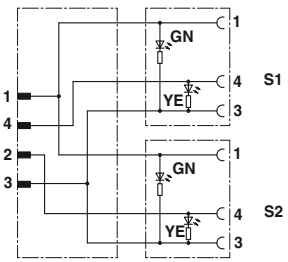
Color coding	Pin assignment, 3-pos. Male	Female
BN	1	1
BK	2 + 4	4
BU	3	3

With a combination of M12 and M8 connectors, the limiting M8 value applies to the rated voltage.

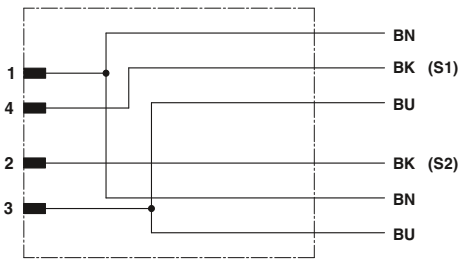
		Technical data Y-M8	Technical data Y-M8 with LEDs	Technical data Y-M12	Technical data Y-M12 with LEDs
Rated voltage		48 V AC / 60 V DC	24 V / 24 V DC	250 V AC / 250 V DC	24 V / 24 V DC
Rated current	[A]	4	4	4	4
Contact material		CuSn	CuSn	CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au	Ni/Au	Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	-	-
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Degree of protection		IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68	IP65 / IP67 / IP68
Temperature data					
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90	-25 ... 90	-25 ... 90



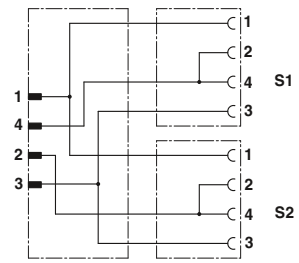
Contact assignment of the M12 male and the M8/M12 female connectors



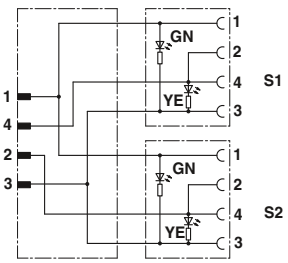
Contact assignment of the M12 male and the M8 female connectors, with LEDs



Contact assignment of the M12 Y connector



Contact assignment of the M12 male and the M12 female connector, bridged



Contact assignment of the M12 male and the M12 female connectors, with LEDs, bridged

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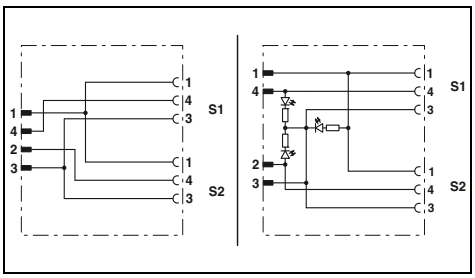
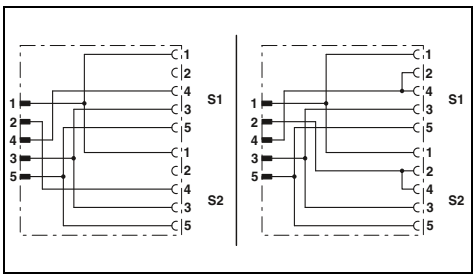
M8 and M12 Y distributors, M12 T distributors

3-pos.

3+PE-pos.





		Technical data		Technical data	
		Without LED	With 3 LEDs	Not bridged	Pins 2 and 4 bridged
General data					
M8 circular connector in accordance with:		IEC 61076-2-104	-	-	
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-101	
Degree of pollution		3		3	
Degree of protection		IP65 / IP67		IP65 / IP67	
Electrical data					
Rated voltage		48 V AC / 60 V DC	24 V DC	48 V AC / 60 V DC	
Rated current		4 A		4 A	
Material data					
Contact material		CuZn		CuZn	
Contact surface material		Ni/Au		Ni/Au	
Flammability rating in accordance with UL 94		HB		HB	
Temperature data					
Male connector/female connector	[°C]	-25 ... 90		-25 ... 90	

		Ordering data				Ordering data			
Description	Center distance	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		Without LED		With 3 LEDs		Not bridged		Pins 2 and 4 bridged	
M8/M12 Y-distributor									
M8 male to 2x M8 female	12 mm	1696183	5						
M12 male to 2x M8 female	12 mm	1683471	5						
M12 Y-distributor									
M12 male to 2x M12 female	18 mm					1683455	5	1683413	5
M12 male to 2x M12 female	21 mm					1511789	5	1514016	5
M12 Y-distributor									
M12 male to 2x M12 female	21 mm			1403627	5				
T-distributor									
M12 male to 2x M12 female								1519723	1

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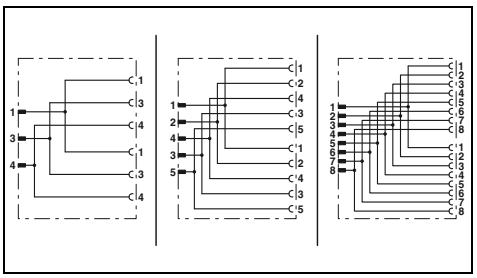
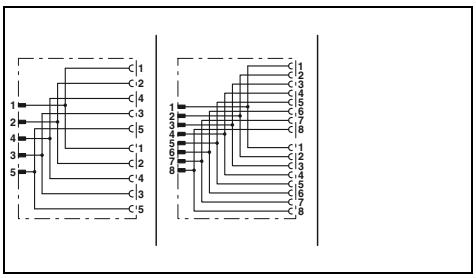
M8 and M12 Y distributors, parallel, M12 T distributors, parallel

3-, 5-, 8-pos.

5-, 8-pos., shielded





		Technical data			Technical data	
		3-pos.	5-pos.	8-pos.	5-pos.	8-pos.
General data						
M8 circular connector in accordance with:		IEC 61076-2-104	-		-	
M12 circular connector in accordance with:			IEC 61076-2-101		IEC 61076-2-101	
Degree of pollution			3		3	
Degree of protection			IP65 / IP67		IP65 / IP67	
Electrical data						
Rated voltage		48 V AC / 60 V DC		30 V AC / 30 V DC	48 V AC / 60 V DC	30 V AC / 30 V DC
Rated current		4 A		2 A	4 A	2 A
Material data						
Contact material			CuZn		CuZn	
Contact surface material			Ni/Au		Ni/Au	
Temperature data						
Male connector/female connector	[°C]		-25 ... 90		-25 ... 90	

		Ordering data						Ordering data					
Description	Center distance	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		3-pos.		5-pos.		8-pos.		5-pos.		8-pos.			
M8/M12 Y-distributor													
M8 male to 2x M8 female	12 mm	1696222	5										
M12 male to 2x M8 female	12 mm	1683549	5										
M12 Y-distributor													
M12 male to 2x M12 female	18 mm			1683468	5								
M12 male to 2x M12 female	21 mm			1514029	5								
M12 Y-distributor													
M12 male to 2x M12 female	18 mm			1546068	5								
M12 male to 2x M12 female	21 mm					1454972	5	1419920	5	1454969	5		
M12 male to M12 male/M12 female	21 mm							1438079	5				
M12 female to 2x M12 male	21 mm							1419946	5				
M12 female to M12 male/M12 female	21 mm							1419933	5				
M12 T distributor													
M12 male to 2x M12 female				1541186	1								
M12 T distributor, with two mounting holes													
M12 female to M12 male/M12 female				1424712	1								

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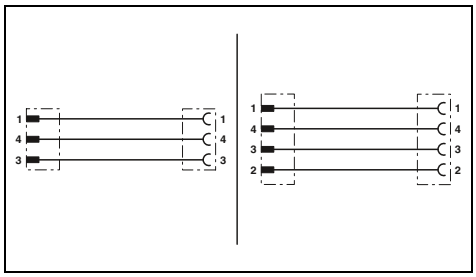
M8/M12 adapters

3-, 4-pos.



Technical data

		3-pos.	4-pos.
General data			
M8 circular connector in accordance with:		IEC 61076-2-104	
M12 circular connector in accordance with:		IEC 61076-2-101	
Degree of pollution		3	
Degree of protection		IP65 / IP67	
Electrical data			
Rated voltage		48 V AC / 60 V DC	30 V AC / 30 V DC
Rated current		4 A	
Material data			
Contact material		CuSn	
Contact surface material		Ni/Au	
Flammability rating in accordance with UL 94		HB	
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	

Ordering data

Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3-pos.		4-pos.	
Adapter				
M8 male to M12 female	1519749	5	1519736	5
M12 male to M8 female	1519752	5	1519765	5
M12 male to M8 snap-in female	1519781	5	1519778	5

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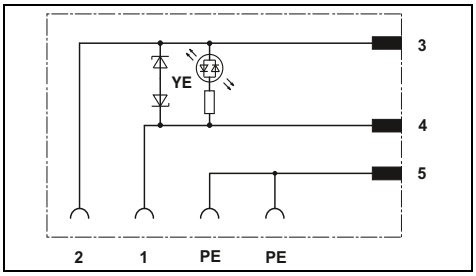
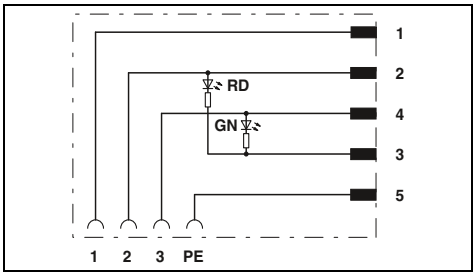
Valve connector adapters with M12 male connector

Valve connector type A

Valve connector, AD design, pressure switch





Technical data

General data		
M12 circular connector in accordance with:	IEC 61076-2-101	IEC 61076-2-101
Valve connector in accordance with:	EN 175301-803	EN 175301-803
Degree of pollution	3	3
Degree of protection	IP65 / IP67	IP65 / IP67
Electrical data in acc. with IEC 61076-2-101		
Rated voltage	24 V AC / 24 V DC	24 V AC / 24 V DC
Rated current	4 A	4 A
Status display	Yellow LED	2 LEDs
Material data		
Material contact M12	CuSn	CuSn
Material contact valve connector	CuSn	CuSn
Material contact surface M12	Ni/Au	Ni/Au
Material contact surface valve connector	Sn	Sn
Flammability rating in accordance with UL 94	HB	HB
Temperature data		
Valve connectors [°C]	-25 ... 85	-25 ... 85

Ordering data

Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Valve connector type A, PE bridged, 18 mm contact spacing						
– Vertical M12 male connector	**SAC-3P-MS/A-1L-Z SCO**	1458525	1			
– Horizontal M12 male connector	**SAC-3P-MR/A-1L-Z SCO**	1458538	1			
Valve connector type AD, 18 mm contact spacing						
– Vertical M12 male connector				**SAC-5P-MS/AD-2L SCO**	1458596	1
– Horizontal M12 male connector				**SAC-5P-MR/AD-2L SCO**	1458606	1
Valve connector type B, 10 mm contact spacing						
– Vertical M12 male connector						
– Horizontal M12 male connector						
Valve connector type BI, 11 mm contact spacing						
– Vertical M12 male connector						
– Horizontal M12 male connector						
DESINA valve connector type A, 18 mm contact spacing						
– Vertical M12 male connector						

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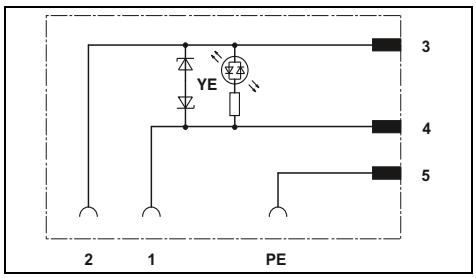
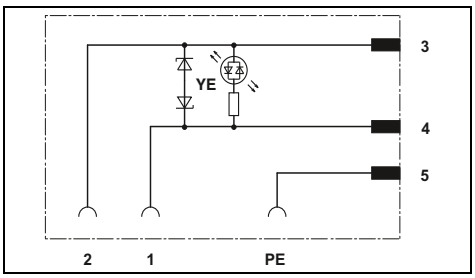
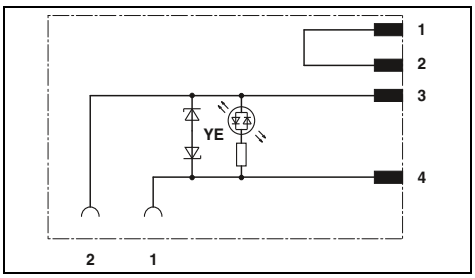
Valve connector type B

Valve connector type BI

DESINA valve connector type A







Technical data

IEC 61076-2-101 EN 175301-803 3 IP65 / IP67	
24 V AC / 24 V DC 4 A Yellow LED	
CuSn CuSn Ni/Au Sn HB	
-25 ... 85	

Technical data

IEC 61076-2-101 - 3 IP65 / IP67	
24 V AC / 24 V DC 4 A Yellow LED	
CuSn CuSn Ni/Au Sn HB	
-25 ... 85	

Technical data

IEC 61076-2-101 EN 175301-803 3 IP65 / IP67	
24 V AC / 24 V DC 4 A Yellow LED	
CuSn CuSn Ni/Au Sn HB	
-25 ... 85	

Ordering data

Type	Order No.	Pcs./Pkt.
SAC-3P-MS/B-1L-Z SCO	1458541	1
SAC-3P-MR/B-1L-Z SCO	1458554	1

Ordering data

Type	Order No.	Pcs./Pkt.
SAC-3P-MS/BI-1L-Z SCO	1458567	1
SAC-3P-MR/BI-1L-Z SCO	1458570	1

Ordering data

Type	Order No.	Pcs./Pkt.
SAC-4P-MS/A-1L-Z D SCO	1458583	1

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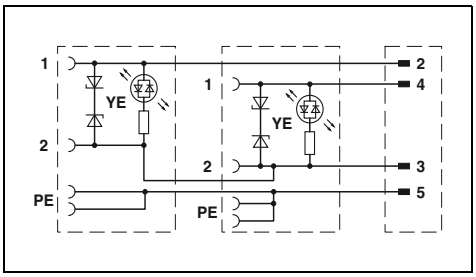
Double valve connector adapters with M12 male connector, type A

Type A



Technical data

General data		
M12 circular connector in accordance with:		IEC 61076-2-101
Valve connector in accordance with:		EN 175301-803
Degree of protection		IP65 / IP67
Electrical data		
Rated voltage		24 V AC / 24 V DC
Rated current		4 A
Material data		
Material contact M12		CuSn
Material contact valve connector		CuSn
Material contact surface M12		Ni/Au
Material contact surface valve connector		Sn
Material housing valve connector		TPU
Temperature data		
Valve connectors	[°C]	-25 ... 85

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Double valve connector, plug distance: 10 cm, valve connector leading to valve connector adapter with:			
– Vertical M12 male connector	**SAC-MS/0,1-116/2XA-1L-Z SCO**	**1458101**	1
– Horizontal M12 male connector	**SAC-MR/0,1-116/2XA-1L-Z SCO**	**1458130**	1
Double valve connector, plug distance: 15 cm, valve connector leading to valve connector adapter with:			
– Vertical M12 male connector	**SAC-MS/0,15-116/2XA-1L-Z SCO**	**1458114**	1
– Horizontal M12 male connector	**SAC-MR/0,15-116/2XA-1L-Z SCO**	**1458143**	1
Double valve connector, plug distance: 20 cm, valve connector leading to valve connector adapter with:			
– Vertical M12 male connector	**SAC-MS/0,2-116/2XA-1L-Z SCO**	**1458127**	1
– Horizontal M12 male connector	**SAC-MR/0,2-116/2XA-1L-Z SCO**	**1458156**	1

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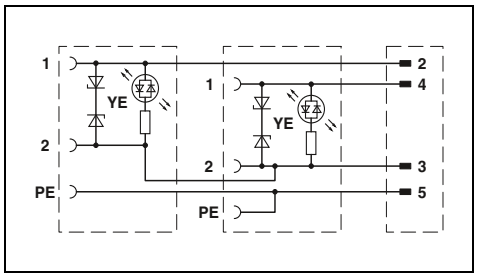
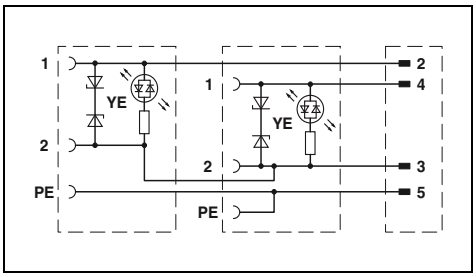
Double valve connector adapters with M12 male, type B and BI

Type B

Type BI





	Technical data	Technical data
General data		
M12 circular connector in accordance with:	IEC 61076-2-101	IEC 61076-2-101
Valve connector in accordance with:	EN 175301-803	-
Degree of protection	IP65 / IP67	IP65 / IP67
Electrical data		
Rated voltage	24 V AC / 24 V DC	24 V AC / 24 V DC
Rated current	4 A	4 A
Material data		
Material contact M12	CuSn	CuSn
Material contact valve connector	CuSn	CuSn
Material contact surface M12	Ni/Au	Ni/Au
Material contact surface valve connector	Sn	Sn
Material housing valve connector	TPU	TPU
Temperature data		
Valve connectors [°C]	-25 ... 85	-25 ... 85

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Double valve connector, plug distance: 10 cm, valve connector leading to valve connector adapter with:						
– Vertical M12 male connector	**SAC-MS/0,1-116/2XB-1L-Z SCO**	1458282	1	**SAC-MS/0,1-116/2XBI-1L-Z SCO**	1458460	1
– Horizontal M12 male connector	**SAC-MR/0,1-116/2XB-1L-Z SCO**	1458318	1	**SAC-MR/0,1-116/2XBI-1L-Z SCO**	1458499	1
Double valve connector, plug distance: 15 cm, valve connector leading to valve connector adapter with:						
– Vertical M12 male connector	**SAC-MS/0,15-116/2XB-1L-Z SCO**	1458295	1	**SAC-MS/0,15-116/2XBI-1L-Z SCO**	1458473	1
– Horizontal M12 male connector	**SAC-MR/0,15-116/2XB-1L-Z SCO**	1458321	1	**SAC-MR/0,15-116/2XBI-1L-Z SCO**	1458509	1
Double valve connector, plug distance: 20 cm, valve connector leading to valve connector adapter with:						
– Vertical M12 male connector	**SAC-MS/0,2-116/2XB-1L-Z SCO**	1458305	1	**SAC-MS/0,2-116/2XBI-1L-Z SCO**	1458486	1
– Horizontal M12 male connector	**SAC-MR/0,2-116/2XB-1L-Z SCO**	1458334	1	**SAC-MR/0,2-116/2XBI-1L-Z SCO**	1458512	1

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M8 distributors with metal thread

With a master cable

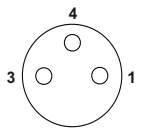
M12 male-in connection, vertical

M12 male-in connection, vertical

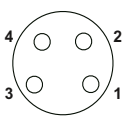
		Technical data	Technical data	Technical data
General data				
Degree of protection in acc. with IEC 60529/EN 60529		IP65 / IP67	IP65 / IP67	IP65 / IP67
M8 circular connector in accordance with:		IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104
M12 circular connector in accordance with:		-	IEC 61076-2-101	IEC 61076-2-101
Electrical data				
Rated current for each I/O signal	[A]	2	2	1.5
Rated current per slot	[A]	2	2	1.5
Rated current, total	[A]	6	4	1.5
Dimensions				
Width x height	[mm]	30 x 22	30 x 27	30 x 27
(Length (4 / 6 / 8 / 10 slots)	[mm]	102 / 122 / 141 / 161	93 / 113 / - / -	- / - / 133 / 152
Temperature data				
Distributor box	[°C]	-30 ... 80	-30 ... 80	-30 ... 80
Master cable, fixed installation	[°C]	-	-	-
Master cable, flexible installation	[°C]	-	-	-

					Ordering data		Ordering data		Ordering data	
Status indication	**Signal type**	**Rated voltage**	**Slots**	**Cable length**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**
With LED	PNP	24 V DC	4	-	-	-	1516234	-	-	-
With LED	PNP	24 V DC	4	5 m	1516014	-	-	-	-	-
With LED	PNP	24 V DC	4	10 m	1516027	-	-	-	-	-
With LED	PNP	24 V DC	6	-	-	-	1516247	-	-	-
With LED	PNP	24 V DC	6	5 m	1516030	-	-	-	-	-
With LED	PNP	24 V DC	6	10 m	1516043	-	-	-	-	-
With LED	PNP	24 V DC	8	-	-	-	-	-	1434840	-
With LED	PNP	24 V DC	8	5 m	1516056	1516111	-	-	-	-
With LED	PNP	24 V DC	8	10 m	1516069	1516124	-	-	-	-
With LED	PNP	24 V DC	10	-	-	-	-	-	1434853	-
With LED	PNP	24 V DC	10	5 m	1516072	-	-	-	-	-
With LED	PNP	24 V DC	10	10 m	1516085	-	-	-	-	-

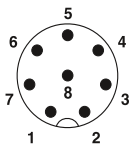
	Notes:	Notes:	Notes:
For accessories, see page	**311**	**311**	**311**
For master cable coils, see page		**305**	**305**
For master cable data, see page	**330**		



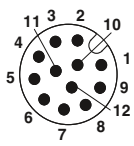
Pin assignment M8 female, 3-pos.



Pin assignment M8 female, 4-pos.



Connector pin assignment for M12 male-in connection, 8-pos.



Pin assignment for M12 male-in connection, 12-pos.

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M16 plug-in connection, vertical

Spring connection, horizontal

Plug-in screw connection, horizontal

Header for plug-in screw connection

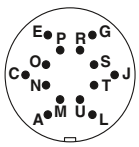
Connector hood, with a master cable

Connector hood, without master cable

Technical data	Technical data	Technical data	Technical data	Technical data	Technical data
IP65 / IP67	IP65 / IP67	IP65 / IP67	IP65 / IP67	IP65 / IP67	IP65 / IP67
IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104	IEC 61076-2-104	-	-
-	-	-	-	-	-
2	2	2	2	2	2
2	2	2	2	2	2
6	6	8	8	8	-
30 x 26	30 x 44	30 x 44	30 x 20	30 x 24	30 x 24
93 / 113 / 132 / 152	122 / 142 / 176 / 196	122 / 142 / 176 / 196	122 / 142 / 176 / 196	60 / 60 / 74 / 74	- / - / - / -
-30 ... 80	-30 ... 80	-30 ... 80	-30 ... 80	-30 ... 80	-30 ... 80
-	-	-	-	-40 ... 90	-
-	-	-	-	-5 ... 80	-

Ordering data		Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
Single occupancy	Double occupancy	Single occupancy	Double occupancy	Single occupancy	Double occupancy	Single occupancy	Double occupancy	Single occupancy	Double occupancy	Single occupancy	Double occupancy
1516182	-	1503386	-	1503412	-	1516250	-	-	-	1521229	-
-	-	-	-	-	-	-	-	1516292	-	-	-
-	-	-	-	-	-	-	-	1516302	-	-	-
1516195	-	1503399	-	1503425	-	1516263	-	-	-	1521216	-
-	-	-	-	-	-	-	-	1516315	-	-	-
-	-	-	-	-	-	-	-	1516328	-	-	-
1516205	-	1511747	1503454	1511750	1503467	1516276	-	-	-	1516425	-
-	-	-	-	-	-	-	-	1516331	-	-	-
-	-	-	-	-	-	-	-	1516344	-	-	-
1516218	-	1503409	-	1503438	-	1516289	-	-	-	1516412	-
-	-	-	-	-	-	-	-	1516357	-	-	-
-	-	-	-	-	-	-	-	1516360	-	-	-

Notes:	Notes:	Notes:	Notes:	Notes:	Notes:
310 305	310 305	310 305	310	310 330	



Connector pin assignment for M16 plug-in connection, 14-pos.

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M12 distributors with plastic thread, middle duty

With a master cable

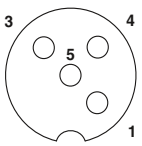
Spring connection, horizontal

Push-in spring connection, horizontal

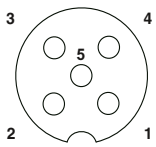
		Technical data	Technical data	Technical data
General data				
Degree of protection in acc. with IEC 60529/EN 60529		IP65 / IP67	IP65 / IP67	IP65 / IP67
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Electrical data				
Rated current for each I/O signal	[A]	2	2	2
Rated current per slot	[A]	4	4	4
Rated current, total	[A]	12	12	-
Dimensions				
Width x height	[mm]	54 x 23	54 x 42	54 x 43
(Length (4 / 6 / 8 / 10 slots)	[mm]	117 / 123 / 149 / -	117 / 123 / 149 / -	117 / 123 / 149 / -
Temperature data				
Distributor box	[°C]	-25 ... 80	-25 ... 80	-25 ... 80
Master cable, fixed installation	[°C]	-40 ... 90	-	-
Master cable, flexible installation	[°C]	-5 ... 80	-	-

					Ordering data		Ordering data		Ordering data	
Status indication	**Signal type**	**Rated voltage**	**Slots**	**Cable length**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**
Without LED	Universal	120 V	4	-	-	-	1452929	1452932	-	-
Without LED	Universal	120 V	4	5 m	1452398	1452424	-	-	-	-
Without LED	Universal	120 V	6	-	-	-	1452945	1452958	-	-
Without LED	Universal	120 V	6	5 m	-	1452482	-	-	-	-
Without LED	Universal	120 V	6	10 m	1452466	1452495	-	-	-	-
Without LED	Universal	120 V	8	-	-	-	-	1452974	-	-
Without LED	Universal	120 V	8	5 m	1452518	1452547	-	-	-	-
Without LED	Universal	120 V	8	10 m	1452521	1452550	-	-	-	-
With LED	PNP	24 V DC	4	-	-	-	1452987	1452990	-	1412058
With LED	PNP	24 V DC	4	1.5 m	-	1097569	-	-	-	-
With LED	PNP	24 V DC	4	5 m	1452576	1452602	-	-	-	-
With LED	PNP	24 V DC	4	10 m	1452589	1452615	-	-	-	-
With LED	PNP	24 V DC	4	15 m	-	1097602	-	-	-	-
With LED	PNP	24 V DC	4	20 m	-	1027009	-	-	-	-
With LED	PNP	24 V DC	6	-	-	-	1453009	1453012	-	1412059
With LED	PNP	24 V DC	6	5 m	1452631	1452660	-	-	-	-
With LED	PNP	24 V DC	6	10 m	1452644	1452673	-	-	-	-
With LED	PNP	24 V DC	8	-	-	-	1453025	1453038	-	1412060
With LED	PNP	24 V DC	8	1.5 m	-	1097612	-	-	-	-
With LED	PNP	24 V DC	8	3 m	-	1097629	-	-	-	-
With LED	PNP	24 V DC	8	5 m	1452699	1452725	-	-	-	-
With LED	PNP	24 V DC	8	10 m	1452709	1452738	-	-	-	-
With LED	PNP	24 V DC	8	15 m	-	1097635	-	-	-	-
With LED	PNP	24 V DC	8	20 m	-	1027000	-	-	-	-
-	-	120 V	8	25 m	-	-	-	-	-	-
-	-	120 V	8	30 m	-	-	-	-	-	-
-	-	120 V	8	50 m	-	-	-	-	-	-
With LED	NPN	24 V DC	8	5 m	1405737	1405739	-	-	-	-
With LED	NPN	24 V DC	8	10 m	1405738	1405740	-	-	-	-

	Notes:	Notes:	Notes:
For accessories, see page	**312**	**312**	**312**
For master cable coils, see page		**305**	**305**
For master cable data, see page	**331**		



Pin assignment of M12 female, 4-pos.



Pin assignment of M12 female, 5-pos.

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Plug-in screw connection, horizontal

Header for plug-in screw connection

Connector hood, with master cable, with plug-in screw connection

Connector hood, without master cable, with plug-in screw connection

Technical data							
IP65 / IP67 IEC 61076-2-101		IP65 / IP67 IEC 61076-2-101		IP65 / IP67 -		IP65 / IP67 -	
2 4 10		2 4 10		2 4 10		2 4 -	
54 x 43 117 / 123 / 149 / -		54 x 19 117 / 123 / 149 / -		54 x 25 34 / 34 / 34 / -		54 x 25 34 / 34 / 34 / -	
-25 ... 80 - -		-25 ... 80 - -		-25 ... 80 -40 ... 90 -5 ... 80		-25 ... 80 - -	
Ordering data							
Single occupancy	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**
1452741	1452754	-	-	-	-	-	-
-	-	-	-	-	-	-	-
1452767	1452770	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
1452783	1452796	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
1452806	1452819	1452864	1452877	-	-	1453229	1453229
-	-	-	-	-	-	-	-
-	-	-	-	-	1453083	-	-
-	-	-	-	-	1453096	-	-
-	-	-	-	-	1422784	-	-
-	-	-	-	-	-	-	-
1452822	1452835	1452880	1452893	-	-	1453229	1453229
-	-	-	-	-	1453148	-	-
-	-	-	-	1453122	-	-	-
1452848	1452851	1452903	1452916	-	-	1453229	1453229
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	1453177	1453203	-	-
-	-	-	-	1453180	1453216	-	-
-	-	-	-	-	1422787	-	-
-	-	-	-	-	1097653	-	-
-	-	-	-	-	1097661	-	-
-	-	-	-	-	1097665	-	-
-	-	-	-	-	1097669	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
Notes:		**Notes:**		**Notes:**		**Notes:**	
312 305		312		312 331		312	

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M12 distributors with metal thread, heavy-duty

With a master cable

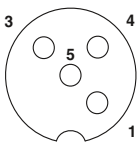
With halogen-free master line

Plug-in screw connection, horizontal

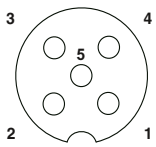
		Technical data	Technical data	Technical data
General data				
Degree of protection in acc. with IEC 60529/EN 60529		IP65 / IP67 / IP69K	IP65 / IP67 / IP69K	IP65 / IP67 / IP69K
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Electrical data				
Rated current for each I/O signal	[A]	2	2	2
Rated current per slot	[A]	4	4	4
Rated current, total	[A]	12	12	10
Total rated current for electrical isolation	[A]	-	-	2x 8
Dimensions				
Width x height	[mm]	58 x 26	58 x 26	58 x 45
(Length (4 / 6 / 8 / 10 slots)	[mm]	117 / 126 / 153 / -	116 / 126 / 153 / -	117 / 126 / 153 / -
Temperature data				
Distributor box	[°C]	-30 ... 90	-30 ... 90	-30 ... 80
Master cable, fixed installation	[°C]	-40 ... 90	-40 ... 90	-
Master cable, flexible installation	[°C]	-5 ... 80	-5 ... 80	-

					Ordering data		Ordering data		Ordering data	
Status indication	**Signal type**	**Rated voltage**	**Slots**	**Cable length**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**
Without LED	Universal	120 V	4	-	-	-	-	-	1516849	1516852
Without LED	Universal	120 V	4	5 m	1516962	1516988	-	1517204	-	-
Without LED	Universal	120 V	4	10 m	1516975	1516991	-	1517217	-	-
Without LED	Universal	120 V	6	-	-	-	-	-	1516865	1516878
Without LED	Universal	120 V	6	5 m	1517000	1517026	-	1517220	-	-
Without LED	Universal	120 V	6	10 m	1517013	1517039	-	1517233	-	-
Without LED	Universal	120 V	8	-	-	-	-	-	1516881	1516894
Without LED	Universal	120 V	8	5 m	1517042	1517068	-	1517246	-	-
Without LED	Universal	120 V	8	10 m	1517055	1517071	-	1517259	-	-
With LED	PNP	24 V DC	4	-	-	-	-	-	1516784	1516797
With LED	PNP	24 V DC	4	5 m	1517084	1517107	-	1517262	-	-
With LED	PNP	24 V DC	4	10 m	1517097	1517110	-	1517275	-	-
With LED	PNP	24 V DC	6	-	-	-	-	-	1516807	1516810
With LED	PNP	24 V DC	6	5 m	1517123	1517149	-	1517288	-	-
With LED	PNP	24 V DC	6	10 m	1517136	1517152	-	1517291	-	-
With LED	PNP	24 V DC	8	-	-	-	-	-	1516823	1516836
With LED	PNP	24 V DC	8	1.5 m	-	-	-	-	-	-
With LED	PNP	24 V DC	8	5 m	1517165	1517181	-	1517301	-	-
With LED	PNP	24 V DC	8	10 m	1517178	1517194	-	1517314	-	-
With LED	NPN	24 V DC	4	-	-	-	-	-	1537077	1537103
With LED	NPN	24 V DC	6	-	-	-	-	-	1537080	1537116
With LED	NPN	24 V DC	8	-	-	-	-	-	1537093	1537129

	Notes:	Notes:	Notes:
For accessories, see page	**313**	**313**	**313**
For master cable coils, see page			**305**
For master cable data, see page	**331**	**333**	



Pin assignment of M12 female, 4-pos.



Pin assignment of M12 female, 5-pos.

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Header for plug-in screw connection

Connector hood, with a master cable

Connector hood, without master cable

With master cable connection, rear

Plug-in spring connection, back

With FLK pin strip, rear

Technical data													
IP65 / IP67 / IP69K IEC 61076-2-101		IP65 / IP67 / IP69K -		IP65 / IP67 / IP69K -		IP54 IEC 61076-2-101		IP54 IEC 61076-2-101		IP54 IEC 61076-2-101	
2 4 10 2x 8		2 4 10 -		2 4 - -		2 4 12 -		2 4 8 -		0.5 0.5 4 8	
58 x 26 117 / 126 / 153 / -		58 x 21 34 / 34 / 34 / -		58 x 21 - / - / - / -		58 x 28 - / - / 159 / -		58 x 28 - / - / 159 / -		58 x 28 - / - / 159 / -	
-30 ... 80 - -		-30 ... 80 -40 ... 90 -5 ... 80		-30 ... 80 - -		-30 ... 80 - -		-30 ... 80 - -		-30 ... 80 - -	
Ordering data		**Ordering data**		**Ordering data**		**Ordering data**		**Ordering data**		**Ordering data**	
Single occupancy	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
1516726	1516739	-	-	1516713	1516713	-	-	-	-	-	-
-	-	1516353	1516593	-	-	-	-	-	-	-	-
-	-	1516548	1516603	-	-	-	-	-	-	-	-
1516742	1516755	-	-	1516713	1516713	-	-	-	-	-	-
-	-	1516551	1516616	-	-	-	-	-	-	-	-
-	-	1516564	1516629	-	-	-	-	-	-	-	-
1516768	1516771	-	-	1516713	1516713	-	-	-	1437232	1547928	-
-	-	-	-	-	-	1437245	-	-	-	-	-
-	-	1516577	1516632	-	-	-	-	-	-	-	-
-	-	1516580	1516645	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
Notes:		**Notes:**		**Notes:**		**Notes:**		**Notes:**		**Notes:**	
313		313 331		313		313		313 331		313	

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QUICKON distributors, connection cross section: 0.14 mm² ... 0.34 mm²

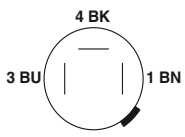
With a master cable

Plug-in screw connection, horizontal

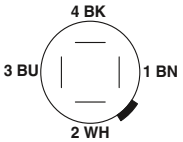
		Technical data	Technical data
General data			
Degree of protection in acc. with IEC 60529/EN 60529		IP65 / IP67 / IP69K	IP65 / IP67 / IP69K
Electrical data			
Rated current for each I/O signal	[A]	2	2
Rated current per slot	[A]	4	4
Rated current, total	[A]	12	10
Total rated current for electrical isolation	[A]	-	2x 8
Dimensions			
Width x height	[mm]	58 x 45	58 x 45
(Length (4 / 6 / 8 / 10 slots)	[mm]	116 / - / 153 / -	117 / 126 / 153 / -
Temperature data			
Distributor box	[°C]	-30 ... 80	-30 ... 80
Master cable, fixed installation	[°C]	-40 ... 90	-
Master cable, flexible installation	[°C]	-5 ... 80	-

					Ordering data		Ordering data	
Status indication	**Signal type**	**Rated voltage**	**Slots**	**Cable length**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**
Without LED	Universal	48 V	4	-	-	-	1548354	1548419
Without LED	Universal	48 V	6	-	-	-	1548367	1548422
Without LED	Universal	48 V	8	-	-	-	1548370	1548435
With LED	PNP	24 V DC	4	-	-	-	1548325	1548383
With LED	PNP	24 V DC	4	5 m	1548448	1548532	-	-
With LED	PNP	24 V DC	4	10 m	1548451	1548545	-	-
With LED	PNP	24 V DC	6	-	-	-	1548338	1548396
With LED	PNP	24 V DC	8	-	-	-	1548341	1548406
With LED	PNP	24 V DC	8	5 m	1548480	1548574	-	-
With LED	PNP	24 V DC	8	10 m	1548493	1548587	-	-

	Notes:	Notes:
For accessories, see page	**315**	**315**
For master cable coils, see page		**305**
For master cable data, see page	**330**	



Pin assignment for QUICKON connection, 3-pos.



Pin assignment for QUICKON connection, 4-pos.

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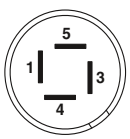
QUICKON distributors, connection cross section: 0.34 mm² ... 0.75 mm²

With a master cable

Spring connection, horizontal

		Technical data	Technical data
General data			
Degree of protection in acc. with IEC 60529/EN 60529		IP65 / IP67	IP65 / IP67
Electrical data			
Rated current for each I/O signal	[A]	4	4
Rated current per slot	[A]	4	4
Rated current, total	[A]	12	12
Dimensions			
Width x height	[mm]	60 x 44	60 x 44
(Length (4 / 6 / 8 / 10 slots)	[mm]	97 / 134 / 170 / -	132 / 168 / 205 / -
Temperature data			
Distributor box	[°C]	-25 ... 60	-25 ... 60
Master cable, fixed installation	[°C]	-40 ... 90	-
Master cable, flexible installation	[°C]	-5 ... 80	-

					Ordering data		Ordering data	
Status indication	**Signal type**	**Rated voltage**	**Slots**	**Cable length**	**Single occupancy**	**Double occupancy**	**Single occupancy**	**Double occupancy**
Without LED	Universal	120 V	4	-	-	-	1683633	-
Without LED	Universal	120 V	4	5 m	1683662	-	-	-
Without LED	Universal	120 V	4	10 m	1683675	-	-	-
Without LED	Universal	120 V	6	-	-	-	1683646	-
Without LED	Universal	120 V	6	5 m	1683688	-	-	-
Without LED	Universal	120 V	6	10 m	1683691	-	-	-
Without LED	Universal	120 V	8	-	-	-	1683659	-
Without LED	Universal	120 V	8	5 m	1683701	-	-	-
Without LED	Universal	120 V	8	10 m	1683714	-	-	-
With LED	PNP	24 V DC	4	-	-	-	1662939	-
With LED	PNP	24 V DC	4	5 m	1695223	-	-	-
With LED	PNP	24 V DC	4	10 m	1695236	-	-	-
With LED	PNP	24 V DC	6	-	-	-	1662942	-
With LED	PNP	24 V DC	6	5 m	1695252	-	-	-
With LED	PNP	24 V DC	6	10 m	1695265	-	-	-
With LED	PNP	24 V DC	8	-	-	-	1662955	-
With LED	PNP	24 V DC	8	5 m	1695281	-	-	-
With LED	PNP	24 V DC	8	10 m	1695294	-	-	-
With LED	NPN	24 V DC	4	-	-	-	1680856	-
With LED	NPN	24 V DC	6	-	-	-	1680869	-
With LED	NPN	24 V DC	8	-	-	-	1680872	-



Pin assignment for QUICKON connection, 4-pos.

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Fast and secure connection

The M12 connectors snap into place quickly and securely with a single click thanks to the push-pull fast locking system. This offers significant advantages in particular in confined spaces or when the mating connector is difficult to see. The 360° shield connection and high vibration resistance also enable use in rail vehicles.

Connectors for assembly

With our M12 connectors for assembly, you can adapt the cabling flexibly to your requirements. In addition to connectors with convenient QUICKON (IDC) connection, we also offer versions with robust crimp and spring connection.

Assembled cables

The molded connectors in our M12 RAIL series provide a reliable cabling system for all control levels in the train. Choose your cabling from assembled sensor/actuator cables and data cables for communication networks and passenger information systems.

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Flame-retardant

An important aspect in the selection of the plastics used in the railway industry is their flame retardancy. We satisfy stringent requirements regarding behavior in fire, thanks to our irradiated railway cables and PA 6.6 molding material.

Securely locked

The special vibration brake prevents the unintentional loosening of the plug-in connection in the event of vibrations.

The connectors are tested in accordance with EN 50155 for resistance to shock and vibrations.

Temperature-resistant

Particularly high or low temperatures and temperature shocks may not affect the electrical function of the components used either.

Our products are intensively tested for an extended temperature range and for resistance to temperature shocks.

Certified in accordance with IRIS

The Phoenix Contact Group is currently IRIS-certified. IRIS is an international rail industry standard for quality management systems.

Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # followed by the numbers in the search field.

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@stevenengineering.com - www.stevenengineering.com

Resistance to cleaning agents

The connectors in a hygienic and washdown design are tested for resistance to cleaning agents commonly used in the food industry in accordance with Diversey and ECOLAB standards.

Product-contacting area

The components and devices used here must meet the highest hygienic requirements. Our cabling in a hygienic design is suitable for use in this area.

Splash zone

The products in a washdown design are suitable for the splash zone. Cost-effective features include resistance to cleaning agents and cleaning methods.

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Connectors for the splash zone

For the special requirements of the food industry, we offer flush-type connectors and connectors with stainless steel components for assembly.

Assembled cables for all areas

Molded cables are available with connectors in sizes M8 and M12 in a hygienic or washdown design.

Distributor boxes for the splash zone

Distributor boxes with stainless steel housing and permanently connected PVC master cable in a washdown design are available for the splash zone.

Mechanical resistance

All components for the food industry are IP69K tested. This means guaranteed sealing for applications with steam jets, even after repeated temperature shocks.

Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # followed by the numbers in the search field.

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Adapted to the relevant requirements

Through the selection of special materials, the components are designed for use outdoors. The materials are resistant to UV, ozone, corrosion, and heat.

For a variety of applications

Outdoor components are particularly suitable for use in traffic management systems, snow cats and snow cannons, photovoltaic systems, and wind turbine generators.

UV and ozone testing

Testing with special climate cabinets ensures that the connectors and cables are suitable for the control of solar plants, for example, without any restrictions.

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Connectors for assembly

The connector knurls are made from stainless steel and the plastics are resistant to atmospheric influences. The connectors are available with insulation displacement connection and screw connection.

Assembled cables

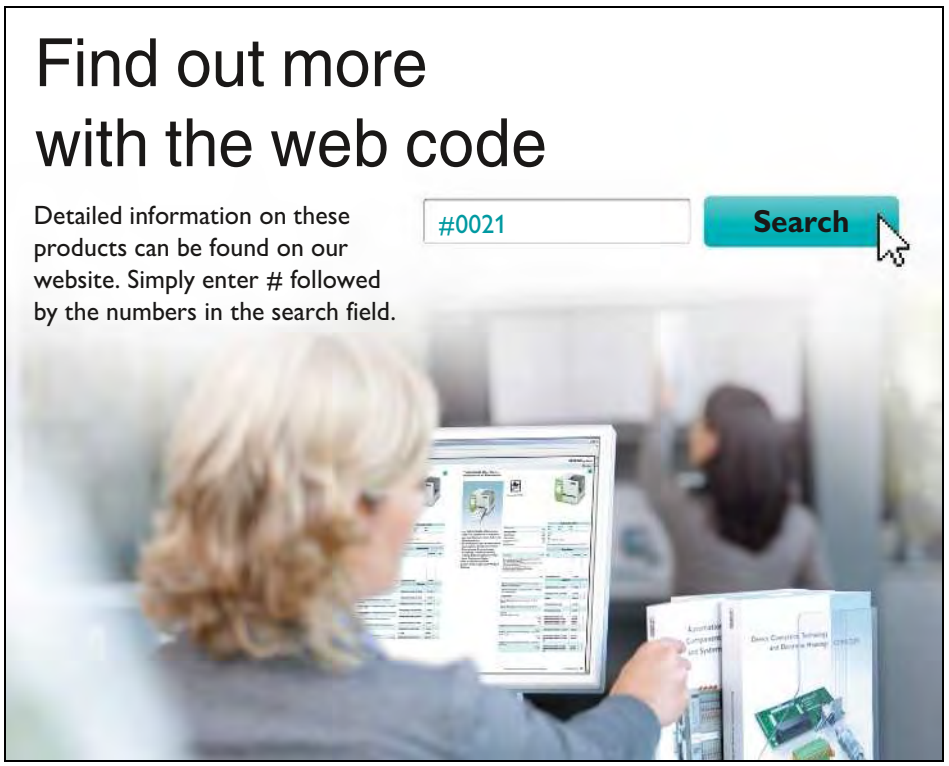
In addition to 3- to 8-pos. shielded and unshielded versions, PROFINET and Ethernet cables are also available for data applications.

Distributor boxes

Robust, fully molded sensor/actuator distributor boxes with 8 slots are available with fixed master cable or plug-in screw connection.

IP69K protection

For outdoor applications, a high IP protection class is essential because products are exposed to direct atmospheric influences.



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High level of durability

With their special design, our cables provide a high level of durability under alternating bending stress, e.g., in drag chains.

High level of resistance to welding sparks

The robust TPE-U outer sheath of the highly flexible cables is resistant to welding sparks. The cables can therefore be used in resistance welding processes.

High level of durability under torsional stress

Our cables achieve a high level of durability – even with large angles of torsion and simultaneous bending stress.

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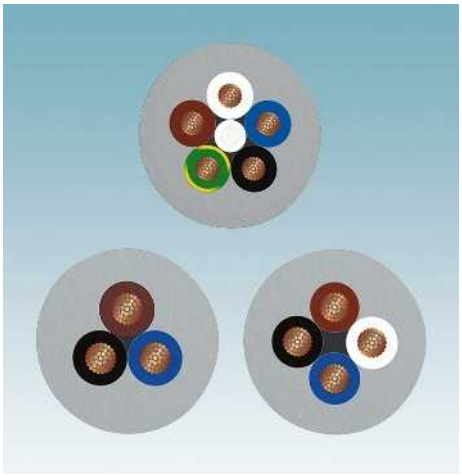


Large selection of number of positions

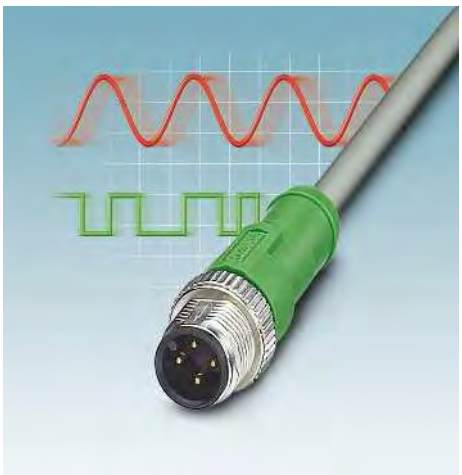
Our sensor/actuator cables for robots and drag chains are available in 3-, 4-, and 5-pos. versions.

Large selection of connectors

Sensor/actuator cables with molded plug-in plugs are available both as male and female connectors and with a straight or angled cable outlet.

Highly flexible master cables

For the distribution or grouping of signals at industrial robots, we offer a corresponding sensor/actuator box with special master cable.



100% tested

All supplied components are 100% electrically tested by Quality Assurance.

Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # followed by the numbers in the search field.

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Maximum power in a compact design

You can use the compact M12 POWER connectors to supply devices with up to 16 A or up to 630 V depending on the version. The M12 size therefore opens up new areas of application for supplying energy to your electrical devices.

DC application

The M12 POWER T and L DC codings are particularly suitable for the supply connection for decentral I/O modules and for DC motors.

AC application

The M12 POWER S, K, and M codings are designed for AC applications such as the power connection of a three-phase motor.

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Connectors for assembly

The M12 connectors in straight and angled versions with crimp and screw connection are available for power transmission.

Safe transmission

With 360° shielded connectors and cables, you can transmit signals reliably even in critical EMI applications.

Power distributors

An M12 box with and without diagnostics function plus a Y-distributor with T-coding are available for power distribution.

100% tested

All supplied components are 100% electrically tested by Quality Assurance.

Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # followed by the numbers in the search field.

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M12 POWER connectors, screw connection, crimp connection

Further power codings can be found on our website under web code:

Your web code: #0024

new

T-coded, 4-pos.

new

L-coded, 4-pos., 4-pos.+FE

	Technical data			Technical data		
	4-pos., unshielded	4-pos., shielded		4-pos. + FE, shielded	4-pos., shielded	4-pos. + FE, shielded
General data						
Degree of pollution	3	3		3	3	3
Degree of protection	IP67	IP65		IP67	IP65	IP65
Connection method	Screw connection	Crimp connection		Screw connection	Crimp connection	Crimp connection
Connection cross section [mm²]	0.75 mm² ... 1.5 mm²	1.5 mm² ... 2.5 mm²		1.5 mm² ... 2.5 mm²	1.5 mm² ... 2.5 mm²	1.5 mm² ... 2.5 mm²
Electrical data						
Rated voltage	63 V DC	63 V DC		63 V DC	63 V DC	63 V DC
Rated current	12 A (when using 1.5 mm² conductors)	12 A (when using 1.5 mm² conductors)		16 A (when using 2.5 mm² conductors)	16 A (when using 2.5 mm² conductors)	16 A (when using 2.5 mm² conductors)
Insulation resistance	> 10 GΩ	≥ 100 MΩ		> 10 GΩ	≥ 100 MΩ	≥ 100 MΩ
Material data						
Material contact/contact surface	CuZn / Au	- / -		CuZn / Au	- / -	- / -
Contact carrier material	PA	PA		PA	PA	PA
Flammability rating in accordance with UL 94	V0	V0		V0	V0	V0
Temperature data						
Male connector/female connector [°C]	-40 ... 85	-40 ... 85		-40 ... 85	-40 ... 85	-40 ... 85

	Ordering data						Ordering data					
Description	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	4-pos., unshielded		4-pos., shielded				4-pos. + FE, shielded		4-pos., shielded		4-pos. + FE, shielded	
Connector, cable diameter: **8 mm ... 10 mm**												
Female, straight	1404644	1										
Male, straight	1404643	1										
Female, angled	1408989	1										
Male, angled	1408988	1										
Connector, cable diameter: **8 mm ... 13 mm**												
Female, straight							1424710	1				
Male, straight							1424709	1				
Connector, without contacts, cable diameter: **6.5 mm ... 11 mm**												
Female, straight			1027466	1								
Male, straight			1027465	1								
Connector, without contacts, cable diameter: **8 mm ... 13 mm**												
Female, straight									1027480	1	1027478	1
Male, straight									1027479	1	1027477	1
Crimp contacts for male connector, gold-plated, for conductor cross-section:												
Male, 1.5 mm², AWG 14			1029394	1					1029394	1	1029394	1
Male, 2.5 mm²			1029388	1					1029388	1	1029388	1
PE male, 1.5 mm², AWG 14			1029398	1								
PE male, 2.5 mm²			1029389	1								
PE female, 1.5 mm², AWG 14											1029401	1
PE female, 2.5 mm²											1029393	1
Crimp contacts for female connector, gold-plated, for conductor cross-section:												
Female, 1.5 mm², AWG 14			1029395	1					1029396	1	1029396	1
Female, 2.5 mm²			1029390	1					1029392	1	1029392	1
PE female, 1.5 mm², AWG 14			1029400	1								
PE female, 2.5 mm²			1029391	1								
PE male, 1.5 mm², AWG 14											1029398	1
PE male, 2.5 mm²											1029389	1

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M12 POWER connectors, screw connection, crimp connection

new

Further power codings can be found on our website under web code:

Your web code: #0024

S-coded, 2-, 3-pos.+PE

K-coded, 4-pos.+PE

		Technical data			Technical data		
		2-pos. + PE, unshielded	3-pos. + PE, unshielded	3-pos. + PE, shielded	4-pos. + FE, unshielded	4-pos. + PE, shielded	
General data							
Degree of pollution		3	3	3	3	3	
Degree of protection		IP67	IP67	IP65	IP67	IP65	
Connection method		Screw connection	Screw connection	Crimp connection	Screw connection	Crimp connection	
Connection cross section [mm²]		0.75 mm² ... 1.5 mm²	0.75 mm² ... 1.5 mm²	1.5 mm² ... 2.5 mm²	1.5 mm² ... 2.5 mm²	1.5 mm² ... 2.5 mm²	
Electrical data							
Rated voltage		230 V AC	630 V AC	690 V AC	630 V AC	690 V AC	
Rated current		16 A (when using 1.5 mm² conductors)	12 A (when using 1.5 mm² conductors)	12 A (when using 1.5 mm² conductors)	12 A (when using 2.5 mm² conductors)	16 A (when using 2.5 mm² conductors)	
Insulation resistance		> 10 GΩ	> 10 GΩ	≥ 100 MΩ	> 10 GΩ	≥ 100 MΩ	
Material data							
Material contact/contact surface		CuZn / Au	CuZn / Au	- / -	CuZn / Au	- / -	
Contact carrier material		PA	PA	PA	PA	PA	
Flammability rating in accordance with UL 94		V0	V0	V0	V0	V0	
Temperature data							
Male connector/female connector	[°C]	-40 ... 85	-40 ... 85	-40 ... 85	-40 ... 85	-40 ... 85	

	Ordering data						Ordering data				
Description	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	2-pos. + PE, unshielded		3-pos. + PE, unshielded		3-pos. + PE, shielded		4-pos. + FE, unshielded		4-pos. + PE, shielded			
Connector, cable diameter: **6 mm ... 8 mm**												
Female, straight	1419640	1										
Male, straight	1419639	1										
Female, angled	1419642	1										
Male, angled	1419641	1										
Connector, cable diameter: **8 mm ... 10 mm**												
Female, straight			1404642	1								
Male, straight			1404641	1								
Female, angled			1408987	1								
Male, angled			1408985	1								
Connector, cable diameter: **8 mm ... 13 mm**												
Female, straight							1424708	1				
Male, straight							1424707	1				
Connector, without contacts, cable diameter: **6.5 mm ... 11 mm**												
Female, straight					1027469	1						
Male, straight					1027467	1						
Connector, without contacts, cable diameter: **8 mm ... 13 mm**												
Female, straight									1027476	1		
Male, straight									1027474	1		
Crimp contacts for male connector, gold-plated, for conductor cross-section:												
Male, 1.5 mm², AWG 14					1029394	1			1029394	1		
Male, 2.5 mm²					1029388	1			1029388	1		
PE male, 1.5 mm², AWG 14					1029398	1						
PE male, 2.5 mm²					1029389	1						
PE female, 1.5 mm², AWG 14									1029401	1		
PE female, 2.5 mm²									1029393	1		
Crimp contacts for female connector, gold-plated, for conductor cross-section:												
Female, 1.5 mm², AWG 14					1029395	1			1029396	1		
Female, 2.5 mm²					1029390	1			1029392	1		
PE female, 1.5 mm², AWG 14					1029400	1						
PE female, 2.5 mm²					1029391	1						
PE male, 1.5 mm², AWG 14									1029398	1		
PE male, 2.5 mm²									1029389	1		

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M12 POWER device connectors, modular, 25 mm square flange, pre-assembled

Flange housing, 2.7 mm housing bore holes

Preassembled contact carrier and insulating body with 0.5 m long litz wires

		Technical data		Technical data	
				S-coded, 3-pos. + PE	T-coded, 4-pos.
General data					
Degree of pollution		-		3	3
Degree of protection		-		IP67	IP67
Connection method		-		Individual wires	Individual wires
Electrical data					
Rated voltage				630 V	63 V
Rated current		-		12 A	12 A
Overvoltage category		-		III	III
Material data					
Material contact/contact surface		- / -		CuZn / Au	CuZn / Au
Contact carrier material		-		PA6	PA6
Cable gland material		Zinc die-cast, nickel-plated		-	-
Cable type		-		UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire
Temperature data					
Male connector/female connector	[°C]	-40 ... 85		-25 ... 85	-25 ... 85

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
					S-coded, 3-pos. + PE		T-coded, 4-pos.	
Square flange housing, with flat gasket	1424131	10						
Assembled contact carrier and insulating body, with 0.5 m litz wires and crimp contacts								
Male					1424129	1	1424130	1

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M12 POWER device connectors, 2-pos.+PE, S-coded

– M16 fastening thread
– With 0.5 m long litz wires
– S-coded

S-coded,
2-pos. + PE

Technical data

		Front mounting	Rear mounting
General data			
Degree of pollution		3	3
Degree of protection		-	IP65 / IP67
Connection method		Individual wires	Individual wires
Electrical data			
Rated voltage		630 V	630 V
Rated current		16 A	16 A
Material data			
Material contact/contact surface		CuZn / Au	CuZn / Au
Contact carrier material		PA	PA
Flammability rating in accordance with UL 94		V0	V0
Cable type		UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire
Conductor cross section		1.31 mm²	1.31 mm²
Conductor cross section	[AWG]	16	16
Temperature data			
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85

Ordering data

Description	Coding	Order No. (Front mounting)	Pcs./Pkt.	Order No. (Rear mounting)	Pcs./Pkt.
Power device connectors					
Female	S power	1411654	1	1411652	1
Male	S power	1411655	1	1411653	1

Accessories

Flat nut, with: M16 thread	SACC-E-MU-M16	1504097	100

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M12 POWER device connectors, 3-pos.+PE, S-coded, 4-pos., T-coded

– M16 fastening thread
– With 0.5 m long litz wires

S-coded,
3-pos. + PE

T-coded,
4-pos.

		Technical data		Technical data	
		Front mounting	Rear mounting	Front mounting	Rear mounting
General data					
Degree of pollution		3	3	3	3
Degree of protection		IP67	IP67	IP67	IP67
Connection method		Individual wires	Individual wires	Individual wires	Individual wires
Electrical data					
Rated voltage		630 V	630 V	63 V	63 V
Rated current		12 A	12 A	12 A	12 A
Material data					
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au
Contact carrier material		PA	PA	PA	PA
Flammability rating in accordance with UL 94		V0	V0	V0	V0
Cable type		UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire
Conductor cross section		1.31 mm²	1.31 mm²	1.31 mm²	1.31 mm²
Conductor cross section	[AWG]	16	16	16	16
Temperature data					
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Front mounting		Rear mounting		Front mounting		Rear mounting	
Power device connectors								
Female	1424137	1	1424133	1	1424138	1	1424134	1
Male	1424139	1	1424132	1	1424140	1	1424136	1

	Accessories			Accessories		
Flat nut, with: M16 thread	SACC-E-MU-M16	1504097	100	SACC-E-MU-M16	1504097	100

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M12 POWER XL device connectors, 3-pos.+PE, S-coded, 4-pos., T-coded

– M16 fastening thread
– With 0.5 m long litz wires
– Tightening limitation
– Wrench size 19

S-coded,
3-pos. + PE

T-coded,
4-pos.

		Technical data		Technical data	
		Front mounting	Rear mounting	Front mounting	Rear mounting
General data					
Degree of pollution		3	3	3	3
Degree of protection		IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67
Connection method		Individual wires	Individual wires	Individual wires	Individual wires
Electrical data					
Rated voltage		630 V	630 V	63 V	63 V
Rated current		12 A	12 A	12 A	12 A
Material data					
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au
Contact carrier material		PA	PA	PA	PA
Flammability rating in accordance with UL 94		V0	V0	V0	V0
Cable type		UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire
Conductor cross section		1.31 mm²	1.31 mm²	1.31 mm²	1.31 mm²
Conductor cross section	[AWG]	16	16	16	16
Temperature data					
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Front mounting		Rear mounting		Front mounting		Rear mounting	
Power device connectors								
Female	1411605	1	1411598	1	1411606	1	1411599	1
Male	1411607	1	1411603	1	1411608	1	1411604	1
	Accessories				**Accessories**			
Flat nut, with: M16 thread	SACC-E-MU-M16		1504097	100	SACC-E-MU-M16		1504097	100

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M12 POWER XL device connectors, 4-pos.+PE, K-coded

new

– M16 fastening thread
– With 0.2 m long litz wires
– Tightening limitation
– Wrench size 19

K-coded, cable cross section: 2.5 mm², 4-pos.+PE

K-coded, cable cross section: 1.31 mm², 4-pos.+PE

		Technical data		Technical data	
		Front mounting	Rear mounting	Front mounting	Rear mounting
General data					
Degree of pollution		3	3	3	3
Degree of protection		IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67
Connection method		Individual wires	Individual wires	Individual wires	Individual wires
Electrical data					
Rated voltage		630 V	630 V	630 V	630 V
Rated current		16 A	16 A	12 A	12 A
Material data					
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au
Contact carrier material		PA	PA	PA	PA
Flammability rating in accordance with UL 94		V0	V0	V0	V0
Cable type		PEX litz wire	PEX litz wire	UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire
Conductor cross section		2.5 mm²	2.5 mm²	1.31 mm²	1.31 mm²
Conductor cross section	[AWG]	14	14	16	16
Temperature data					
Male connector/female connector	[°C]	-25 ... 85	-40 ... 85	-25 ... 85	-25 ... 85

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Front mounting		Rear mounting		Front mounting		Rear mounting	
Power device connectors								
Female	1415292	1	1415294	1	1425636	1	1425638	1
Male	1415291	1	1415293	1	1425635	1	1425637	1

	Accessories			Accessories		
Flat nut, with: M16 thread	SACC-E-MU-M16	1504097	100	SACC-E-MU-M16	1504097	100

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M12 POWER XL device connectors, 4-pos., L-coded

- M16 fastening thread
- With 0.2 m long litz wires
- Tightening limitation
- Wrench size 19
- PROFINET-specified versions

new

L-coded, cable cross section: 2.5 mm², 4-pos.

new

L-coded, cable cross section: 1.31 mm², 4-pos.

		Technical data		Technical data	
		Front mounting	Rear mounting	Front mounting	Rear mounting
General data					
Degree of pollution		3	3	3	3
Degree of protection		IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67
Connection method		Individual wires	Individual wires	Individual wires	Individual wires
Electrical data					
Rated voltage		63 V	63 V	63 V	63 V
Rated current		16 A	16 A	12 A	12 A
Material data					
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au
Contact carrier material		PA	PA	PA	PA
Flammability rating in accordance with UL 94		V0	V0	V0	V0
Cable type		PEX litz wire	PEX litz wire	UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire
Conductor cross section		2.5 mm²	2.5 mm²	1.31 mm²	1.31 mm²
Conductor cross section	[AWG]	14	14	16	16
Temperature data					
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Front mounting		Rear mounting		Front mounting		Rear mounting	
POWER device connector, PROFINET-specified								
Female	1425587	1	1425589	1	1425632	1	1425634	1
Male	1425586	1	1425588	1	1425631	1	1425633	1

	Accessories			Accessories		
Flat nut, with: M16 thread	SACC-E-MU-M16	1504097	100	SACC-E-MU-M16	1504097	100

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M12 POWER XL device connectors, 4-pos.+FE, L-coded

– M16 fastening thread
– With 0.2 m long litz wires
– Tightening limitation
– Wrench size 19
– PROFINET-specified versions

new

L-coded, cable cross section: 2.5 mm², 4-pos.+FE

new

L-coded, cable cross section: 1.31 mm², 4-pos.+FE

		Technical data		Technical data	
		Front mounting	Rear mounting	Front mounting	Rear mounting
General data					
Degree of pollution		3	3	3	3
Degree of protection		IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67
Connection method		Individual wires	Individual wires	Individual wires	Individual wires
Electrical data					
Rated voltage		63 V	63 V	63 V	63 V
Rated current		16 A	16 A	12 A	12 A
Material data					
Material contact/contact surface		CuZn / Au	CuZn / Au	CuZn / Au	CuZn / Au
Contact carrier material		PA	PA	PA	PA
Flammability rating in accordance with UL 94		V0	V0	V0	V0
Cable type		PEX litz wire	PEX litz wire	UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire
Conductor cross section		2.5 mm²	2.5 mm²	1.31 mm²	1.31 mm²
Conductor cross section	[AWG]	14	14	16	16
Temperature data					
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	-25 ... 85

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Front mounting		Rear mounting		Front mounting		Rear mounting	
Power device connectors								
Female	1415296	1	1415299	1				
Male	1415295	1	1415297	1				
POWER device connector, PROFINET-specified								
Female	1425583	1	1425585	1	1425628	1	1425630	1
Male	1425582	1	1425584	1	1425627	1	1425629	1

	Accessories			Accessories		
Flat nut, with: M16 thread	SACC-E-MU-M16	1504097	100	SACC-E-MU-M16	1504097	100

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M12 POWER XL device connectors, 5-pos.+PE, M-coded

– M16 fastening thread
– With 0.2 m long litz wires
– Tightening limitation
– Wrench size 19

M-coded, 5-pos.+PE

Technical data

		Front mounting	Rear mounting
General data			
Degree of pollution		3	3
Degree of protection		IP65/IP67	IP65/IP67
Connection method		Individual wires	Individual wires
Electrical data			
Rated voltage		630 V	630 V
Rated current		8 A	8 A
Material data			
Material contact/contact surface		CuZn / Au	CuZn / Au
Contact carrier material		PA	PA
Flammability rating in accordance with UL 94		V0	V0
Cable type		UL/cUL flexible hook-up wire	UL/cUL flexible hook-up wire
Conductor cross section		1.31 mm²	1.31 mm²
Conductor cross section	[AWG]	16	16
Temperature data			
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85

Ordering data

Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Front mounting		Rear mounting	
Power device connectors				
Female	1415301	1	1415303	1
Male	1415300	1	1415302	1

Accessories

Flat nut, with: M16 thread	SACC-E-MU-M16	1504097	100

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M12 POWER cables, 2-pos.+PE, S-coded, cable type: PVC, unshielded

Notes:

For information about the cable qualities, see page 318

Free end	Ordering data Order No.	M12 male connector	Ordering data Order No.		Ordering data Order No.
			1 m	1411636	1 m 1411640
			2 m	1411637	2 m 1411641
			5 m	1411638	5 m 1411642
			10 m	1411639	10 m 1411643
M12 female connector, straight					
	1 m 1411644 2 m 1411645 5 m 1411646 10 m 1411647				
M12 female connector, connector, angled					
	1 m 1411648 2 m 1411649 5 m 1411650 10 m 1411651				

Cable description	Cable type	Color coding		Pin assignment
PVC – black	PVC	BK1	1	1
		BK2	2	3
		GNYE		PE

		Technical data
		M12
Rated voltage		230 V AC
Rated current	[A]	16
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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M12 POWER cables, 3-pos.+PE, S-coded, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end			M12 male connector			M12 male connector, 360° shielded		
Ordering data			**Ordering data**			**Ordering data**		
Free end		**Order No.**		**Order No.**			**Order No.**		**Order No.**
			1 m	1408835	1 m	1408839	1.5 m	1424104	1.5 m	1424108
			2 m	1408836	2 m	1408840	3 m	1424105	3 m	1424109
			5 m	1408837	5 m	1408841	5 m	1424245	5 m	1424110
			10 m	1408838	10 m	1408842	10 m	1424107	10 m	1424111
M12 female connector, straight										
		1 m	1408843							
		2 m	1408844							
		5 m	1408845							
		10 m	1408846							
M12 female connector, angled										
		1 m	1408848							
		2 m	1408852							
		5 m	1408853							
		10 m	1408854							
M12 female connector, straight, 360° shielded										
		1.5 m	1424096							
		3 m	1424097							
		5 m	1424098							
		10 m	1424099							
M12 female connector, angled, 360° shielded										
		1.5 m	1424100							
		1.5 m	1424101							
		1.5 m	1424102							
		1.5 m	1424103							

Cable description	Cable type	Color coding		Pin assignment
PUR, halogen-free – black (unshielded)	PUR	BK1	1	1
		BK2	2	2
PUR, halogen-free – orange (shielded)	PUR	BK3	3	3
		GNYE		PE

		Technical data
		M12
Rated voltage		690 V AC
Rated current	[A]	12
Material contact M12		CuZn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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M12 cabling for power applications

M12 POWER cables, 4-pos., T-coded, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.		Order No.		Order No.
			1 m	1408812	1 m	1408816	1.5 m	1424120	1.5 m	1424124
			2 m	1408813	2 m	1408819	1.5 m	1424121	3 m	1424125
			5 m	1408814	5 m	1408820	1.5 m	1424122	5 m	1424126
			10 m	1408815	10 m	1408822	1.5 m	1424123	10 m	1424127
M12 female connector, straight										
	1 m	1408823	1 m	1408808						
	2 m	1408824	2 m	1408809						
	5 m	1408825	5 m	1408810						
	10 m	1408826	10 m	1408811						
M12 female connector, angled										
	1 m	1408827			1 m	1415196				
	2 m	1408828			2 m	1415197				
	5 m	1408829			5 m	1415198				
	10 m	1408830			10 m	1415199				
M12 female connector, straight, 360° shielded										
	1.5 m	1424112								
	3 m	1424113								
	5 m	1424114								
	10 m	1424115								
M12 female connector, angled, 360° shielded										
	1.5 m	1424116							1.5 m	1415202
	3 m	1424117							3 m	1415203
	5 m	1424118							5 m	1415204
	10 m	1424128							10 m	1415205

Cable description	Cable type
PUR, halogen-free – black	PUR

Color coding		Pin assignment
BN		1
WH		2
BK		4
BU		3

		Technical data
		M12
Rated voltage		63 V DC
Rated current	[A]	12
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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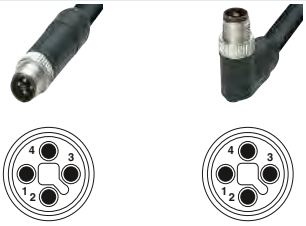
M12 POWER cables, 4-pos., T-coded, cable type: PVC, unshielded

Notes:
For information about the cable qualities, see page 318



Free end		Ordering data	Order No.	Ordering data	Order No.	Ordering data	Order No.
				1 m	1089952	1 m	1089958
				2 m	1089953	2 m	1089961
				5 m	1089955	5 m	1089965
				10 m	1089956	10 m	1089968
M12 female connector, straight							
		1 m	1089970	1 m	1089988		
		2 m	1089971	2 m	1089997		
		5 m	1089972	5 m	1089998		
		10 m	1408826	10 m	1089973		
M12 female connector, angled							
		1 m	1089977				
		2 m	1089981				
		5 m	1089984				
		10 m	1089987				

Cable description	Cable type
PVC – black (unshielded)	PVC

Color coding		Pin assignment
BN		1
WH		2
BK		4
BU		3

		Technical data
		M12
Rated voltage		63 V DC
Rated current	[A]	12
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67 / IP68
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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M12 cabling for power applications

M12 POWER cables, 4-pos.+PE, K-coded, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end		M12 male connector		M12 male connector, 360° shielded	

	Ordering data		Ordering data		Ordering data		Ordering data	
Free end	**Order No.**		**Order No.**		**Order No.**		**Order No.**	
		1.5 m	1414866	1.5 m	1414833	1.5 m	1414867	1.5 m	1414834
		3 m	1414870	3 m	1414837	3 m	1414871	3 m	1414838
		5 m	1414875	5 m	1414841	5 m	1414876	5 m	1414842
		10 m	1414879	10 m	1414846	10 m	1414880	10 m	1414847
M12 female connector, straight									
		1.5 m	1414770						
		3 m	1414788						
		5 m	1414804						
		10 m	1414821						
M12 female connector, angled									
		1.5 m	1414766						
		3 m	1414784						
		5 m	1414800						
		10 m	1414817						
M12 female connector, straight, 360° shielded									
		1.5 m	1414771						
		3 m	1414789						
		5 m	1414805						
		10 m	1414822						
M12 female connector, angled, 360° shielded									
		1.5 m	1414767						
		3 m	1414785						
		5 m	1414801						
		10 m	1414818						

Cable description	Cable type
PUR, halogen-free – black (unshielded)	PUR
PUR, halogen-free – orange (shielded)	PUR

Color coding		Pin assignment
BK1	1	1
BK2	2	2
BK3	3	3
BK4	4	4
GNYE		PE

		Technical data
		M12
Rated voltage		690 V AC
Rated current	[A]	16
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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M12 POWER cables, 4-pos.+PE, K-coded, cable type: PVC

Notes:

For information about the cable qualities, see page 318

	Free end	M12 male connector		M12 male connector, 360° shielded	

	Ordering data	Ordering data		Ordering data		Ordering data		Ordering data	
Free end	**Order No.**		**Order No.**		**Order No.**		**Order No.**		**Order No.**
		1.5 m	1414868	1.5 m	1414835	1.5 m	1414869	1.5 m	1414836
		3 m	1414872	3 m	1414839	3 m	1414874	3 m	1414840
		5 m	1414877	5 m	1414843	5 m	1414878	5 m	1414845
		10 m	1414881	10 m	1414848	10 m	1414882	10 m	1414849
M12 female connector, straight									
		1.5 m	1414780						
		3 m	1414796						
		5 m	1414812						
		10 m	1414829						
M12 female connector, angled									
		1.5 m	1414774						
		3 m	1414792						
		5 m	1414808						
		10 m	1414825						
M12 female connector, straight, 360° shielded									
		1.5 m	1414781						
		3 m	1414797						
		5 m	1414813						
		10 m	1414830						
M12 female connector, angled, 360° shielded									
		1.5 m	1414775						
		3 m	1414793						
		5 m	1414809						
		10 m	1414826						

Cable description	Cable type
PVC – black (unshielded)	PVC
PVC – orange (shielded)	PVC

Color coding		Pin assignment
BK1	1	1
BK2	2	2
BK3	3	3
BK4	4	4
GNYE		PE

		Technical data
		M12
Rated voltage		690 V AC
Rated current	[A]	16
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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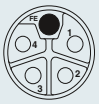
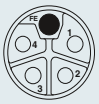
M12 POWER cables, 4-pos.+FE, L-coded, cable type: PUR, unshielded

Notes:

For information about the cable qualities, see page 318

For shielded power cables, visit phoenixcontact.net/products

Free end		M12 male connector, wire cross section 2.5 mm²		M12 male connector, wire cross section 1.5 mm²	

	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**		**Order No.**		**Order No.**
			1.5 m	1414883	1.5 m	1414850	1.5 m	1424593	1.5 m	1424597
			3 m	1414887	3 m	1414854	3 m	1424594	3 m	1424598
			5 m	1414891	5 m	1414858	5 m	1424595	5 m	1424599
			10 m	1414895	10 m	1414862	10 m	1424596	10 m	1424600
M12 female connector, straight, wire cross section 2.5 mm²										
		1.5 m	1414772	0.3 m	1425009					
		3 m	1414790	0.6 m	1425010					
		5 m	1414806	1.5 m	1425011					
		10 m	1414823	3 m	1425012					
M12 female connector, angled, wire cross section 2.5 mm²										
		1.5 m	1414768							
		3 m	1414786							
		5 m	1414802							
		10 m	1414819							
M12 female connector, straight, wire cross section 1.5 mm²										
		1.5 m	1424601				0.3 m	1425017		
		3 m	1424602				0.6 m	1425018		
		5 m	1424603				1.5 m	1425019		
		10 m	1424604				3 m	1425020		
M12 female connector, angled, wire cross section 1.5 mm²										
		1.5 m	1424605							
		3 m	1424606							
		5 m	1424607							
		10 m	1424608							

Cable description	Cable type
PUR, halogen-free – gray Cable type 280 for 2.5 mm²	280
PUR, halogen-free – gray Cable type 290 for 1.5 mm²	290

Color coding		Pin assignment
BN		1
WH		2
BU		3
BK		4
GY		5

		Technical data
		M12
Rated voltage		63 V DC
Rated current	[A]	16
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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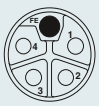
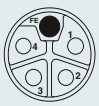
M12 POWER cables, 4-pos.+FE, L-coded, cable type: PVC, unshielded

Notes:

For information about the cable qualities, see page 318

For shielded power cables, visit phoenixcontact.net/products

Free end			M12 male connector, wire cross section 2.5 mm²				M12 male connector, wire cross section 1.5 mm²			
	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.		Order No.		Order No.
			1.5 m	1414885	1.5 m	1414852	1.5 m	1424609	1.5 m	1424613
			3 m	1414889	3 m	1414856	3 m	1424610	3 m	1424614
			5 m	1414893	5 m	1414860	5 m	1424611	5 m	1424615
			10 m	1414897	10 m	1414864	10 m	1424612	10 m	1424616
M12 female connector, straight, wire cross section 2.5 mm²										
	1.5 m	1414782	0.3 m	1425013						
	3 m	1414798	0.6 m	1425014						
	5 m	1414814	1.5 m	1425015						
	10 m	1414831	3 m	1425016						
M12 female connector, angled, wire cross section 2.5 mm²										
	1.5 m	1414777								
	3 m	1414794								
	5 m	1414810								
	10 m	1414827								
M12 female connector, straight, wire cross section 1.5 mm²										
	1.5 m	1424617					0.3 m	1425021		
	1.5 m	1424618					0.6 m	1425022		
	1.5 m	1424619					1.5 m	1425023		
	1.5 m	1424620					3 m	1425024		
M12 female connector, angled, wire cross section 1.5 mm²										
	1.5 m	1424621								
	3 m	1424622								
	5 m	1424623								
	10 m	1424624								

Cable description	Cable type
PVC – gray Cable type 500 for 2.5 mm²	500
PVC – gray Cable type 510 for 1.5 mm²	510

Color coding		Pin assignment
BN		1
WH		2
BU		3
BK		4
GY		5

		Technical data
		M12
Rated voltage		63 V DC
Rated current	[A]	16
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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M12 POWER cables, 4-pos., L-coded, cable type: PUR, unshielded

Notes:

For information about the cable qualities, see page 318

For shielded power cables, visit phoenixcontact.net/products

Free end			M12 male connector, wire cross section 2.5 mm²			M12 male connector, wire cross section 1.5 mm²			
	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data
Free end		**Order No.**		**Order No.**		**Order No.**		**Order No.**		**Order No.**
			1.5 m	1425065	1.5 m	1425069	1.5 m	1425025	1.5 m	1425029
			3 m	1425066	3 m	1425070	3 m	1425026	3 m	1425030
			5 m	1425067	5 m	1425071	5 m	1425027	5 m	1425031
			10 m	1425068	10 m	1425072	10 m	1425028	10 m	1425032
M12 female connector, straight, wire cross section 2.5 mm²										
		1.5 m	1425073	0.3 m	1425081					
		3 m	1425074	0.6 m	1425082					
		5 m	1425075	1.5 m	1425083					
		10 m	1425076	3 m	1425084					
M12 female connector, angled, wire cross section 2.5 mm²										
		1.5 m	1425077							
		3 m	1425078							
		5 m	1425079							
		10 m	1425080							
M12 female connector, straight, wire cross section 1.5 mm²										
		1.5 m	1425033					0.3 m	1425041	
		3 m	1425034					0.6 m	1425042	
		5 m	1425035					1.5 m	1425043	
		10 m	1425036					3 m	1425044	
M12 female connector, angled, wire cross section 1.5 mm²										
		1.5 m	1425037							
		3 m	1425038							
		5 m	1425039							
		10 m	1425040							

Cable description	Cable type	Color coding	Pin assignment
PUR, halogen-free – black Cable type PUR for 2.5 mm²	PUR	BN	1
		WH	2
PUR, halogen-free – black Cable type 105 for 1.5 mm²	105	BU	3
		BK	4

		Technical data
		M12
Rated voltage		63 V (DC) / 63 V DC
Rated current	[A]	16
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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M12 POWER cables, 4-pos., L-coded, cable type: PVC, unshielded

Notes:

For information about the cable qualities, see page 318

For shielded power cables, visit phoenixcontact.net/products

Free end			M12 male connector, wire cross section 2.5 mm²				M12 male connector, wire cross section 1.5 mm²			
	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.		Order No.		Order No.
			1.5 m	1425085	1.5 m	1425089	1.5 m	1425045	1.5 m	1425049
			3 m	1425086	3 m	1425090	3 m	1425046	3 m	1425050
			5 m	1425087	5 m	1425091	5 m	1425047	5 m	1425051
			10 m	1425088	10 m	1425092	10 m	1425048	10 m	1425052
M12 female connector, straight, wire cross section 2.5 mm²										
	1.5 m	1425093	0.3 m	1425101						
	3 m	1425094	0.6 m	1425102						
	5 m	1425095	1.5 m	1425103						
	10 m	1425096	3 m	1425104						
M12 female connector, angled, wire cross section 2.5 mm²										
	1.5 m	1425097								
	3 m	1425098								
	5 m	1425099								
	10 m	1425100								
M12 female connector, straight, wire cross section 1.5 mm²										
	1.5 m	1425053					0.3 m	1425061		
	3 m	1425054					0.6 m	1425062		
	5 m	1425055					1.5 m	1425063		
	10 m	1425056					3 m	1425064		
M12 female connector, angled, wire cross section 1.5 mm²										
	1.5 m	1425057								
	3 m	1425058								
	5 m	1425059								
	10 m	1425060								

Cable description	Cable type	Color coding	Pin assignment
PVC – black Cable type PVC for 2.5 mm²	PVC	BN	1
		WH	2
PVC – black Cable type 110 for 1.5 mm²	110	BU	3
		BK	4

		Technical data
		M12
Rated voltage		63 V DC
Rated current	[A]	16
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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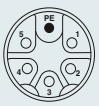
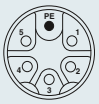
M12 cabling for power applications

M12 POWER cables, 5-pos.+PE, M-coded, cable type: PUR

Notes:

For information about the cable qualities, see page 318

Free end			M12 male connector			M12 male connector, 360° shielded			
	Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
Free end		Order No.		Order No.		Order No.		Order No.		Order No.
			1.5 m	1414949	1.5 m	1414932	1.5 m	1414950	1.5 m	1414933
			3 m	1414953	3 m	1414936	3 m	1414954	3 m	1414937
			5 m	1414957	5 m	1414941	5 m	1414958	5 m	1414942
			10 m	1414961	10 m	1414945	10 m	1414962	10 m	1414946
M12 female connector, straight										
		1.5 m	1414901							
		3 m	1414910							
		5 m	1414918							
		10 m	1414926							
M12 female connector, angled										
		1.5 m	1414899							
		3 m	1414907							
		5 m	1414916							
		10 m	1414924							
M12 female connector, straight, 360° shielded										
		1.5 m	1414902							
		3 m	1414911							
		5 m	1414919							
		10 m	1414927							
M12 female connector, angled, 360° shielded										
		1.5 m	1414900							
		3 m	1414908							
		5 m	1414917							
		10 m	1414925							

Cable description	Cable type
PUR, halogen-free – black (unshielded)	PUR
PUR, halogen-free – orange (shielded)	PUR

Color coding		Pin assignment
BK1	1	1
BK2	2	2
BK3	3	3
BK4	4	4
BK5	5	5
GNYE		PE

		Technical data
		M12
Rated voltage		690 V AC
Rated current	[A]	8
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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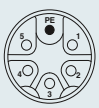
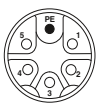
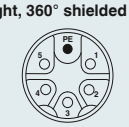
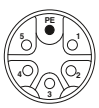
M12 POWER cables, 5-pos.+PE, M-coded, cable type: PVC

Notes:

For information about the cable qualities, see page 318

Free end			M12 male connector			M12 male connector, 360° shielded		
	Ordering data		Ordering data		Ordering data		Ordering data	
Free end		Order No.		Order No.		Order No.		Order No.
			1.5 m	1414951	1.5 m	1414934	1.5 m	1414952	1.5 m	1414935
			3 m	1414955	3 m	1414939	3 m	1414956	3 m	1414940
			5 m	1414959	5 m	1414943	5 m	1414960	5 m	1414944
			10 m	1414963	10 m	1414947	10 m	1414964	10 m	1414948
M12 female connector, straight										
		1.5 m	1414905							
		3 m	1414914							
		5 m	1414922							
		10 m	1414930							
M12 female connector, angled										
		1.5 m	1414903							
		3 m	1414912							
		5 m	1414920							
		10 m	1414928							
M12 female connector, straight, 360° shielded										
		1.5 m	1414906							
		3 m	1414915							
		5 m	1414923							
		10 m	1414931							
M12 female connector, angled, 360° shielded										
		1.5 m	1414904							
		3 m	1414913							
		5 m	1414921							
		10 m	1414929							

Cable description	Cable type
PVC – black (unshielded)	PVC
PVC – orange (shielded)	PVC

Color coding		Pin assignment
BK1	1	1
BK2	2	2
BK3	3	3
BK4	4	4
BK5	5	5
GNYE		PE

		Technical data
		M12
Rated voltage		690 V AC
Rated current	[A]	8
Material contact M12		CuSn
Material contact surface M12		Ni/Au
Material handle M12		PA
Material, knurls		Zinc die-cast, nickel-plated
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

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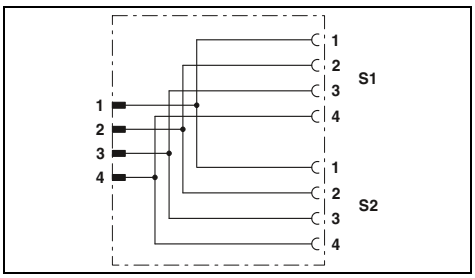
Y distributors for M12 POWER connectors

Y-distributor, T-coded, 4-pos.



Technical data

General data		
Degree of pollution		3
Degree of protection		IP65 / IP67
Electrical data		
Rated voltage		63 V DC
Rated current		2x 12 A (at 40°C)
Material data		
Contact material		CuZn
Contact surface material		Ni/Au
Flammability rating in accordance with UL 94		HB
Temperature data		
Male connector/female connector	[°C]	-25 ... 80

Ordering data

Description	Center distance	Type	Order No.	Pcs./Pkt.
Y distributor, unshielded, M12 male to 2 x M12 female	21 mm	**SAC-4PY-MT/2XFT VP**	1410632	5

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Power distributors for M12 POWER connectors

Power distributor with plug-in crimp connection, horizontal

Technical data

General data		
Degree of protection		IP66 / IP67
Electrical data		
Rated voltage		24 V DC
Perm. operating voltage		30.5 V DC
Rated current for each I/O signal		10 A (M12 diagnostic socket for each channel max. 50 mA)
Rated current per slot		2x 9.25 A (at 40°C)
Total rated current		-
Housing material		PBT
Dimensions		
Width x height x length	[mm]	60 x 52 x 212
Temperature data		
Distributor box		-25°C ... 60°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power distributor, M12 female, 4 slots, 4-pos., unshielded, status indicator: yes			
- with diagnostics port	**SACB-4/T-L-8FUSE DIAG CT AXL**	1411048	1
- without diagnostic port	**SACB-4/T-L-8FUSE CT AXL**	1413929	1

Accessories

M12 screw plug fast locking system for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	**PROT-MS SCO**	1553129	5
UniCard, for labeling Phoenix Contact devices, Axioline Lettering field size: 7 x 10 mm, 30 individual labels	**UCT-EM (7X10)**	0830765	10
Torque screwdriver With preset torque of 0.4 Nm and 4 mm hexagonal drive	**TSD 04 SAC**	1208429	1
Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive	**SAC BIT M12-D15**	1208432	1
Nut for assembling M12 connectors for assembly, with a knurl diameter of 20 mm, for 4 mm hexagonal drive	**SACC BIT M12-D20**	1208445	1

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Cable coils for sensor cables

The standard SAC cables are also available in 100 m cable coils for connecting the M8 and M12 connectors for assembly.

Cables between 110 m and 500 m in length are supplied on cable drums. Please refer to the ordering example below.

Notes:

For information about the cable qualities, see page 318

Cable coil, 100 m, unshielded

Description	Ordering data		
	Type	**Order No.**	Pcs./Pkt.
PUR, halogen-free - black, cable type: PUR			
3 x 0.25 mm², conductor colors: BN/BU/BK	**SAC-3P-100,0-PUR/0,25**	1501689	1
3 x 0.34 mm², conductor colors: BN/BU/BK	**SAC-3P-100,0-PUR/0,34**	1501650	1
4 x 0.25 mm², conductor colors: BN/WH/BU/BK	**SAC-4P-100,0-PUR/0,25**	1501692	1
4 x 0.34 mm², conductor colors: BN/WH/BU/BK	**SAC-4P-100,0-PUR/0,34**	1501663	1
5 x 0.34 mm², conductor colors: BN/WH/BU/BK/GNYE	**SAC-5P-100,0-PUR/0,34**	1501676	1
6 x 0.25 mm², conductor colors: BN/WH/BU/BK/GY/PK	**SAC-6P-100,0-PUR/0,25**	1550614	1
8 x 0.25 mm², conductor colors: WH/BN/GN/YE/GY/PK/ BU/RD	**SAC-8P-100,0-PUR/0,25**	1550630	1
PVC - black, cable type: PVC			
3 x 0.25 mm², conductor colors: BN/BU/BK	**SAC-3P-100,0-PVC/0,25**	1501854	1
3 x 0.34 mm², conductor colors: BN/BU/BK	**SAC-3P-100,0-PVC/0,34**	1501825	1
4 x 0.25 mm², conductor colors: BN/WH/BU/BK	**SAC-4P-100,0-PVC/0,25**	1501867	1
4 x 0.34 mm², conductor colors: BN/WH/BU/BK	**SAC-4P-100,0-PVC/0,34**	1501838	1
5 x 0.34 mm², conductor colors: BN/WH/BU/BK/GNYE	**SAC-5P-100,0-PVC/0,34**	1501841	1
8 x 0.25 mm², conductor colors: WH/BN/GN/YE/GY/PK/ BU/RD	**SAC-8P-100,0-PVC/0,25**	1550698	1
12 x 0.14 mm², conductor colors: BN/BU/WH/GN/PK/YE/BK/GY/RD/VT/GYPK/RDBU	**SAC-12P-100,0-PVC/0,14**	1441532	1
17 x 0.14 mm², conductor colors: BN/BU/WH/GN/PK/YE/BK/GY/RD/VT/GYPK/RDBU/WHGN/ BNGN/WHYE/YEBN/WHGY	**SAC-17P-100,0-PVC/0,14**	1441545	1
PUR/PVC - black, twisted pair, cable type: 35T			
12 x 0.14 mm², conductor colors: (BN/BU)/(WH/GN)/(PK/YE)/(BK/GY)/(RD/VT)/(GYPK/RDBU)			

Ordering example for cable drums with variable cable length:

For **cable type: PVC, black, 5 x 0.34 mm², shielded** and **340 m** in length, the ordering data is as follows:

Order No.		Length [m]
1408527	/	**340** **Increment:** 10 m **Minimum length:** 110 m **Maximum length:** 500 m

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Cable drum, 110 m to 500 m, unshielded

Cable coil, 100 m, shielded

Cable drum, 110 m to 500 m, shielded

Ordering data

Type	Order No.	Pcs./Pkt.
SAC-3P-PUR-0,25/...	1408505	1
SAC-3P-PUR-0,34/...	1408506	1
SAC-4P-PUR-0,25/...	1408507	1
SAC-4P-PUR-0,34/...	1408508	1
SAC-5P-PUR-0,34/...	1408509	1
SAC-8P-PUR-0,25/...	1408510	1
SAC-3P-PVC-0,25/...	1408518	1
SAC-3P-PVC-0,34/...	1408519	1
SAC-4P-PVC-0,25/...	1408521	1
SAC-4P-PVC-0,34/...	1408522	1
SAC-5P-PVC-0,34/...	1408523	1
SAC-8P-PVC-0,25/...	1408524	1

Ordering data

Type	Order No.	Pcs./Pkt.
SAC-3P-100,0-PUR/SH-0,25	1526525	1
SAC-3P-100,0-PUR/SH-0,34	1501702	1
SAC-4P-100,0-PUR/SH-0,25	1535794	1
SAC-4P-100,0-PUR/SH-0,34	1501715	1
SAC-5P-100,0-PUR/SH-0,34	1501728	1
SAC-6P-100,0-PUR/SH-0,14	1550627	1
SAC-8P-100,0-PUR/SH-0,25	1550643	1
SAC-3P-100,0-PVC/SH-0,34	1550656	1
SAC-4P-100,0-PVC/SH-0,34	1550669	1
SAC-5P-100,0-PVC/SH-0,34	1550672	1
SAC-8P-100,0-PVC/SH-0,25	1550708	1
SAC-12P-100,0-35T/SH-0,14	1405789	1

Ordering data

Type	Order No.	Pcs./Pkt.
SAC-3P-PUR-0,25-SH/...	1408511	1
SAC-3P-PUR-0,34-SH/...	1408512	1
SAC-4P-PUR-0,25-SH/...	1408513	1
SAC-4P-PUR-0,34-SH/...	1408514	1
SAC-5P-PUR-0,34-SH/...	1408515	1
SAC-8P-PUR-0,25-SH/...	1408516	1
SAC-3P-PVC-0,34-SH/...	1408525	1
SAC-4P-PVC-0,34-SH/...	1408526	1
SAC-5P-PVC-0,34-SH/...	1408527	1
SAC-8P-PVC-0,25-SH/...	1408528	1

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Cable coils for valve connector cables

The special SAC cables are also available in 100 m cable coils for connecting the valve connectors for assembly.

Cables between 110 m and 500 m in length are supplied on cable drums. Please refer to the ordering example below.

Notes:

For information about the cable qualities, see page 318

Cable coil, 100 m, unshielded

Cable drum, 110 m to 500 m, unshielded

Description	Ordering data			Ordering data		
	Type	**Order No.**	Pcs./Pkt.	**Type**	**Order No.**	Pcs./Pkt.
PUR, halogen-free - black, cable type: PUR						
3 x 0.5 mm², conductor colors: BK 1/BK 2/GNYE	**SAC-3P-100,0-PUR/0,5**	1457393	1	**SAC-3P-PUR-0,5/...**	1408529	1
5 x 0.5 mm², conductor colors: BK 1/BK 2/BK 3/BK 4/ GNYE	**SAC-5P-100,0-PUR/0,5**	1457403	1	**SAC-5P-PUR-0,5/...**	1408530	1
PVC - black, cable type: 534						
3 x 0.75 mm², conductor colors: BK 1/BK 2/GNYE	**SAC-3P-100,0-534/0,75**	1457432	1			
5 x 0.75 mm², conductor colors: BK 1/BK 2/BK 3/BK 4/ GNYE	**SAC-5P-100,0-534/0,75**	1457445	1			

Ordering example for cable drums with variable cable length:

For **cable type: PUR, halogen-free, black, 5 x 0.5 mm², unshielded** and **340 m** in length, the ordering data is as follows:

Order No.		Length [m]
1408530	/	340

Increment: 10 m
Minimum length: 110 m
Maximum length: 500 m

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Master cable coils for sensor/actuator boxes

Master cable coils are available for distributor boxes with spring connection or plug-in screw connection. Similarly, master cables can also be connected to hoods and M23 sockets for assembly.

Notes:

For information about the cable qualities, see page 330

	Ordering data		
Description	Type	Order No.	Pcs./Pkt.
Master cable coil with PE conductor, PUR/PVC, unshielded, length: 50 m			
4 x 0.34 mm² / 3 x 0.75 mm²	SACB- 4X0,34/ 3X0,75-50,0 PUR	1503328	1
6 x 0.34 mm² / 3 x 0.75 mm²	SACB- 6X0,34/ 3X0,75-50,0 PUR	1503331	1
8 x 0.34 mm² / 3 x 0.75 mm²	SACB- 8X0,34/ 3X0,75-50,0 PUR	1503344	1
8 x 0.5 mm² / 3 x 1.0 mm²	SACB- 8X0,5/ 3X1,0-50,0 PUR	1503357	1
12 x 0.5 mm² / 3 x 1.0 mm²	SACB-12X0,5/ 3X1,0-50,0 PUR	1503360	1
16 x 0.5 mm² / 3 x 1.0 mm²	SACB-16X0,5/ 3X1,0-50,0 PUR	1503373	1
Master cable coil with PE conductor, PUR/PVC, unshielded, length: 200 m			
16 x 0.5 mm² / 3 x 1.0 mm²	SACB-16X0,5/ 3X1,0-200,0 PUR	1559893	1
Master cable coil with PE conductor, PUR/PVC, shielded, length: 50 m			
8 x 0.5 mm² / 3 x 1.0 mm²	SACB-8X0,5/3X1,0-50 PUR SH	1401240	1
16 x 0.5 mm² / 3 x 1.0 mm²	SACB-16X0,5/3X1,0-50 PUR SH	1539156	1
Master cable coil with PE conductor, PUR/PP halogen-free, unshielded, length: 50 m			
8 x 0.5 mm² / 3 x 1.0 mm²	SACB-8X0,5/3X1,0-50,0 HPUR	1401690	1
16 x 0.5 mm² / 3 x 1.0 mm²	SACB-16X0,5/ 3X1,0-50,0 VPUR	1430938	1
Master cable coil with PE conductor, PUR/PP, halogen-free, highly flexible, unshielded, length: 50 m			
16 x 0.5 mm² / 3 x 1.0 mm²	SACB-16X0,5/ 3X1,0-50,0 80MC	1402304	1
Master cable coil without PE conductor, PUR/PVC, unshielded, length: 50 m			
4 x 0.34 mm² / 2 x 0.75 mm²	SACB- 4X0,34/2X0,75-50 PUR	1517576	1
6 x 0.34 mm² / 2 x 0.75 mm²	SACB- 6X0,34/2X0,75-50 PUR	1517589	1
8 x 0.34 mm² / 2 x 0.75 mm²	SACB- 8X0,34/2X0,75-50 PUR	1517592	1
10 x 0.34 mm² / 2 x 0.75 mm²	SACB-10X0,34/2X0,75-50 PUR	1517602	1
16 x 0.34 mm² / 2 x 0.75 mm²	SACB-16X0,34/2X0,75-50 PUR	1539350	1

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Assembly tools for sensor/actuator cables

The screwdriver with preset torque is the ideal tool for screwing in all M12 and M8 circular connectors with lengthwise knurl. The advantage of this tool becomes particularly evident when connecting distributor boxes. The tight arrangement and the large number of slots rarely makes it possible to install them correctly by hand. Thanks to the open design of the top unit, tracking is especially easy when screwing in.

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
Torque screwdriver with preset torque of 0.2 Nm and 4 mm hexagonal drive	①	**TSD 02 SAC**	1208487	1
Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive	②	**SAC BIT M8-D10**	1208461	1
Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 12 mm, for 4 mm hexagonal drive	③	**SACC BIT M8-D12**	1208474	1
Torque screwdriver With preset torque of 0.4 Nm and 4 mm hexagonal drive	④	**TSD 04 SAC**	1208429	1
Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive	⑤	**SAC BIT M12-D15**	1208432	1
for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 16 mm, for 4 mm hexagonal drive		**SAC BIT M12-D16**	1200305	1
Nut for assembling M12 connectors for assembly, with a knurl diameter of 20 mm, for 4 mm hexagonal drive	⑥	**SACC BIT M12-D20**	1208445	1

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Assembly tools for sensor/actuator cables

To achieve tight plug-in connections, we recommend using assembly tools. M12 and 7/8" circular connectors can be assembled using a torque screwdriver and plug attachment.

The benefits of the plug attachment become particularly clear when connecting the connectors to the distributor boxes. Thanks to the open design, it enables quick adjustment and installation even when space is at a premium.

The version for M12 connectors with hexagonal high-grade steel knurl is also made from high-grade steel. This prevents the connector knurls from being contaminated by corrosive materials.

For greater flexibility, screwdrivers with adjustable torque are available. When used in conjunction with the adapter insert, the available nuts can also be accommodated.

	Ordering data		
Description	Type	Order No.	Pcs./Pkt.
Torque screwdriver ① with a preset torque of 0.8 Nm and a 4 mm hexagonal drive	**TSD 08 SAC**	1212597	1
Nut ② for assembling 7/8" connectors, with a knurl diameter of 25 mm, with 4 mm hexagonal drive	**SAC BIT MIN-D25**	1212512	1
Torque screwdriver ③ with preset torque of 0.4 Nm and 4 mm hexagonal drive	**TSD 04 SAC**	1208429	1
Nut ④ for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive	**SAC BIT M12-W14**	1212513	1
Torque screwdriver, accuracy in accordance with standard EN ISO 6789 ⑤			
adjustable from 0.3 ... 1.2 Nm	**TSD-M 1,2NM**	1212224	1
adjustable from 1.2 ... 3 Nm	**TSD-M 3NM**	1212225	1
adjustable from 3 ... 6 Nm	**TSD-M 6NM**	1212226	1
Adapter insert ⑥ for torque screwdrivers with adjustable torque, for accommodating plug attachments with 4 mm hexagonal drive	**TSD-M SAC-BIT ADAPTER**	1212600	1

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Sealing elements

During transport or when in the field, unused plug-in connections must be protected or sealed. Plastic or metal screw plugs, sealing caps, and sealing plugs can be used for this. IP65/IP67 and IP69K protection is achieved.

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
M5 screw plug ① for unused M5 sockets of sensor/actuator cables, boxes, and device connectors	PROT-M5	1533288	10
M8 screw plug ② for unused M8 sockets of sensor/actuator cables, boxes, and device connectors	PROT-M8	1682540	5
M12 screw plug ③ for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	PROT-M12	1680539	5
M12 screw plug fast locking system ④ for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	PROT-MS SCO	1553129	5
M12 sealing cap ⑤ for unused M12 connectors of sensor/actuator cables, device connectors, and I/O devices in the field	PROT-M12 FS	1560251	5
M12 screw plug, metal ⑥ for unused M12 sockets of shielded sensor/actuator cables, boxes, and device connectors	PROT-M12 SH	1503302	5
Metal M12 sealing cap ⑦ for unused M12 connectors of sensor/actuator cables, device connectors, and I/O devices in the field	PROT-M12 FS-M	1430488	10
Stainless steel M12 screw plug ⑧ for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	PROT-M12 FB	1555538	5
Closing cap ⑨ for Pg9/ Pg11, to close unoccupied connections	Q-PROT 9/11	1670235	10
M16 screw plug ⑩ with flat nut for oval housing cutouts	SACC-M16-SEALING PLUG SET	1453368	10

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Sealing elements with holding band or fixing chain

All IP67 interfaces can be closed tightly using the screw plugs and sealing caps in the sizes M8, M12 and 7/8". The holding bands are fastened on the cable or the housing and are thus held captive.

The M12 metal protective cap with fixing chain is suitable for all pin versions. It is used in harsh industrial environments or for EMC applications.

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
Screw plug made from **plastic** with retaining strap, for sealing unused **sockets**	①			
M8 for SAC cables		**PROT-M 8 MS-PA-CHAIN**	1430860	10
M8 with 3 mm fastening eye		**PROT-M 8 MS-PA-CHAIN-EYE-DM3**	1441105	10
M8 with 12 mm fastening eye		**PROT-M 8 MS-PA-CHAIN-EYE**	1441095	10
M12 for SAC cables		**PROT-M12 MS-PA-CHAIN**	1430899	5
M12 with 15 mm fastening eye		**PROT-M12 MS-PA-CHAIN-EYE-DM14**	1456200	5
7/8" for SAC cables		**PROT-MINMS-PA-CHAIN**	1430925	10
Plastic sealing cap with holding band, for closing unoccupied **connectors**	②			
M8 for SAC cables		**PROT-M 8 FS-PA-CHAIN**	1430857	10
M8 with 8 mm fastening eye		**PROT-M 8 FS-PA-CHAIN-EYE**	1441082	10
M12 for SAC cables		**PROT-M12 FS-PA-CHAIN**	1430873	5
M12 with 12 mm fastening eye		**PROT-M12 FS-PA-CHAIN-EYE-DM12**	1456187	5
M12 with 15 mm fastening eye		**PROT-M12 FS-PA-CHAIN-EYE-DM14**	1456190	5
7/8" for SAC cables		**PROT-MINFS-PA-CHAIN**	1430912	10
Sealing cap made of **metal** with fixing chain and 16 mm fastening eye, for sealing:	③			
unused M12 connectors		**PROT-M12 FS-M-CHAIN**	1430491	10

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Accessories for M8 distributor boxes with plug-in master cable connection

The torque screwdriver with an M8 nut is the ideal tool for screwing in all M8 connectors with lengthwise knurl.

A replacement connector hood is available for distributors with 4 to 10 slots. The corresponding screwdriver, torque screwdriver, and W24 nut for defined tightening of the pressure nut can be found in the ordering data.

The PROT M8 screw plug, for unused slots, protects the distributor against foreign objects and water. IP65/IP67 protection is therefore achieved.

The slots can be marked using the marking material. Marking can be carried out by hand or using a plotter.

Notes:

Additional marking material and tools can be found in Catalog 3.

Ordering data

Description		Type	Order No.	Pcs./Pkt.
Sensor/actuator connector hood, with marking label, for sensor/actuator box with:	①			
4 single-occupancy M8 slots		**SACB-C-H180- 4/3-M8**	1521229	1
6 single-occupancy M8 slots		**SACB-C-H180- 6/3-M8**	1521216	1
8 single-occupancy M8 slots		**SACB-C-H180- 8/3-M8**	1516425	1
Ten single-occupancy M8 slots		**SACB-C-H180-10/3-M8**	1516412	1
M8 screw plug for unused M8 sockets of sensor/actuator cables, boxes, and device connectors	②	**PROT-M8**	1682540	5
Labeling material, 10-section	③			
- Unprinted		**ZBF10:UNBEDRUCKT**	0809997	10
- Configurable		**ZBF10 CUS**	0825031	1
Torque screwdriver with preset torque of 0.2 Nm and 4 mm hexagonal drive	④	**TSD 02 SAC**	1208487	1
Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive	⑤	**SAC BIT M8-D10**	1208461	1
Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 12 mm, for 4 mm hexagonal drive	⑥	**SACC BIT M8-D12**	1208474	1
Screwdriver Size: PZ2 x 100 mm, length: 205 mm	⑦	**SZK PZ2 VDE**	1206463	10
Torque screwdriver with a preset torque of 2.5 Nm and 4 mm hexagonal drive	⑧	**TSD 25 SAC**	1212315	1
Nut for secure tightening of the pressure nuts with 24 mm wrench size, for TSD 25 SAC, for 2.5 Nm	⑨	**SAC BIT HOOD-W 24**	1212486	1

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Accessories for M8 distributor boxes with M12 and M16 plug-in connection

Corresponding sockets in angled format for distributors with 4 to 10 slots are available in the ordering data. In order to use a master cable in accordance with the specific requirements, sockets for free assembly are available in straight and angled format.

The slots can be marked using the marking material. Marking can be carried out by hand or using a plotter.

The torque screwdriver with matching nuts is the ideal tool for screwing together all M8 connectors with lengthwise knurl.

The PROT M8 screw plug, for unused slots, protects the distributor against foreign objects and water. IP65/IP67 protection is therefore achieved.

Notes:

Additional marking material and tools can be found in Catalog 3.

Ordering data

Description		Type	Order No.	Pcs./Pkt.
M16 socket, angled, with master cable, for sensor/actuator box with:	①			
4 slots, cable length: 5 m		**SAC-8P- 5,0-PUR/M16FR**	**1693681**	1
4 slots, cable length: 10 m		**SAC-8P-10,0-PUR/M16FR**	**1693694**	1
6 slots, cable length: 5 m		**SAC-10P- 5,0-PUR/M16FR**	**1693704**	1
6 slots, cable length: 10 m		**SAC-10P-10,0-PUR/M16FR**	**1693717**	1
8 slots, cable length: 5 m		**SAC-12P- 5,0-PUR/M16FR**	**1693720**	1
8 slots, cable length: 10 m		**SAC-12P-10,0-PUR/M16FR**	**1693733**	1
10 slots, cable length: 5 m		**SAC-14P- 5,0-PUR/M16FR**	**1693746**	1
10 slots, cable length: 10 m		**SAC-14P-10,0-PUR/M16FR**	**1693759**	1
M12 socket, angled, with connected master cable, for sensor/actuator box with:	②			
4 slots, cable length: 5 m		**SAC-6P- 5,0-PURMC/M12FR**	**1407820**	1
4 slots, cable length: 10 m		**SAC-6P-10,0-PURMC/M12FR**	**1407821**	1
4 slots, cable length: variable		**SAC-6P-M12FR-PURMC/**	**1520987**	1
6 slots, cable length: 5 m		**SAC-8P- 5,0-PURMC/M12FR**	**1407822**	1
6 slots, cable length: 10 m		**SAC-8P-10,0-PURMC/M12FR**	**1407823**	1
6 slots, cable length: variable		**SAC-8P-M12FR-PURMC/**	**1520990**	1
M16 socket, 14-pos., straight, freely configurable, with solder connection, for external cable diameter of 6.0 mm ... 8.0 mm	③	**SACC-M16FS-14CON-M**	**1500554**	1
M16 socket, 14-pos., angled, freely configurable, with solder connection, for external cable diameter of 6.0 mm ... 8.0 mm	④	**SACC-M16FR-14CON-M**	**1500253**	1
M8 screw plug for unused M8 sockets of sensor/actuator cables, boxes, and device connectors	⑤	**PROT-M8**	**1682540**	5
Labeling material, 10-section	⑥			
- Unprinted		**ZBF10:UNBEDRUCKT**	**0809997**	10
- Configurable		**ZBF10 CUS**	**0825031**	1
Torque screwdriver with preset torque of 0.2 Nm and 4 mm hexagonal drive	⑦	**TSD 02 SAC**	**1208487**	1
Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive	⑧	**SAC BIT M8-D10**	**1208461**	1
Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 12 mm, for 4 mm hexagonal drive	⑨	**SACC BIT M8-D12**	**1208474**	1

Ordering example for a socket with variable master cable:

For an M12 socket for 4 slots and a master cable length of 15 m, the ordering data is as follows:

Order No.	Length [m] 40 m, maximum
1520987	/ 15.0
	Increments: 0.2 ... 3 m = 0.1 m > 3 m = 0.5 m

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Accessories for M12 distributor boxes with plastic thread and connector hood

The torque screwdriver with M12 nut is the ideal tool for screwing all M12 connectors with longitudinal knurl.

A replacement connector hood is available for the distributors. The corresponding screwdriver, torque screwdriver, and W24 nut for defined tightening of the pressure nut can be found in the ordering data.

The PROT-MS SCO screw plug, for unused slots, protects the distributor against foreign objects and water. IP65/IP67 protection is therefore achieved.

The slots can be marked using the marking material. Marking can be carried out by hand or using a plotter.

Notes:

Additional marking material and tools can be found in Catalog 3.

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
Connector hood with integrated connector, for M12 sensor/actuator boxes with plastic thread and plug-in screw connection, for 4, 6 or 8 slots	①	**SACB-C-H180-8/16 SCO P**	1453229	1
M12 screw plug fast locking system for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	②	**PROT-MS SCO**	1553129	5
Labeling material, 5-section	③			
- Unprinted, white		**UC-EM (17,5X9)**	0827490	10
- Unprinted, yellow		**UC-EM (17,5X9) YE**	0827494	10
- Configurable, white		**UC-EM (17,5X9) CUS**	0828238	1
- Configurable, yellow		**UC-EM (17,5X9) YE CUS**	0828239	1
Torque screwdriver with preset torque of 0.4 Nm and 4 mm hexagonal drive	④	**TSD 04 SAC**	1208429	1
Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive	⑤	**SAC BIT M12-D15**	1208432	1
Nut for assembling M12 connectors for assembly, with a knurl diameter of 20 mm, for 4 mm hexagonal drive	⑥	**SACC BIT M12-D20**	1208445	1
Screwdriver Size: PZ2 x 100 mm, length: 205 mm	⑦	**SZK PZ2 VDE**	1206463	10
Torque screwdriver with a preset torque of 2.5 Nm and 4 mm hexagonal drive	⑧	**TSD 25 SAC**	1212315	1
Nut for secure tightening of the pressure nuts with 24 mm wrench size, for TSD 25 SAC, for 2.5 Nm	⑨	**SAC BIT HOOD-W 24**	1212486	1
Screwdriver, suitable for all screw terminal blocks up to 1.5 mm² connection cross section, without VDE approval Blade: 0,4 x 2.0 x 60 mm, length: 157 mm	⑩	**SZS 0,4X2,0**	1205202	10
Ferrules, without plastic sleeves, CSA-certified	⑪			
0.5 mm²		**A 0,5 - 6**	3200218	1000
0.75 mm²		**A 0,75-10**	3200234	1000
1.0 mm²		**A 1 -10**	3200250	1000
1.5 mm²		**A 1,5 -10**	3200276	1000

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Accessories for M12 distributor boxes with metal thread and pluggable screw connection

The torque screwdriver with M12 nut is the ideal tool for screwing all M12 connectors with longitudinal knurl.

A replacement connector hood is available for the distributors. The corresponding screwdriver, torque screwdriver, and W24 nut for defined tightening of the pressure nut can be found in the ordering data.

The PROT-MS SCO screw plug, for unused slots, protects the distributor against foreign objects and water. IP65/IP67 protection is therefore achieved.

The slots can be marked using the marking material. Marking can be carried out by hand or using a plotter.

Notes:

Additional marking material and tools can be found in Catalog 3.

Ordering data

Description	Type	Order No.	Pcs./Pkt.
① **Connector hood** with integrated connector, for M12 sensor/actuator boxes with metal thread and plug-in screw connection, for 4, 6 or 8 slots	**SACB-C-H180 8/16 SCO**	1516713	10
② **M12 screw plug fast locking system** for unused M12 sockets of sensor/actuator cables, boxes, and device connectors	**PROT-MS SCO**	1553129	5
③ **Labeling material,** 5-section			
- Unprinted, white	**UC-EM (17,5X9)**	0827490	10
- Unprinted, yellow	**UC-EM (17,5X9) YE**	0827494	10
- Configurable, white	**UC-EM (17,5X9) CUS**	0828238	1
- Configurable, yellow	**UC-EM (17,5X9) YE CUS**	0828239	1
④ **Torque screwdriver** with preset torque of 0.4 Nm and 4 mm hexagonal drive	**TSD 04 SAC**	1208429	1
⑤ **Nut** for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive	**SAC BIT M12-D15**	1208432	1
⑥ **Nut** for assembling M12 connectors for assembly, with a knurl diameter of 20 mm, for 4 mm hexagonal drive	**SACC BIT M12-D20**	1208445	1
⑦ **Screwdriver** Size: PZ1 x 80 mm, length: 178 mm	**SZK PZ1 VDE**	1206450	10
⑧ **Torque screwdriver** with a preset torque of 2.5 Nm and 4 mm hexagonal drive	**TSD 25 SAC**	1212315	1
⑨ **Nut** for secure tightening of the pressure nuts with 24 mm wrench size, for TSD 25 SAC, for 2.5 Nm	**SAC BIT HOOD-W 24**	1212486	1

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Accessories for shielded M12 distributor boxes

For the distributors, suitable shielded female connectors are available in angled design with a pre-assembled master cable. Further accessories include straight and angled M23 sockets for free assembly.

The PROT M12 SH screw plug, for unused slots, protects the distributor against foreign objects and water. IP65/IP67 protection is therefore achieved.

The slots can be marked using the marking material. Marking can be carried out by hand or using a plotter.

The torque screwdriver with matching nuts is the ideal tool for screwing together all M12 connectors with lengthwise knurl.

Notes:

Additional marking material and tools can be found in Catalog 3.

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
M23 socket, 19-pos., angled, shielded, with connected master cable	①			
Conductor length: 5 m		**RCK-TWGM/BL16+3/ 5,0PUR SH**	1519529	1
Conductor length: 10 m		**RCK-TWGM/BL16+3/10,0PUR SH**	1511828	1
M23 socket, 19-pos., straight, shielded, freely configurable, with solder connection, for cable Ø: 9.5 mm ... 14.5 mm	②	**RC/TGGM/KVD/LBL 16+3**	1685505	1
M23 socket, 19-pos., angled, shielded, freely configurable, with solder connection, for cable Ø: 9.5 mm ... 14.5 mm	③	**RC/TWGM/KVD/LBL 16+3**	1685518	1
Special pipe spanner Auxiliary tool for mounting the M23 connector housing that can be assembled	④	**PLUSCON-RCS**	1665062	1
M12 screw plug, metal for unused M12 sockets of shielded sensor/actuator cables, boxes, and device connectors	⑤	**PROT-M12 SH**	1503302	5
Metal M23 sealing cap, for unused M23 connectors	⑥			
- without steel wire		**MSK 1**	1665897	10
- with steel wire		**MSK 2**	1665907	1
Sealing cap made of plastic, for unoccupied M23 connectors	⑦	**KSK 1**	1685013	10
Labeling material	⑧			
- Unprinted, white		**ZBN 18:UNBEDRUCKT**	2809128	10
- Unprinted, yellow		**UC-TMF 16 YE**	0819259	10
- Configurable, white		**ZBN 18 CUS**	0825059	1
- Configurable, yellow		**ZBN 18 YE CUS**	0825058	1
Torque screwdriver with preset torque of 0.4 Nm and 4 mm hexagonal drive	⑨	**TSD 04 SAC**	1208429	1
Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive	⑩	**SAC BIT M12-D15**	1208432	1
Nut for assembling M12 connectors for assembly, with a knurl diameter of 20 mm, for 4 mm hexagonal drive	⑪	**SACC BIT M12-D20**	1208445	1

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Accessories for QUICKON distributor boxes with a connection cross section of 0.14 mm² ... 0.34 mm²

The Q-PROT 9/11 sealing plug, for unused slots, protects the distributor against foreign objects and water. IP65/IP67 protection is therefore achieved.

A torque screwdriver with W13 nut is available for the fast connection pressure nut. The handling of the tools is self-explanatory.

A replacement connector hood is available for the distributors. The corresponding screwdriver, torque screwdriver, and W24 nut for defined tightening of the pressure nut can be found in the ordering data.

The slots can be marked using the marking material. Marking can be carried out by hand or using a plotter.

The QUICKON replacement set, consisting of splice ring, pressure nut, and cable seal.

Notes:

Additional marking material and tools can be found in Catalog 3.

Description		Type	Order No.	Pcs./Pkt.
Connector hood with an integrated connector, for sensor/actuator boxes with QUICKON fast connection technology and plug-in screw connection, for 4, 6 or 8 slots	①	**SACB-C-H180 8/4 QO-0,34**	1560235	1
Closing cap for Pg9/ Pg11, to close unoccupied connections	②	**Q-PROT 9/11**	1670235	10
Labeling material, 5-section	③			
- Unprinted, white		**UC-EM (17,5X9)**	0827490	10
- Unprinted, yellow		**UC-EM (17,5X9) YE**	0827494	10
- Configurable, white		**UC-EM (17,5X9) CUS**	0828238	1
- Configurable, yellow		**UC-EM (17,5X9) YE CUS**	0828239	1
QUICKON set for replacement purposes, consisting of splice ring, pressure nut and conductor seal	④	**QO-SET**	1548626	20
Screwdriver Size: PZ1 x 80 mm, length: 178 mm	⑤	**SZK PZ1 VDE**	1206450	10
Torque screwdriver with a preset torque of 2.0 Nm and 4 mm hexagonal drive	⑥	**TSD 20 SAC**	1212020	1
Nut for secure tightening of the pressure nuts with 13 mm wrench size, for TSD 20 SAC, for 0.8 Nm, and 2.0 Nm	⑦	**SAC BIT QUICKON-W13**	1212033	1
Torque screwdriver with a preset torque of 2.5 Nm and 4 mm hexagonal drive	⑧	**TSD 25 SAC**	1212315	1
Nut for secure tightening of the pressure nuts with 24 mm wrench size, for TSD 25 SAC, for 2.5 Nm	⑨	**SAC BIT HOOD-W 24**	1212486	1

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Accessories for QUICKON distributor boxes with a connection cross section of 0.34 mm² ... 0.75 mm²

The distributors are supplied as standard with a black rubber seal for an external cable diameter of 6.5 mm to 9.5 mm. Further rubber seals for master cables from 4.0 mm to 6.5 mm (yellow seal) or 9.0 mm to 13.0 mm (red seal) are available in the ordering data. The torque screwdriver with W24 nut is suitable for the defined tightening of the pressure nut.

The QUICKON replacement set consists of pressure nut, cap, cable seal, and splice ring.

The socket wrench is used to conveniently loosen and fasten the QUICKON pressure nut.

The Q-PROT 9/11 sealing plug, for unused slots, protects the distributor against foreign objects and water. IP65/IP67 protection is therefore achieved.

The slots can be marked using the marking material. Marking can be carried out by hand or using a plotter.

Notes:

Additional marking material and tools can be found in Catalog 3.

Ordering data

Description		Type	Order No.	Pcs./Pkt.
Rubber seal for Pg13.5 screw connection for cable Ø: 4.0 mm ... 6.5 mm	①	**SACB-D PG 13,5 (4,0-6,5) YE**	1680377	10
Rubber seal for Pg13.5 screw connection for cable Ø: 6.5 mm ... 9.5 mm	②	**SACB-D PG 13,5 (6,5-9,5) BK**	1680380	10
Rubber seal for Pg13.5 screw connection for cable Ø: 9.0 mm ... 13.0 mm	③	**SACB-D PG 13,5 (9,0-13,0) RD**	1680393	10
Closing cap for Pg9/ Pg11, to close unoccupied connections	④	**Q-PROT 9/11**	1670235	10
Labeling material - Unprinted, white - Unprinted, yellow - Configurable, white - Configurable, yellow	⑤	**ZBN 18:UNBEDRUCKT** **UC-TMF 16 YE** **ZBN 18 CUS** **ZBN 18 YE CUS**	2809128 0819259 0825059 0825058	10 10 1 1
QUICKON set for replacement purposes, consisting of pressure nut, cap, conductor seal and splice ring	⑥	**Q SET-11/4 COD1 SACB-Q**	1670743	25
Screwdriver Size: PZ1 x 80 mm, length: 178 mm	⑦	**SZK PZ1 VDE**	1206450	10
Slotted socket wrench for QUICKON nuts and panel feed-throughs 1.5 mm², 5-pos. / 2.5 mm², 4-pos. / wrench size 22 mm	⑧	**QSS 22**	1670206	1
Torque screwdriver with a preset torque of 2.5 Nm and 4 mm hexagonal drive	⑨	**TSD 25 SAC**	1212315	1
Nut for secure tightening of the pressure nuts with 24 mm wrench size, for TSD 25 SAC, for 2.5 Nm	⑩	**SAC BIT HOOD-W 24**	1212486	1

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Symbol key

With UL style

Suitable for drag chain applications

Resistant to welding sparks

UV-resistant

Flame-retardant

High temperature resistance

Good oil resistance

Good resistance to chemicals

Suitable for torsional stress

Halogen-free

Suitable for the food industry

Suitable for railway applications

PUR, halogen-free – PHOENIX CONTACT standard

Permanently flexible control cables designed for use in drag chains, revolving/swivel tables, and as machine control cables for extreme operating conditions. The control cables are suitable for bending cycle loads with long-term durability. The special PUR outer sheath offers excellent resistance to oils in accordance with DIN EN 60811-2-1, lubricants, cooling agents, and other aggressive substances.

Additional features of the control cables: halogen- and PVC-free, free of silicone and substances that would hinder coating with paint or varnish, resistant to hydrolysis, and flame-retardant in accordance with UL-FT2.

Outer sheath material	**PUR**
Minimum bending cycles	**4 million**
Minimum bending radius	**10 x D**
Traverse path	**10 m**
Acceleration	**10 m/s²**
Speed	**3 m/s**
Tested at	**+20°C ... +25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PUR Black	**3-pos.**	M8	3 x 0.25 mm² (32 x 0.1 mm)		Brown, blue, black	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	186 248 250 302
		M8 Shielded	3 x 0.25 mm² (32 x 0.1 mm) Shielding: copper braid		Brown, blue, black	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	193 302
		M12	3 x 0.34 mm² (42 x 0.1 mm)		Brown, blue, black	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	186 250 302
		M12 Shielded	3 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, blue, black	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	193
		Valve connectors	3 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, green-yellow	PP	Moving: -15°C ... +80°C Fixed: -40°C ... +80°C	230 to 238 304

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Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PUR Black	**4-pos.**	M8	4 x 0.25 mm² (32 x 0.1 mm)		Brown, white, blue, black	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	186 194 302
		M8 Shielded	4 x 0.25 mm² (32 x 0.1 mm) Shielding: copper braid		Brown, white, blue, black	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	199 302
		M12	4 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	194 249 302
		M12 Shielded	4 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, white, blue, black	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	199 302
		M12 POWER	4 x 1.5 mm² (84 x 0.15 mm)		Brown, white, blue, black	PP	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C	290
		M12 POWER	4 x 1.5 mm² (84 x 0.15 mm)		Black 1, black 2, black 3, green-yellow	PP	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C	289
		M12 POWER Shielded	4 x 1.5 mm² (78 x 0.15 mm) Shielding: copper braid		Brown, white, blue, black	PP	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C	290
		M12 POWER	4 x 2.5 mm² (141 x 0.15 mm)		Brown, white, blue, black	PP	Moving: -30°C ... +80°C Fixed: -50°C ... +80°C	296
		Valve connectors	4 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, black 3, green-yellow	PP	Moving: -20°C ... +80°C Fixed: -40°C ... +80°C	230 to 238
	5-pos.	M12	5 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black, green-yellow	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	201 302
		M12 Shielded	5 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, white, blue, black, gray	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	204 302
		Valve connectors	5 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	PP	Moving: -15°C ... +80°C Fixed: -40°C ... +80°C	242 304

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Sensor/actuator cabling – cable range

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PUR Black	5-pos.	M12 Power	5 x 2.5 mm² (141 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	PP	Mobile: -20°C ... +80°C Fixed: -40°C ... +80°C	292
		M12 Power Shielded	5 x 2.5 mm² (141 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	PP	Mobile: -20°C ... +80°C Fixed: -40°C ... +80°C	292
	6-pos.	M8	6 x 0.25 mm² (32 x 0.1 mm)		Brown, white, blue, black, gray, pink	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	205 302
		M8 Shielded	6 x 0.14 mm² (18 x 0.1 mm) Shielding: copper braid		Brown, white, blue, black, gray, pink	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	206 302
		M12 Power	6 x 1.5 mm² (78 x 0.15 mm)		Black 1, black 2, black 3, black 4, black 5, green-yellow	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	See: phoenix contact.net/ products
		M12 Power Shielded	6 x 1.5 mm² (78 x 0.15 mm)		Black 1, black 2, black 3, black 4, black 5, green-yellow	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	See: phoenix contact.net/ products
	8-pos.	M8	8 x 0.14 mm² (18 x 0.1 mm)		In accordance with DIN 47100	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	207
		M8 Shielded	8 x 0.14 mm² (18 x 0.1 mm) Shielding: copper braid		In accordance with DIN 47100	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	210
		M12	8 x 0.25 mm² (32 x 0.1 mm)		In accordance with DIN 47100	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	208 302
		M12 Shielded	8 x 0.25 mm² (32 x 0.1 mm) Shielding: copper braid		In accordance with DIN 47100	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	211 302
	12-pos.	M12	12 x 0.14 mm² (18 x 0.1 mm)		In accordance with DIN 47100	PP	Mobile: -20°C ... +80°C Fixed: -40°C ... +80°C	212
	17-pos.	M12	17 x 0.14 mm² (18 x 0.1 mm)		In accordance with DIN 47100	PP	Mobile: -20°C ... +80°C Fixed: -40°C ... +80°C	212

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Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PUR Orange	**4-pos.**	M12 Power Shielded	4 x 1.5 mm² (78 x 0.15 mm) Shielding: copper braid		Black 1, black 2, black 3, green-yellow	PP	Mobile: -30°C ... +90°C Fixed: -40°C ... +90°C	289
115 Black	**5-pos.**	M8	5 x 0.25 mm² (32 x 0.1 mm)		Brown, white, blue, black, gray	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	200
		M12	5 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black, gray	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	201
121 Black	**3-pos.**	Valve connectors	3 x 1.0 mm² (32 x 0.20 mm)		Black 1, black 2, green-yellow	PP	Mobile: -20°C ... +80°C Fixed: -40°C ... +80°C	230 232
240 Yellow	**3-pos.**	Valve connectors	3 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, green-yellow	PP	Mobile: -15°C ... +80°C Fixed: -40°C ... +80°C	230 to 238
	4-pos.	M12	4 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	194
	5-pos.	Valve connectors	5 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	PP	Mobile: -15°C ... +80°C Fixed: -40°C ... +80°C	230 to 238
280 Gray	**3-pos.**	M8	3 x 0.25 mm² (32 x 0.1 mm)		Brown, blue, black	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	186 188 250
		M12	3 x 0.34 mm² (42 x 0.1 mm)		Brown, blue, black	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	188 250
		Valve connectors	3 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, green-yellow	PP	Mobile: -15°C ... +80°C Fixed: -40°C ... +80°C	230 to 238
	4-pos.	M12	4 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black	PP	Mobile: -25°C ... +80°C Fixed: -40°C ... +80°C	194

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Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
280 Gray	**5-pos.**	Valve connectors	5 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	PP	Moving: -15°C ... +80°C Fixed: -40°C ... +80°C	242
		M12 POWER	5 x 2.5 mm² (141 x 0.15 mm)		Brown, white, blue, black, gray	PP	Moving: -30°C ... +80°C Fixed: -50°C ... +80°C	294
	8-pos.	M12 Shielded	8 x 0.25 mm² (32 x 0.1 mm) Shielding: copper braid		In accordance with DIN 47100	PP	Moving: -25°C ... +80°C Fixed: -40°C ... +80°C	211
290 Gray	**5-pos.**	M12 POWER	5 x 1.5 mm² (78 x 0.15 mm)		Brown, white, blue, black, gray	PP	Moving: -30°C ... +80°C Fixed: -50°C ... +80°C	294

PUR/PVC (also applies to type PUR for M5 connectors)

The cables are designed for robust use in machine tools, assembly/production lines, as well as production involving metal cutting. The cables are free of silicone and substances that would hinder coating with paint or varnish and have a high resistance to abrasion. The outer sheath also offers excellent resistance to chemicals and oil in accordance with DIN EN 60811-2-1 and is flame-retardant in accordance with DIN EN 50265.
The outer sheath is manufactured using the coextrusion process.

Outer sheath material	**PUR**
Inner sheath material	**PVC**
Minimum bending cycles	**2 million**
Minimum bending radius	**10 x D**
Traverse path	**5 m**
For type 35 T	**10 m**
Acceleration	**5 m/s²**
For type 35 T	**10 m/s²**
Speed	**3 m/s**
Tested at	**+20°C ... +25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
35T Black Twisted pair	**12-pos.**	M12 Shielded	6 x 2 x 0.14 mm² (18 x 0.1 mm) Shielding: copper braid		In accordance with DIN 47100	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +80°C	214
	17-pos.	M12 Shielded	7 x 2 x 0.14 mm² 1 x 3 x 0.14 mm² (18 x 0.1 mm) Shielding: copper braid		In accordance with DIN 47100	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +80°C	215
PUR Black **For M5**	**3-pos.**	M5	3 x 0.14 mm² (18 x 0.1 mm)		Brown, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -15°C ... +80°C	See: phoenix contact.net/ products
	4-pos.	M5	4 x 0.14 mm² (18 x 0.1 mm)		Brown, white, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -15°C ... +80°C	See: phoenix contact.net/ products

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PUR cross-linking through irradiation, resistant to welding sparks

Due to the cross-linking of the PUR outer sheath through irradiation, the properties typical of PUR, e.g., resistance to temperature, UV, and welding sparks, are greatly improved. The cables are designed for robust use in the field of robot technology. Thanks to their very high durability, the cables are particularly suitable for welding robots.
Flame-retardant in accordance with DIN VDE 0472, Part 804, test type B.

Outer sheath material	**PUR irradiated**
Minimum bending cycles	**5 million**
Minimum bending radius	**10 x D**
Traverse path	**10 m**
Acceleration	**10 m/s²**
Speed	**3 m/s**
Torsion	**±360°**
Tested at	**+20°C ... +25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
150 Orange	**3-pos.**	M12	3 x 0.34 mm² (42 x 0.1 mm)		Brown, blue, black	Halogen-free polyester-based plastic	Moving: -40°C ... +105°C Fixed: -50°C ... +105°C	188 250
		Valve connectors	3 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, green-yellow	Halogen-free polyester-based plastic	Moving: -40°C ... +105°C Fixed: -50°C ... +105°C	230 to 238
	4-pos.	M12	4 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black	Halogen-free polyester-based plastic	Moving: -40°C ... +105°C Fixed: -50°C ... +105°C	194
	5-pos.	M12	4 x 0.34 mm² + 1 x 0.5 mm² (42 x 0.1 mm, 24 x 0.15 mm)		Brown, white, blue, black, green-yellow	Halogen-free polyester-based plastic	Moving: -40°C ... +105°C Fixed: -50°C ... +105°C	201
		Valve connectors	5 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	Halogen-free polyester-based plastic	Moving: -40°C ... +105°C Fixed: -50°C ... +105°C	242
160 Yellow	**4-pos.**	M12	4 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black	Halogen-free polyester-based plastic	Moving: -40°C ... +105°C Fixed: -50°C ... +105°C	194

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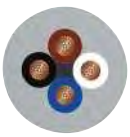
TPE-U highly flexible

Permanently flexible control cables excellent for use in drag chains and industrial robots. The cables can be used wherever extreme bending and torsional stress are present at the same time, and considerably longer durability has to be achieved. The control cables are resistant to welding sparks and are thus the only type suitable for use in resistance welding processes. The use of new materials eliminates irradiation cross-linking, which makes the cables easier to recycle. The cables thus meet the requirements of DIN EN ISO 14001.

Further features of the control cables: halogen and PVC-free, flame-retardant in accordance with UL-FT1, VW1 and 1581 §1061, very good resistance to oils in accordance with VDE 0250 Part 407 and chemicals, lubricants, and coolants as well as other aggressive substances.

Due to the very robust outer sheath, the cable sheath is only removed in 5 cm increments.

Outer sheath material	**TPE-U**
Minimum bending cycles	**10 million**
Minimum bending radius	
Fixed	**5 x D**
Moving	**7.5 x D**
Traverse path	**5 m**
Acceleration	**20 m/s²**
Speed	**3.33 m/s**
Torsion angle	**±360°**
Min. torsion cycles	**13 million**
Tested at	**+20°C ... +25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
800 Gray	**3-pos.**	M8	3 x 0.25 mm² (32 x 0.1 mm)		Brown, blue, black	Polyester	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C 120°C ... 3,000 h	186 188 250
		M12	3 x 0.34 mm² (42 x 0.1 mm)		Brown, blue, black	Polyester	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C 120°C ... 3,000 h	188 250 192
	4-pos.	M8	4 x 0.25 mm² (32 x 0.1 mm)		Brown, white, blue, black	Polyester	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C 120°C ... 3,000 h	186 194
		M12	4 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black	Polyester	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C 120°C ... 3,000 h	194 198
	5-pos.	M12	5 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black, gray	Polyester	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C 120°C ... 3,000 h	201
	8-pos.	M12	8 x 0.25 mm² (32 x 0.1 mm)		In accordance with DIN 47100	Polyester	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C 120°C ... 3,000 h	208
802 Gray	**5-pos.**	M12	5 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black, green-yellow	Polyester	Moving: -30°C ... +90°C Fixed: -40°C ... +90°C 120°C ... 3,000 h	203

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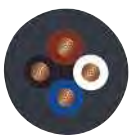
PVC – 80°C and 105°C

This very reasonably priced high-quality cable is suitable for use under dry conditions and average mechanical strain associated with machine tools, packaging machines, and assembly/production lines. The cable offers a certain degree of resistance to chemicals and oil and is less susceptible to wear. Flame-retardant to VW-1 in accordance with UL 758.

VW-1 is the toughest flame test for single cables.

Outer sheath material **PVC**

Minimum bending radius **10 x D**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PVC Black	**3-pos.**	M8	3 x 0.25 mm² (14 x 0.15 mm)		Brown, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°C ... +80°C	188 250 302
		M12	3 x 0.34 mm² (19 x 0.15 mm)		Brown, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°C ... +80°C	188 250 302
		M12 Shielded	3 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°C ... +80°C	193 302
		Valve connectors	3 x 0.5 mm² (16 x 0.2 mm)		Black 1, black 2, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +80°C	230 to 238
	4-pos.	M8	4 x 0.25 mm² (14 x 0.15 mm)		Brown, white, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°C ... +80°C	194 302
		M12	4 x 0.34 mm² (19 x 0.15 mm)		Brown, white, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°C ... +80°C	194 302
		M12 Shielded	4 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, white, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°C ... +80°C	199 302
		Valve connectors	4 x 0.5 mm² (16 x 0.2 mm)		Black 1, black 2, black 3, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +80°C	242
		M12 POWER	4 x 2.5 mm² (141 x 0.15 mm)		Brown, white, blue, black	PVC	Moving: -20°C ... +80°C Fixed: -40°C ... +80°C	297

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Sensor/actuator cabling – cable range

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PVC Black	**5-pos.**	M12	5 x 0.34 mm² (19 x 0.15 mm)		Brown, white, blue, black, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	201 302
		M12 Shielded	5 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, white, blue, black, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	204 302
		Valve connectors	5 x 0.5 mm² (28 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°...+80°C	230 to 238
		M12 POWER	5 x 2.5 mm² (141 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	PVC	Moving: -20°C ... +80°C Fixed: -40°...+80°C	293
		M12 POWER Shielded	5 x 2.5 mm² (141 x 0.15 mm)		Black 1, black 2, black 3, black 4, green-yellow	PVC	Moving: -20°C ... +80°C Fixed: -40°...+80°C	293
	6-pos.	M12 POWER	6 x 1.5 mm² (78 x 0.15 mm)		Black 1, black 2, black 3, black 4, black 5, green-yellow	PVC	Moving: -20°C ... +80°C Fixed: -40°...+80°C	See: phoenix contact.net/ products
		M12 POWER Shielded	6 x 1.5 mm² (78 x 0.15 mm)		Black 1, black 2, black 3, black 4, black 5, green-yellow	PVC	Moving: -20°C ... +80°C Fixed: -40°...+80°C	See: phoenix contact.net/ products
	8-pos.	M12	8 x 0.25 mm² (14 x 0.15 mm)		White, brown, green, yellow, gray, pink, blue, red	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	208 302
		M12 Shielded	8 x 0.25 mm² (32 x 0.1 mm) Shielding: copper braid and flexible filler lead		White, brown, green, yellow, gray, pink, blue, red	PVC	Moving: -5°C ... +105°C Fixed: -25°...+105°C	211 302
	12-pos.	M12	12 x 0.14 mm² (18 x 0.1 mm)		In accordance with DIN 47100	PVC	Moving: -5°C ... +90°C Fixed: -40°...+90°C	213 302
	17-pos.	M12	17 x 0.14 mm² (18 x 0.1 mm)		In accordance with DIN 47100	PVC	Moving: -5°C ... +90°C Fixed: -25°...+90°C	213 302
110 Black	**4-pos.**	M12 POWER	4 x 1.5 mm² (78 x 0.15 mm)		Brown, white, blue, black	PVC	Moving: -20°C ... +80°C Fixed: -40°...+80°C	291 297

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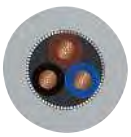
Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
500 Gray	**3-pos.**	M8	3 x 0.25 mm² (14 x 0.15 mm)		Brown, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	188 250
		M12	3 x 0.34 mm² (19 x 0.15 mm)		Brown, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	188 250
		M12 Shielded	3 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	193
	4-pos.	M8	4 x 0.25 mm² (14 x 0.15 mm)		Brown, white, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	194
		M12	4 x 0.34 mm² (19 x 0.15 mm)		Brown, white, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	194
		M12 Shielded	4 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, white, blue, black	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	199
	5-pos.	M12	5 x 0.34 mm² (19 x 0.15 mm)		Brown, white, blue, black, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	201
		M12 Shielded	5 x 0.34 mm² (42 x 0.1 mm) Shielding: copper braid		Brown, white, blue, black, gray	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	204
		M12 POWER	5 x 2.5 mm² (141 x 0.15 mm)		Brown, white, blue, black, gray	PVC	Moving: -20°C ... +80°C Fixed: -40°...+80°C	295
	8-pos.	M12	8 x 0.25 mm² (14 x 0.15 mm)		White, brown, green, yellow, gray, pink, blue, red	PVC	Moving: -5°C ... +80°C Fixed: -25°...+80°C	208
510 Gray	**5-pos.**	M12 POWER	5 x 1.5 mm² (78 x 0.15 mm)		Brown, white, blue, black, gray	PVC	Moving: -20°C ... +80°C Fixed: -40°...+80°C	295
515 Black	**5-pos.**	M12	5 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black, gray	PVC	Moving: -5°C ... +80°C Fixed: -40°...+80°C	201

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Sensor/actuator cabling – cable range

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
534 Black	**3-pos.**	Valve connectors	3 x 0.75 mm² (24 x 0.2 mm)		Black 1, black 2, green-yellow	PVC	Mobile: -5°C ... +80°C Fixed: -40°C ... +80°C	230 to 238 304
	4-pos.	Valve connectors	4 x 0.75 mm² (24 x 0.2 mm)		Black 1, black 2, black 3, green-yellow	PVC	Mobile: -5°C ... +80°C Fixed: -40°C ... +80°C	242
	5-pos.	Valve connectors	5 x 0.75 mm² (24 x 0.2 mm)		Black 1, black 2, black 3, black 4, green-yellow	PVC	Mobile: -5°C ... +80°C Fixed: -40°C ... +80°C	242 304
540 Yellow	**3-pos.**	M12	3 x 0.34 mm² (42 x 0.1 mm)		Brown, blue, black	PVC	Mobile: -5°C ... +80°C Fixed: -25°C ... +80°C	188 250
	4-pos.	M12	4 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black	PVC	Mobile: -5°C ... +80°C Fixed: -25°C ... +80°C	194
	5-pos.	M12	5 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black, gray	PVC	Mobile: -5°C ... +80°C Fixed: -25°C ... +80°C	201
542 Yellow	**3-pos.**	M12	3 x 0.34 mm² (42 x 0.1 mm)		Brown, blue, black	PVC	Mobile: -5°C ... +105°C Fixed: -25°C ... +105°C	188 250
	4-pos.	M12	4 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black	PVC	Mobile: -5°C ... +105°C Fixed: -25°C ... +105°C	194
	5-pos.	M12	5 x 0.34 mm² (42 x 0.1 mm)		Brown, white, blue, black, gray	PVC	Mobile: -5°C ... +105°C Fixed: -25°C ... +105°C	201

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PUR/PVC (for sensor/actuator boxes)

The cables are designed for robust use in machine tools, assembly/production lines, as well as production involving metal cutting. The cables are free of silicone and substances that would hinder coating with paint or varnish and have a high resistance to abrasion. The outer sheath also offers excellent resistance to chemicals and oil in accordance with VDE 0472 Part 803, is flame-retardant in accordance with DIN EN 50265, and is resistant to hydrolysis. The outer sheath is manufactured using the coextrusion process.

Outer sheath material	**PUR**
Inner sheath material	**PVC**
Minimum bending cycles	**1.5 ... 2 million**
Minimum bending radius	**10 x D**
Traverse path	**2 m**
Speed	**2 m/s**
Tested at	**+20°C ... +25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PUR/PVC Black	**3-pos., single-occupancy**	M8 and QUICKON up to 0.34 mm² 4 slots	4 x 0.34 mm² 2 x 0.75 mm²		White, green, yellow, gray, brown, blue	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	260 266 305
		M8 and QUICKON up to 0.34 mm² 6 slots	6 x 0.34 mm² 2 x 0.75 mm²		White, green, yellow, gray, pink, red, brown, blue	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	260 266 305
		M8 and QUICKON up to 0.34 mm² 8 slots	8 x 0.34 mm² 2 x 0.75 mm²		White, green, yellow, gray, pink, red, black, violet, brown, blue	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	260 266 305
		M8 10 slots	10 x 0.34 mm² 2 x 0.75 mm²		White, green, yellow, gray, pink, red, black, violet, white-pink, pink-brown, brown, blue	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	260 305
	4-pos., double-occupancy	QUICKON up to 0.34 mm² 4 slots	8 x 0.34 mm² 2 x 0.75 mm²		White, green, yellow, gray, gray-pink, red-blue, white-green, brown-green, brown, blue	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	266
		M8 and QUICKON up to 0.34 mm² 8 slots	16 x 0.34 mm² 2 x 0.75 mm²		White, green, yellow, gray, pink, red, black, violet, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, white-gray, gray-brown, brown, blue	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	260 266 305

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Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PUR/PVC Black	**4-pos., single-occupancy**	M12 and QUICKON up to 0.75 mm² 4 slots	4 x 0.34 mm² 3 x 0.75 mm²		White, green, yellow, gray, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	262 264 267 305
		M12 and QUICKON up to 0.75 mm² 6 slots	6 x 0.34 mm² 3 x 0.75 mm²		White, green, yellow, gray, pink, red, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	262 264 267 305
		M12 and QUICKON up to 0.75 mm² 8 slots	8 x 0.34 mm² 3 x 0.75 mm²		White, green, yellow, gray, pink, red, black, violet, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	262 264 267 305
	5-pos., double-occupancy	M12 4 slots	8 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, gray-pink, red-blue, white-green, brown-green, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	262 264 305
		M12 6 slots	12 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	262 264 305
		M12 8 slots	16 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, black, violet, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, white-gray, gray-brown, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	262 264 305

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PUR/PVC shielded (for sensor/actuator boxes)

The cables are designed for robust use in machine tools, assembly/production lines, as well as production involving metal cutting. Thanks to the tin-plated copper braid with 85% coverage, the cables reliably protect analog signals against electromagnetic influences. The cables are free of silicone and substances that would hinder coating with paint or varnish and have a high resistance to abrasion. The outer sheath also offers excellent resistance to oil and resistance to chemicals in accordance with VDE 0472 Part 803, is flame-retardant in accordance with DIN EN 50265, and is resistant to hydrolysis.

Outer sheath material	**PUR**
Inner sheath material	**PVC**
Minimum bending cycles	**1.5 ... 2 million**
Minimum bending radius	**10 x D**
Traverse path	**2 m**
Speed	**2 m/s**
Tested at	**+20°C ... +25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PUR/PVC shielded Black	**5-pos., double-occupancy**	M12 4 slots	8 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, gray-pink, red-blue, white-green, brown-green, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	305
		M12 6 slots	12 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	305
		M12 8 slots	16 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, black, violet, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, white-gray, gray-brown, brown, blue, green-yellow	PVC	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	305

PVC – for the food industry (for sensor/actuator boxes)

Master cable resistant to cleaning agents designed for use in the splash zone. Can be used together with our stainless steel sensor/actuator box to implement signal distribution in a washdown design. The cable is flame-retardant in accordance with IEC 60332-1-2 and UL 758 FT2 and has an oil-resistant outer sheath in accordance with DIN EN 60811-404.

Outer sheath material	**PVC**
Minimum bending radius	
Fixed	**5 x D**
Moving	**10 x D**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PVC Black	**5-pos., double-occupancy**	M12 8 slots	16 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, black, violet, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, white-gray, gray-brown, brown, blue, green-yellow	PVC	Moving: -5°C ... +90°C Fixed: -40°C ... +90°C	See: phoenix contact.net/ products

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PUR, halogen-free (for sensor/actuator boxes)

Permanently flexible control cables designed for use in drag chains and as machine control cables for extreme operating conditions. The cables are suitable for bending cycle loads with long-term durability. The special PUR outer sheath offers excellent resistance to oils in accordance with VDE 0472 Part 803, lubricants, cooling agents, and other aggressive substances. Additional features: halogen and PVC-free, free of silicone and substances that would hinder coating with paint or varnish, resistant to hydrolysis, and flame-retardant in accordance with DIN EN 50265.

Outer sheath material	**PUR**
Minimum bending cycles	**1.5 ... 2 million**
Minimum bending radius	**10 x D**
Traverse path	**2 m**
Speed	**2 m/s**
Tested at	**+20°C ... +25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
PUR Black	**5-pos., double-occupancy**	M12 4 slots	8 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, gray-pink, red-blue, white-green, brown-green, brown, blue, green-yellow	PP	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	264 305
		M12 6 slots	12 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, brown, blue, green-yellow	PP	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	264 305
		M12 8 slots	16 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, black, violet, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, white-gray, gray-brown, brown, blue, green-yellow	PP	Moving: -5°C ... +80°C Fixed: -40°C ... +90°C	264 305

80 MC – highly flexible (for sensor/actuator boxes)

Permanently flexible cables designed for use in drag chains, industrial robots or portal tables. The cables are suitable for bending cycle loads and torsional stress with long-term durability. The special PUR outer sheath offers excellent resistance to oils in accordance with DIN EN 60811-2-1, chemicals, and hydrolysis.

The cable is also flame-retardant in accordance with DIN EN 50265-2-1 and is halogen-free.

Outer sheath material	**PUR**
Minimum bending cycles	**5 million**
Minimum bending radius	**10 x D**
Traverse path	**5 m**
Acceleration	**5 m/s²**
Speed	**3 m/s**
Torsion angle	**+/- 120°**
Min. torsion cycles	**3 million**
Test length	**1 m**
Tested at	**+20°C ... +25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
80MC Black	**5-pos., double-occupancy**	M12 8 slots	16 x 0.50 mm² 3 x 1.00 mm²		White, green, yellow, gray, pink, red, black, violet, gray-pink, red-blue, white-green, brown-green, white-yellow, yellow-brown, white-gray, gray-brown, brown, blue, green-yellow	PP	Moving: +5°C ... +70°C Fixed: -30°C ... +70°C	305

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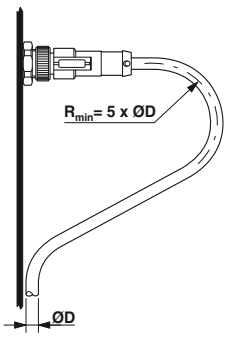
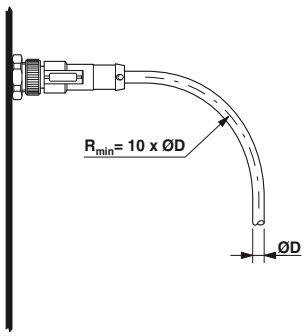
The following pages provide an overview of the appropriate installation of SAC cables in harsh industrial environments that will guarantee a long service life and reduce costs.

Bending radius

In the case of a moving installation, a generous bending radius can be advantageous. The greater the bending radius, the lower the stress that occurs as a result of movement. The result is an increased cable service life (take into account the minimum cable-specific bending radii).



Fixed installation



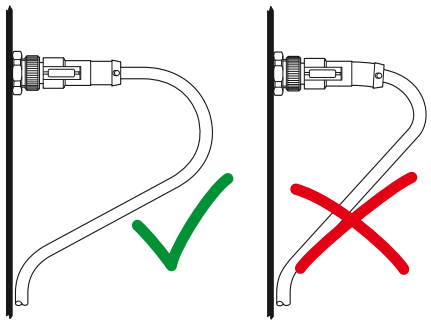
Moving installation

Moving installation

In the case of a moving installation, the cable length should be sufficient to adequately absorb the tensile loads as efficiently as possible. This can be realized, for example, via cable loops and C drag chains.

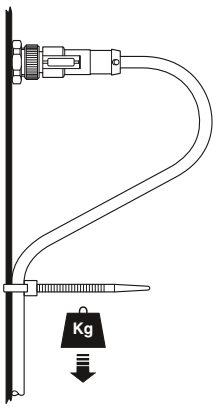
Load

Prevent the material from aging prematurely by creating a sufficient cable loop at the connection point.
This provides sufficient play for absorbing any additional stress that may occur.



Strain relief for connectors

When installing connectors, make sure that they are protected against tensile loads that may occur. This applies in particular to moveable installations. Support the cables with cable ties, for example.



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Cables in power track chains

Where possible, cables should be laid individually and loosely next to each other within power track chains. Isolating segments or bridges should be placed between the various cables. Or the cables may be arranged in separate drill holes in the neutral zone.

The laying of cables that have very different outer diameters next to or across each other is not recommended. If, however, this cannot be avoided for design reasons, isolating segments or bridges should be installed to ensure a long service life. If it is not possible to install isolating segments between each cable, we recommend that cables with an outer diameter of <10 mm are laid loose in a guide tube. When doing so, combine cables with similar cross sections.

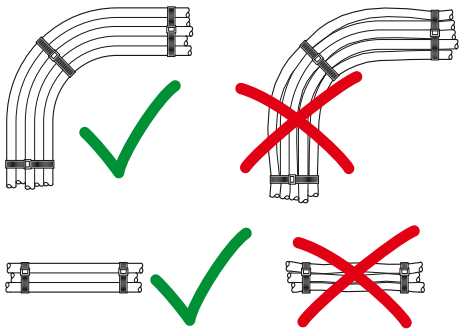
When arranging the cables, it is important to ensure that heavy cables are routed on the outside and light cables, such as the SAC cables, are routed on the inside. Ensure that there is strain relief on both sides, or at least on the movable end of the drag chain. As a guide value, the distance between the bending motion end and the attachment should be 20 to 30 times the outer diameter.

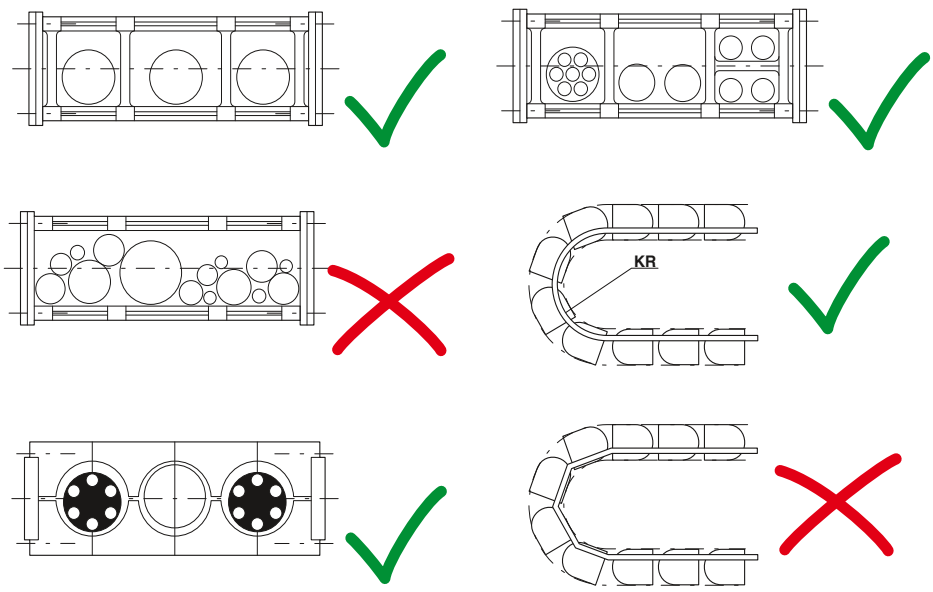
The cables must be able to move completely freely within the radius of curvature in order to prevent forced guidance of the drag chain. Guide value: 10% of the outer diameter should be allocated as free space.

Note: When laying the cables, observe the information provided by the drag chain manufacturer.

Cable bundling

When bundling several individual cables, it is important to ensure that the cables can move freely within the bundle. The cables must not become deformed. Round cables with greatly varying outer diameters should only be laid next to each other when bridges are used.





KR = radius of curvature

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Data connectors and cables

Complex automation processes call for high volumes of data at ever-increasing transmission speeds. Transmit this data safely and reliably using connectors from Phoenix Contact which are suitable for industrial use.

When it comes to implementing networks, we offer solutions for Industrial Ethernet and PROFINET as well as EtherCAT®. Furthermore, we offer components for fieldbus systems such as PROFIBUS, CANopen®/DeviceNet™, and FOUNDATION Fieldbus.

The product range includes assembled cables, cable connectors, device connectors, and connectors for field assembly. For FO and copper-based cabling we also offer connector systems with innovative connection technologies. These can be wired quickly and securely without special tools.

Active components for networks and fieldbus systems can be found in Catalog 6.

Copper-based data connectors
- Future-proof high-speed cabling up to 10 Gbps
- Solutions for IP20, IP65/IP67, and IP69K
- IDC, Push-in, crimp, spring, or pierce connection

Fiber optic-based data connectors
- Transmission speeds of up to 40 Gbps
- Solutions for IP20 and IP65/IP67
- POF, PCF, and GOF fiber types (multi and single mode)

Your web code: #0296

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System overview – network

	Ethernet PROFINET EtherCAT	Ethernet	Ethernet EtherNet/IP	Ethernet CAT6A 10 Gigabit/s EtherNet/IP	Ethernet
Area of application	Ethernet M8 (4-pos.) All industrial environments	Ethernet M12 (4-pos.) All industrial environments	Ethernet M12 (8-pos.) All industrial environments	Ethernet M12/10G (8-pos.) All industrial environments	Ethernet hybrid M12 (8-pos.) All industrial environments
Topology	Star, tree, or line topology	Star, tree, or line topology	Star, tree, or line topology	Star, tree, or line topology	Star, tree, or line topology
Data transmission	Up to 100 Mbps	Up to 100 Mbps	Up to 1 Gbps	Up to 10 Gbps	Up to 100 Mbps
Special connectors				M12 with shield crossover	M12 with Y-shield

Pin assignment

Signal des.	Connector RJ45	Connector M8
TD+	1	1
TD-	2	4
RD+	3	2
RD-	6	3

Signal des.	Connector RJ45	Connector M12
TD+	1	1
TD-	2	3
RD+	3	2
RD-	6	4

Signal des.	Connector RJ45	Connector M12
D1+	1	6
D1-	2	4
D3-	5	1
D3+	4	7
D2+	3	5
D2-	6	8
D4+	7	2
D4-	8	3

Signal des.	Connector RJ45	Connector M12
D1+	1	1
D1-	2	2
D3-	5	7
D3+	4	8
D2+	3	3
D2-	6	4
D4+	7	5
D4-	8	6

Signal des.	Connector M12
TD+	1
TD-	2
RD+	3
RD-	4

Signal designation Wire assignment

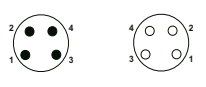
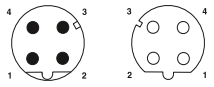
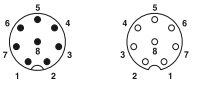
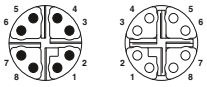
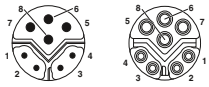
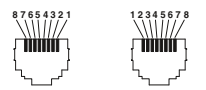
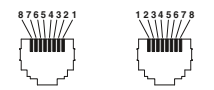
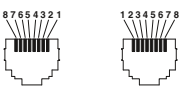
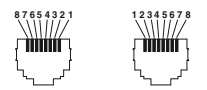
Wire color	Signal
YE	TD+
OG	TD-
WH	RD+
BU	RD-

Wire color	Signal
WHOG	TD+
OG	TD-
WHGN	RD+
GN	RD-

Wire color	Signal
WHOG	D1+
OG	D1-
WHBU	D3-
BU	D3+
WHGN	D2+
GN	D2-
WHBN	D4+
BN	D4-

Wire color	Signal
WHOG	D1+
OG	D1-
WHBU	D3-
BU	D3+
WHGN	D2+
GN	D2-
WHBN	D4+
BN	D4-

Wire color	Signal
WHOG	TD+
OG	TD-
WHGN	RD+
GN	RD-
BU	
WH	
BN	
BK	

Segment length	Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device
User organization			www.odva.org (EtherNet/IP™)	www.odva.org (EtherNet/IP™)	
Standardization of cabling	ISO/IEC 24702	ISO/IEC 24702	ISO/IEC 24702 (Ethernet) IEC 61784-5-2 (EtherNet/IP™)	ISO/IEC 24702 (Ethernet) IEC 61784-5-2 (EtherNet/IP™)	
Connector pin assignments					
	Male / Female	Male / Female	Male / Female	Male / Female	Male / Female
	M8, 4-pos.	M12, 4-pos., D-coded	M12, 8-pos., A-coded	M12, 8-pos., X-coded	M12, hybrid, 8-pos., Y-coded
					
	Male / Female	Male / Female	Male / Female	Male / Female	
	RJ45, 8-pos.	RJ45, 8-pos.	RJ45, 8-pos.	RJ45, 8-pos.	

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Web code	#0957	#0957	#0957	#0957	#0957

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CC-Link IE | PROFINET | PROFINET | EtherCAT | sercos the automation bus | VARAN

Production, process automation in the automotive industry	Production, process automation in the automotive industry	Production, process automation in the automotive industry	Automation technology	Motion control applications	Automation technology
Typically active star topology	Star, line, tree, and ring structures. Hybrid forms also supported	Star, line, tree, and ring structures. Hybrid forms also supported	Line, tree, star, and combinations of these	Line, ring, and hierarchical, cascaded network structures	Tree, line, and star topology
Up to 10 Gbps	100 Mbps	1 Gbps to 10 Gbps	100 Mbps, upgrade to Gigabit Ethernet possible	Fast Ethernet with 100 Mbps	Up to Gigabit Ethernet
		M12 with shield crossover			2+4 Power/Ethernet connection technology (IP65 and IP67)

Signal des.	Connector RJ45	Connector M12
D1+	1	1
D1-	2	2
D3-	5	7
D3+	4	8
D2+	3	3
D2-	6	4
D4+	7	5
D4-	8	6

Wire color	Signal
WHOG	D1+
OG	D1-
WHBU	D3-
BU	D3+
WHGN	D2+
GN	D2-
WHBN	D4+
BN	D4-

Signal des.	Connector RJ45	Connector M12
TD+	1	1
TD-	2	3
RD+	3	2
RD-	6	4

Wire color	Signal
YE	TD+
OG	TD-
WH	RD+
BU	RD-

Signal des.	Connector RJ45	Connector M12
D1+	1	1
D1-	2	2
D3-	5	7
D3+	4	8
D2+	3	3
D2-	6	4
D4+	7	5
D4-	8	6

Wire color	Signal
WHOG	D1+
OG	D1-
WHBU	D3-
BU	D3+
WHGN	D2+
GN	D2-
WHBN	D4+
BN	D4-

Signal des.	Connector RJ45	Connector M12
TD+	1	1
TD-	2	3
RD+	3	2
RD-	6	4

Wire color	Signal
YE	TD+
OG	TD-
WH	RD+
BU	RD-

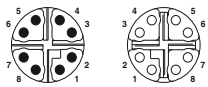
Signal des.	Connector RJ45	Connector M12
TD+	1	1
TD-	2	3
RD+	3	2
RD-	6	4

Wire color	Signal
YE	TD+
OG	TD-
WH	RD+
BU	RD-

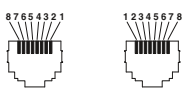
Signal des.	Connector RJ45	Connector M12
TD+	2	2
TD-	1	3
RD+	3	5
RD-	6	8

Wire color	Signal
n. c.	
OG	TD-
WHOG	TD+
n. c.	
WHGN	RD+
BU	
BN	
GN	RD-

Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device	Up to 100 m from hub/switch to terminal device
www.cc-link.org	www.profinet.com	www.profinet.com	www.ethercat.org	www.sercos.de	www.varan-bus.net
IEEE 802.3	IEC 61784-5-3	IEC 61784-5-3	IEC 61784-5-12	IEC 61784-5-16	



Male / Female	Male / Female	Male / Female	Male / Female	Male / Female	Male / Female
M12, 8-pos., X-coded	M12, 4-pos., D-coded	M12, 8-pos., X-coded	M12, 4-pos., D-coded	M12, 4-pos., D-coded	M12, 8-pos., A-coded



Male / Female	Male / Female	Male / Female	Male / Female	Male / Female	Male / Female
RJ45, 8-pos.	RJ45, 8-pos.	RJ45, 8-pos.	RJ45, 8-pos.	RJ45, 8-pos.	RJ45, 8-pos.

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#0957	#0957	#0957	#0957	#0957	#0957

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	InterBus	PROFIBUS	PROFIBUS	DeviceNet
Area of application	Sensor/actuator level, process automation, monitoring PC	Decentral I/O devices for networking several controllers	Process automation for potentially explosive areas (Ex zones 0 and 1)	Automation technology
Topology	Active ring structure	Line, tree, ring, or star, depending on the physical network design	Line, tree, or ring	Line
Data transmission	Between 500 kbps and 16 Mbps, depending on the segment length	Up to 12 Mbps	Up to 31.25 kbps	Up to 500 kBaud
Special connectors				

Pin assignment

Signal designation	Connector D-SUB 9	Connector M12
DO	1	2
DO	6	1
DI	2	4
DI	7	3
GND	3	5

Signal designation	Connector D-SUB 9	Connector M12
A cable	8	2
B cable	3	4

Signal designation	Connector M12
DATA+	1
DATA-	3
Shield	4

Signal designation	Connector COMBICON	Connector M12	Connector 7/8"	Connector M8
CAN_L	2	5	5	5
CAN_H	4	4	4	3
V+	5	2	2	2
V-	1	3	3	4
Drain	3	1	1	1

Signal designation, wire assignment

Wire color	Signal
YE	DO
GN	DO
GY	DI
PK	DI
BN	GND
WH	NC

Shield on housing

Wire color	Signal
GN	A cable
RD	B cable

Shield on housing

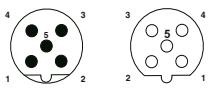
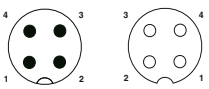
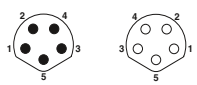
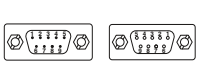
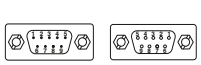
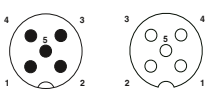
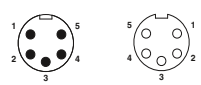
Wire color	Signal
OG	DATA+
BU	DATA-

Flexible filler lead

Shield on pin

Wire color	Signal
BU	CAN_L
WH	CAN_H
RD	V+
BK	V-

Shield on pin

Segment length	400 m segment length between two devices; max. 13 km total length	Up to 1200 m with copper installation, up to 15 km with fiber optic installation	Max. 1900 m	Up to 500 m
User organization	www.interbusclub.com	www.profibus.com	www.profibus.com	www.odva.org
Standardization of cabling	IEC 61158	IEC 61158 / IEC 61784	IEC 61158 / IEC 61784	IEC 61158 IEC 61784-1 CPF2/3
Connector pin assignments				
	Male / Female	Male / Female	Male / Female	Male / Female
	M12, 5-pos., B-coded	M12, 5-pos., B-coded	M12, 3-pos., A-coded	M8, 5-pos., B-coded
				
	Male / Female	Male / Female		Male / Female
	D-SUB 9	D-SUB 9		M12, 5-pos., A-coded
				
				Male / Female
				7/8" 16UNF, 5-pos.
Connectors	Page 422	Page 422	Page 423	Page 423
Cables	Page 428	Page 429	Page 430	Page 432
Web code	#0957	#0957	#0957	#0957

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CANopen

Automation technology and for networking within complex devices

Line or tree (when using repeaters)

10 kBaud to 1 Mbaud

Signal designation	Connector				
	COMBICON	D-SUB 9	M12	RJ45	7/8"
CAN_L	2	2	5	2	5
CAN_H	4	7	4	1	4
V+	5	9	2	8	2
V-	1	3	3	3	3
Drain	3	4	1	6	1

Wire color	Signal
BU	CAN_L
WH	CAN_H
RD	V+
BK	V-

Shield on pin

Up to 1000 m depending on the transmission speed, can be increased by using repeaters

www.can-cia.de

EN 50325-4

Male | Female

M12, 5-pos., A-coded

Male | Female

7/8" 16UNF, 5-pos.

Male | Female

D-SUB 9

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#0957

ASi

Sensor/actuator level

Bus, star, ring, and tree structures

167 kbps

Signal designation	Connector
	M12
AS-i+	1
AS-i-	3

Wire color	Signal
BN	AS-i-
WH	
BU	AS-i+
BK	

Shield on pin

Max. 100 m cable length, 300 m with termination resistors, 500 m with repeaters

www.as-interface.net

EN 50295 and IEC 62026-2

Male | Female

M12, 4-pos., A-coded

-

-

-

-

FOUNDATION

Process automation

Point-to-point line (with branch lines), tree structure, combination of all topologies

H1: 31.25 kbps, IEC physical transmission channel, including Ex bus
H2: 1.0 and 2.5 Mbps data rate, via two-wire cable or fiber optics

Signal designation	Connector	
	M12	7/8"
DATA+	2	2
DATA-	1	1
Shield	3	3

Wire color	Signal
OG	DATA+
BU	DATA-

Flexible filler lead

Shield on pin 3

Max. 1900 m; max. 9500 m when using repeaters depending on the selected cable

www.fieldbus.org

IEC1158 IEC 61158

Male | Female

M12, 4-pos., A-coded

Male | Female

7/8" 16UNF, 4-pos.

-

-

-

-

USB

All industrial environments

Star topology; the connection is established at the star nodes via hubs

Up to 480 Mbps

Signal designation	Connector	
	M12, MINI - USB	USB
V_{BUS}	1	1
D-	2	2
D+	3	3
ID	4	
GND	5	4

Wire color	Signal
WHOG	D-
WH	V_{BUS}
OG	D+
n.c.	ID
BK	GND

5 m per segment

www.usb.org

Not specified

Male, type A | Female, type B

USB, 4-pos.

Male | Female

M12 mini-USB, 5-pos.

-

-

-

-

CC-Link

Production level applications

Bus, multi-drop, T-branching, star

Up to 10 Mbps

Signal designation	Connector
	M12
SLD	1
DB	2
DG	3
DA	4

Wire color	Signal
Shield	SLD
WH	DB
YE	DG
BU	DA

Max. 1200 m; max. 13.2 km with repeaters

www.clpa-europe.com

IEC 61784-1 CPF 8

Male | Female

M12, 4-pos., A-coded

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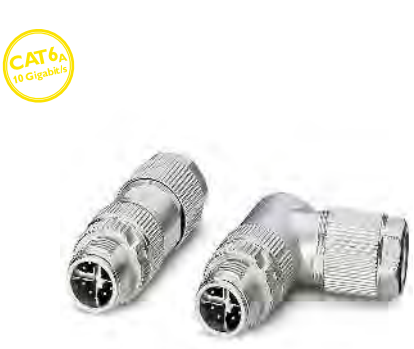
Connectors and cable connectors, for assembly

Insulation displacement connection QUICKON



Piercecon® and crimp connection

		Technical data		Technical data	
		Ethernet/PROFINET	**Ethernet/PROFINET**	**Ethernet**	**Ethernet/PROFINET**
M12 circular connector in accordance with:		IEC 61076-2-109	-	IEC 61076-2-109	IEC 61076-2-109
Degree of pollution		3	3	3	3
Degree of protection		IP65 / IP67	IP65 / IP67	IP65	IP65 / IP67
Connection method		Insulation displacement connection	Insulation displacement connection	Piercecon®	Crimp connection
Connection cross section		0.14 mm² ... 0.34 mm²	0.14 mm² ... 0.34 mm²	0.14 mm² ... 0.14 mm²	0.14 mm² ... 0.34 mm²
External cable diameter		5 mm ... 9.7 mm	5 mm ... 9.7 mm	4 mm ... 8 mm	6.5 mm ... 10 mm
Electrical data					
Rated voltage		48 V AC / 60 V DC	50 V AC / 60 V DC	50 V AC / 60 V DC	48 V AC / 60 V DC
Rated current		0.5 A	0.5 A (30 W)	0.5 A (30 W)	0.5 A
Insulation resistance		≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ	≥ 100 Ω
Transmission characteristics (category)		CAT6A	CAT6A	CAT6A	CAT6A
Material data					
Contact material		CuSn	CuSn	CuSn	-
Contact surface material		Ni/Au	Ni/Au	Ni/Au	-
Contact carrier material		PA 6.6	PA 6.6	PP	PA 6.6
Flammability rating in accordance with UL 94		V0	V0	V0	V0
Coding		X - data	-	X - data	X - data
Number of positions		8	8	8	8
Temperature data					
Male connector/female connector	[°C]	-40 ... 85	-40 ... 85	-40 ... 85	-40 ... 85

	Ordering data				Ordering data			
Description	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.
	Ethernet/PROFINET		**Ethernet/PROFINET**		**Ethernet**		**Ethernet/PROFINET**	
Connector, shielded, color-coded and numbered connection area								
Male, straight	1411043	1						
Female, straight	1414586	1						
Cable connector, shielded, color-coded and numbered connection area			1414412	1				
Connector, shielded, color-coded connection area								
Male, straight					1417430	1		
Male, angled					1417443	1		
Connector, without contacts, color-coded and numbered contact manager								
Male, straight							1422844	1
Male, angled							1422845	1

	Accessories			Accessories		
Crimp contacts, gold-plated Male, for X-coded, 0.14 mm² ... 0.34 mm²				**CC0,6-TS-0,34M AU**	1423643	100
Crimping pliers, for turned contacts, universal cross section setting, up to a maximum of 2.5 mm², digital display with 0.01 mm increments, unlockable pressure lock, lateral entry, including positioning tool						
for turned contacts, four-mandrel crimping				**CRIMPFOX-TC MP**	1212510	1
Stripping tool, for multiple-stage repositioning of shielded conductors						
	VS-CABLE-STRIP-VARIO	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1

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Connectors and cable connectors, for assembly

Insulation displacement connection QUICKON

Push-in connection

	Technical data		Technical data	
M12 circular connector in accordance with:	**D-coded** in accordance with IEC 61076-2-101	**A-coded** in accordance with IEC 61076-2-101	**D-coded** IEC 61076-2-101	
Degree of pollution	3	3	3	
Degree of protection	IP65 / IP67	IP65 / IP67	IP65 / IP67	
Connection method	Insulation displacement connection	Insulation displacement connection	Push-in connection	
Electrical data				
Insulation resistance	≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ	
Transmission characteristics (category)	CAT5	CAT5	CAT5	
Material data				
Contact material	CuSn	CuSn	CuSn	
Contact surface material	Ni/Au	Ni/Au	Ni/Au	
Flammability rating in accordance with UL 94	V0	V0	V0	
Temperature data				
Male connector/female connector [°C]	-40 ... 85	-40 ... 85	-40 ... 85	

	Ordering data				Ordering data			
Description	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.
	D-coded		**A-coded**		**D-coded**			
Connector, 100 Mbps, **Ethernet CAT5,** 4-pos., shielded, color-coded connection area								
Male, straight	1411066	1						
Male, angled	1553624	1						
Female, straight	1411069	1						
Female, angled	1553637	1						
Connector, 100 Mbps, **PROFINET CAT5,** 4-pos., shielded, color-coded connection area								
Male, straight	1411068	1			1424682	1		
Male, angled	1554539	1			1424684	1		
Female, straight	1411071	1			1424683	1		
Female, angled	1554542	1			1424685	1		
Connector, 1 Gbps, **Ethernet CAT5,** 8-pos., shielded, color-coded connection area								
Male, straight			1421679	1				
Male, angled			1553653	1				
Female, straight			1421680	1				
Female, angled			1553666	1				
Connector,VARAN, 6-pos., shielded, color-coded connection area								
Male, straight			1429130	1				
Male, angled			1429156	1				
Female, straight			1429143	1				
Female, angled			1429169	1				
Cable connector, 100 Mbps, **Ethernet CAT5,** 4-pos., shielded, color-coded and numbered connection area								
	1414415	1						
Cable connector, 100 Mbps, **PROFINET CAT5,** 4-pos., shielded, color-coded and numbered connection area								
	1414416	1						

	Accessories			Accessories		
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1

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M12 push-pull connectors, for assembly

new

PROFINET

Ethernet

CAT6A 10 Gigabit/s

Crimp connection

EAC

Technical data

		PROFINET	Ethernet/PROFINET
M12 circular connector in accordance with:		-	-
Degree of pollution		3	3
Degree of protection		IP65 / IP67 / IP68 / IP69K	IP65 / IP67 / IP68 / IP69K
Connection method		Crimp connection	Crimp connection
External cable diameter		4.5 mm ... 7.5 mm	6.5 mm ... 10 mm
Electrical data			
Rated voltage		48 V AC / 60 V DC	48 V AC / 60 V DC
Rated current		4 A	0.5 A
Insulation resistance		≥ 100 Ω	≥ 100 Ω
Transmission characteristics (category)		CAT5	$CAT6_A$
Material data			
Contact carrier material		PA 6.6	PA 6.6
Flammability rating in accordance with UL 94		V0	V0
Coding		D - data	X - data
Number of positions		4	8
Temperature data			
Male connector/female connector	[°C]	-40 ... 85	-40 ... 85

Ordering data

Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	PROFINET		Ethernet/PROFINET	
Push-pull connector, 100 Mbps, 4-pos., shielded				
Male, straight	1021830	1		
Male, angled	1021831	1		
Push-pull connector, 8-pos., shielded				
Male, straight			1021783	1
Male, angled			1021784	1

Accessories

Crimp contacts, gold-plated			
Male, for A-/D-coded, 0.14 mm² ... 0.34 mm²	**CC1,0-TS-0,34M AU**	1064040	100
Male, for A/D-coded, 0.34 mm² ... 1.0 mm²	**CC1,0-TS-1,00M AU**	1423645	100
Male, for X-coded, 0.14 mm² ... 0.34 mm²	**CC0,6-TS-0,34M AU**	1423643	100
Crimping pliers, for turned contacts, universal cross section setting, up to a maximum of 2.5 mm², digital display with 0.01 mm increments, unlockable pressure lock, lateral entry, including positioning tool			
for turned contacts, four-mandrel crimping	**CRIMPFOX-TC MP**	1212510	1
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1

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M12 push-pull locking, with 0.5 m litz wires

– Front mounting
– Manufacturer-independent M12 push-pull locking system

new

4-pos.

new

5-pos.

		Technical data		Technical data	
		4-pos.		5-pos.	
General data					
M12 circular connector in accordance with:		-		-	
Degree of pollution		3		3	
Degree of protection		IP65/IP67		IP65/IP67	
Connection method		Individual wires		Individual wires	
Electrical data					
Rated voltage		250 V		60 V	
Rated current		4 A		4 A	
Material data					
Material contact/contact surface		CuZn / Ni/Au		CuZn / Ni/Au	
Contact carrier material		PA 6.6		PA 6.6	
Flammability rating in accordance with UL 94		V0		V0	
Cable type		TPE litz wire		TPE litz wire	
Temperature data					
Male connector/female connector	[°C]	-25 ... 85		-25 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.				5-pos.			
Device connectors									
Female	A-coded					1027683	1		
Female	D-coded	1027686	1						

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M12 push-pull locking, with 0.5 m litz wires

- Rear mounting
- Manufacturer-independent M12 push-pull locking system

new

4-pos.

new

5-pos.

		Technical data		Technical data	
		4-pos.		5-pos.	
General data					
M12 circular connector in accordance with:		IEC 61076-2-101		IEC 61076-2-101	
Degree of pollution		3		3	
Degree of protection		IP67		IP67	
Connection method		Individual wires		Individual wires	
Electrical data					
Rated voltage		250 V		60 V	
Rated current		4 A		4 A	
Material data					
Material contact/contact surface		CuZn / Au		CuZn / Au	
Contact carrier material		PA 6.6		PA 6.6	
Flammability rating in accordance with UL 94		V0		V0	
Cable type		TPE litz wire		TPE litz wire	
Temperature data					
Male connector/female connector	[°C]	-25 ... 85		-25 ... 85	

		Ordering data				Ordering data			
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.				5-pos.			
Device connectors									
Female	A-coded					1027666	1		
Female	D-coded	1027670	1						

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Device connectors, with 0.5 m litz wires

Front mounting, 4-pos.

Rear mounting, 4-pos.

		Technical data		Technical data	
		4-pos.	4-pos.	4-pos.	
General data					
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution		3	3	3	
Degree of protection		IP65/IP67	IP67	IP65/IP67	
Connection method		Individual wires	Individual wires	Individual wires	
Electrical data					
Rated voltage		250 V	250 V	250 V	
Rated current		4 A	4 A	4 A	
Material data					
Material contact/contact surface		CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94		V0	V0	V0	
Cable type		TPE litz wire	TPE litz wire	TPE litz wire	
Temperature data					
Male connector/female connector	[°C]	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data			Ordering data		
Description	Coding	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		4-pos.		4-pos.		4-pos.			
Bus system flush-type socket, PROFINET, 4-pos., M12 SPEEDCON, D-coded, front/screw mounting with M16 thread, with 0.5 m TPE litz wire, 4 x 0.34 mm²									
Female	D - data	1535202	1						
Bus system flush-type socket, PROFINET, 4-pos., M12 SPEEDCON, D-coded, front/screw mounting with M16 thread, can be positioned, with 0.5 m TPE litz wire, 4 x 0.34 mm²									
Female	D - data			1535215	1				
Bus system flush-type socket, PROFINET, 4-pos., M12 SPEEDCON, D-coded, rear/screw mounting with Pg9 thread, with 0.5 m TPE litz wire, 4 x 0.34 mm²									
Female	D - data					1551529	1		

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Control cabinet feed-throughs, bulkhead, M12 to RJ45 socket

Bulkhead, 10 Gbps

Bulkhead, 100 Mbps and 1 Gbps

	Technical data		Technical data	
	VS-BH-M12FSX-10G-RJ45...		CUC-BH-M12A1PBK-A/R4BE	CUC-BH-M12D1PBK-A/R4BE
Electrical data				
Nominal voltage U_N	60 V		60 V	60 V
Rated current	0.5 A		0.5 A	0.5 A
Transmission characteristics (category)	$CAT6_A$		CAT5 (IEC 11801:2002)	CAT5 (IEC 11801:2002)
Contact material	Copper alloy		Copper alloy	Copper alloy
Material of grip body	PA		PA	PA
Flammability rating in accordance with UL 94	V0		V0	V0
Insertion/withdrawal cycles	≥ 100		≥ 100	≥ 100
Temperature data				
Male connector/female connector [°C]	-25 ... 85		-25 ... 85	-25 ... 85

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Control cabinet feed-through, $CAT6_A$, M12, 8-pos., X-coded to RJ45 socket						
Female exit 90°	**VS-BH-M12FSX-10G-RJ45/90**	1404548	1			
Female exit 180°	**VS-BH-M12FSX-10G-RJ45/180**	1404549	1			
Control cabinet feed-through, M12, 8-pos., A-coded on RJ45 socket						
Female exit 90°				**CUC-BH-M12A1PBK-A/R4BE**	1414393	1
Female exit 180°				**CUC-BH-M12A1PBK-S/R4BE**	1414396	1
Control cabinet feed-through, M12, 4-pos., D-coded on RJ45 socket						
Female exit 90°				**CUC-BH-M12D1PBK-A/R4BE**	1414397	1
Female exit 180°				**CUC-BH-M12D1PBK-S/R4BE**	1414398	1

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Terminal outlets, IP65/IP67

– Easy installation, thanks to captive cover screws
– Robust design
– Integrated cable management system

Terminal outlet with 2 x M12 slots

EAC

Technical data

	VS-TO-RO-MCBK-F142...
Electrical data	
Transmission characteristics (category)	CAT5 (IEC 11801:2002)
Material data	
Housing material	Aluminum cast alloy, powder-coated
Mechanical data	
Color	black
Degree of protection	IP65/IP67

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Terminal outlet, M12, IP65/67, 2 slots, with protective plugs, 2 cable entries			
M12 with 2 x female, 8-pos., A-keyed	**VS-TO-RO-MCBK-F1422/1422**	1404304	1
M12 with 2 x female, 4-pos., D-coded	**VS-TO-RO-MCBK-F1421/1421**	1404294	1

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RJ45 connectors, IP65/67

RJ45 connector

RJ45 connector with field and crimp connection

	Technical data		Technical data	
	VS-08-RJ45-5-Q/IP67...	CUC-V06-C1...-S/R4...8:1	VS-08-T-H-RJ45...	VS-08-ST-H21P-RJ45
Electrical data				
Rated voltage	72 V (DC)	72 V (DC)	72 V (DC)	72 V (DC)
Rated current	1.75 A	1 A	-	1 A
Overvoltage category	I	I	I	I
Material data				
Housing material	PA	PA	PA	-
Contact material	Copper alloy	Phosphor bronze	-	Phosphor bronze
Flammability rating in accordance with UL 94	V0	V0	V0	V2
Degree of pollution	2	2	2	2
Connection data				
Connection method	IDC fast connection	Crimp connection	-	IDC connection technology
Connection cross section AWG	26 ... 23 (rigid)	27 ... 24 (flexible)	-	27 ... 24 (flexible)
Connection cross section AWG	26 ... 23 (flexible)	-	-	-
External cable diameter	5 mm ... 8.5 mm	5 mm ... 8.5 mm	5 mm ... 8.5 mm	-
Insertion/withdrawal cycles	≥ 1000	≥ 750	≥ 1000	≥ 750
Temperature data				
Ambient temperature (operation)	-20°C ... 70°C	-25°C ... 60°C	-40°C ... 80°C	-25°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
RJ45 connector, 8-pos., CAT5, with QUICKON fast connection technology, for 26 ... 24 AWG						
Military gray RAL 7042	**VS-08-RJ45-5-Q/IP67**	1656990	1			
deep black RAL 9005	**VS-08-RJ45-5-Q/IP67-BK**	1658493	1			
RJ45 connector, 8-pos., CAT6, 1 Gbps, with crimp connection, for 27 ... 24 AWG						
Military gray RAL 7042	**CUC-V06-C1PGY-S/R4CE8:1**	1414383	1			
deep black RAL 9005	**CUC-V06-C1PBK-S/R4CE8:1**	1414408	1			
RJ45 connector, 8-pos., $CAT6_A$, 10 Gbps, with crimp connection, for 27 ... 24 AWG						
Military gray RAL 7042	**CUC-V06-C1PGY-S/R4CEA:1**	1414406	1			
deep black RAL 9005	**CUC-V06-C1PBK-S/R4CEA:1**	1414410	1			
Sleeve housing, for VS-08-ST-H...-RJ45 male insert, for cable diameter of 5.0 mm ... 8.5 mm						
Military gray RAL 7042				**VS-08-T-H-RJ45/IP67**	1652732	5
deep black RAL 9005				**VS-08-T-H-RJ45/IP67-BK**	1658671	5
RJ45 male insert, 8-pos., shielded, IDC connection technology, for 27 ... 26 AWG litz wires, with strain relief						
CAT5				**VS-08-ST-H11-RJ45**	1652716	5
CAT6				**VS-08-ST-H21-RJ45**	1652729	5
RJ45 male insert, 8-pos., shielded, IDC pierce connection, for litz wires AWG 27 ... 24, with strain relief						
CAT6				**VS-08-ST-H21P-RJ45**	1404388	5
RJ45 male insert, $CAT6_A$, 10 Gbps				**VS-08-RJ45-10G/C**	1418853	5

	Accessories			Accessories		
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1
Crimp tool, pliers with die, for VS-08-ST-H...-RJ45				**VS-CT-RJ45-H**	1653265	1

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RJ45 panel mounting frames and Freenet socket inserts, IP20

Keystone panel mounting frames and keystones

Freenet panel mounting frames and modules

	Technical data		Technical data	
	VS-08-...-RJ45-...		CUC-F-...-S/R4IDC8	VS-08-BU-RJ45-5-F/PK
Electrical data				
Nominal voltage U_N	-		72 V (DC)	50 V
Rated current	-		1.5 A	1 A
Housing material	Zinc die-cast		Zinc die-cast	Copper alloy
Contact material	Phosphor bronze		CuSn	Copper alloy
Flammability rating in accordance with UL 94	V0		V0	V0
Number of positions	8		8	8
Connection method	2x RJ45		IDC connection	IDC
Insertion/withdrawal cycles	≥ 750		≥ 750	≥ 750
Temperature data				
Ambient temperature (operation)	-10°C ... 60°C		-25°C ... 70°C	-20°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
RJ45 socket insert, 8-pos., shielded, female to female						
CAT5	**VS-08-BU-RJ45/BU**	1689064	5			
CAT6	**VS-08-BU-RJ45-6-MOD/BU**	1653155	5			
RJ45 keystone panel mounting frame, Version 6, for round mounting cutout, with seal and central nut						
Military gray RAL 7042	**VS-08-A-RJ45/MOD-1-R-IP67**	1689844	1			
deep black RAL 9005	**VS-08-A-RJ45/MOD-1-R-IP67 BK**	1658053	5			
RJ45 keystone panel mounting frame, Version 6, with rectangular mounting cutout, with seal, without mounting screws						
Military gray RAL 7042	**VS-08-A-RJ45/MOD-1-IP67**	1689080	5			
deep black RAL 9005	**VS-08-A-RJ45/MOD-1-IP67-BK**	1658642	5			
RJ45 Freenet socket insert, 8-pos., shielded, with cable connection						
10 Gbps, CAT6$_A$				**CUC-F-J1ZNI-S/R4IDC8**	1418984	1
RJ45 Freenet socket insert, 8-pos., shielded, with cable connection						
1 Gbps, CAT5				**VS-08-BU-RJ45-5-F/PK**	1652936	1
RJ45 Freenet socket insert, 8-pos., shielded, female to female						
1 Gbps, CAT6				**CUC-F-D1ZNI-S/R4GC8**	1419022	1
Freenet panel mounting frame, Version 6, for round mounting cutout, with seal, without mounting screws						
Military gray RAL 7042				**VS-A-F-IP67**	1653744	5
deep black RAL 9005				**VS-A-F-IP67-BK**	1658668	5

	Accessories			Accessories		
Protective cover for Version 6 panel mounting frame						
Military gray RAL 7042	**VS-08-SD-F**	1652606	5	**VS-08-SD-F**	1652606	5
deep black RAL 9005	**VS-08-SD-F-BK**	1658066	5	**VS-08-SD-F-BK**	1658066	5
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1

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RJ45 terminal outlets, IP65/IP67

– Robust design
– Including covers to protect against environmental influences
– Integrated cable management system

Terminal outlet with 2 x RJ45 slots

EAC

Technical data

	VS-TO-RO-MCBK-F141...
Electrical data	
Transmission characteristics (category)	CAT6
Material data	
Housing material	Aluminum cast alloy, powder-coated
Mechanical data	
Color	black

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Terminal outlet RJ45 IP65/67, 2 slots version 6, with protective plugs, 2 cable entries			
2x RJ45	**VS-TO-RO-MCBK-F1418/1418**	1404278	1

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Field couplings, IP65/67

– Fixed mounting is also an option
– Including covers to protect against environmental influences

Field coupling with RJ45

Technical data

	VS-08-KU-IP67
Electrical data	
Rated voltage	72 V (DC)
Rated current	1 A
Transmission characteristics (category)	CAT5 (IEC 11801:2002)
Material data	
Housing material	PBT
Contact material	Copper alloy
Flammability rating in accordance with UL 94	V0
Mechanical data	
Number of positions	8
Temperature data	
Ambient temperature (operation)	-10°C ... 60°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
RJ45 coupling, IP67, CAT5, with protective cover			
Military gray RAL 7042	**VS-08-KU-IP67**	**1689268**	1
deep black RAL 9005	**VS-08-KU-IP67-BK**	**1658684**	1

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FO connectors, IP65/67

Notes:

For further technical data, see:
phoenixcontact.net/products

SC-RJ connector for polymer fiber 980/1000 µm

SC-RJ connector for PCF fibers 200 / 230 µm and polymer fibers 980 / 1000 µm

Technical data		Technical data	
Material data			
Housing material	PA		PBT
Ferrule material	Copper alloy		Zirconia ceramics
Flammability rating in accordance with UL 94	V0		V0
Color	gray		black
Degree of protection	IP67		IP20
External cable diameter	5 mm ... 8.5 mm		-
Wire diameter	2.2 mm		-
Ferrule diameter	2.50 mm		2.50 mm
Insertion/withdrawal cycles	≥ 1000		≥ 500
Temperature data			
Ambient temperature (operation)	-20°C ... 70°C		-25°C ... 70°C

Ordering data				Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
FO connector SC-RJ, duplex, with fast connection						
POF fiber 980/1000 µm	**VS-SCRJ-POF-FA-IP67**	1657009	1			
SC-RJ socket insert, duplex, for VARIOSUB IP67 panel mounting frame, can be used for GOF multimode, GOF single mode, PCF, and POF fiber types						
1x SC-RJ/SC-RJ (duplex)				**VS-SCRJ-GOF-BU/BU**	1652978	1
VS-SC-RJ panel mounting frame, for use with an AVAGO transceiver, type: AFBR 5978Z				**VS-SCRJ-A-TC-IP67**	1658545	1
Freenet panel mounting frame, Version 6, for round mounting cutout, with seal, without mounting screws						
Military gray RAL 7042				**VS-A-F-IP67**	1653744	5
deep black RAL 9005				**VS-A-F-IP67-BK**	1658668	5

Accessories				Accessories		
Protective cover SC-RJ/IP67, for covering the SC-RJ male insert on the SC-RJ/IP67 sleeve housing						
	VS-SCRJ-PC	1653757	5			
Protective cover for Version 6 panel mounting frame						
Military gray RAL 7042				**VS-08-SD-F**	1652606	5
deep black RAL 9005				**VS-08-SD-F-BK**	1658066	5
Tool set for POF assembly, for field installation of SC connectors.						
	TF-SCRJ-POF KONF SET	1405246	1			

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SC-RJ terminal outlets, IP65/67

- Easy installation, thanks to captive cover screws
- Robust design
- Including covers to protect against environmental influences
- Integrated cable management system

Terminal outlet, IP67, with 2 x SC-RJ slots

EAC

Technical data

Material data	
Housing material	Aluminum cast alloy, powder-coated
Ferrule material	Zirconia ceramics
Mechanical data	
Color	black
Degree of protection	IP65/IP67
Fiber type	GOF, PCF, POF
Connection profile	SCRJ in accordance with DIN EN 50377-6-1
Insertion/withdrawal cycles	≥ 500

Ordering data

Description	Type	Order No.	Pcs./Pkt.
SC-RJ terminal outlet, IP65/IP67, 2 slots, Version 6, with protective plugs, 2 cable entries	**VS-TO-RO-MCBK-F1420/1420**	**1404317**	1

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SC-RJ couplings, IP65/67

– Fixed mounting is also an option
– Including covers to protect against environmental influences
– Can be used for all fiber types

SC-RJ field coupling

EAC

Technical data

Material data	
Housing material	PBT
Contact material	-
Ferrule material	Zirconia ceramics
Flammability rating in accordance with UL 94	V0
Mechanical data	
Number of positions	2
Color	gray
Degree of protection	IP65/IP67
Temperature data	
Ambient temperature (operation)	-10°C ... 60°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
SC-RJ coupling, IP67, duplex, can be used for GOF (multimode and single mode), PCF, and polymer fiber types	**FOC-V06-D1PGY-S/SJBE4**	**1410050**	1

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Push-Pull ADVANCE connectors, IP65/IP67

- High resistance to ESD and EMI for reliable transmission
- Easy handling, thanks to one-piece design
- Locking system to prevent unintentional removal
- Consistent 360° shielding concept

RJ45 connector, straight cable outlet

RJ45 connector, cable outlet at the top

EAC

	Technical data		Technical data	
	Ethernet	**PROFINET**	**Ethernet**	**PROFINET**
Degree of protection	IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67
Connection cross section AWG	26 ... 24 (rigid)	23 ... 22 (rigid)	26 ... 24 (rigid)	23 ... 22 (rigid)
Transmission speed	1 Gbps	1 Gbps	1 Gbps	1 Gbps
Housing material	Zinc die-cast	Zinc die-cast	Zinc die-cast	Zinc die-cast
External cable diameter	5.5 mm ... 10 mm	5.5 mm ... 10 mm	5.5 mm ... 10 mm	5.5 mm ... 10 mm
Insertion/withdrawal cycles	≥ 750	≥ 750	≥ 750	≥ 750
Temperature data				
Ambient temperature (operation)	-40°C ... 70°C	-40°C ... 70°C	-40°C ... 70°C	-40°C ... 70°C

	Ordering data			Ordering data		
Description	**Order No.**	Pcs./Pkt.		**Order No.**	Pcs./Pkt.	
	Ethernet			**PROFINET**		
Push-pull ADVANCE, RJ45 industrial connector, IP67, 8-pos.						
Single pack	1422661	1		1422664	1	

	Accessories			Accessories		
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1
Electronic diagonal cutter, tapered head, without chamfer, with opening spring, non-reflective phosphate-treated surface, punched version	**MICROFOX-SP-1**	1212487	1	**MICROFOX-SP-1**	1212487	1

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Push-Pull ADVANCE connectors, IP65/IP67

RJ45 connector,
cable outlet at the bottom

RJ45 connector,
straight cable outlet

	Technical data		Technical data	
	Ethernet	**PROFINET**	**Ethernet**	**PROFINET**
Degree of protection	IP65/IP67	IP65/IP67	IP65/IP67	IP65/IP67
Connection cross section AWG	26 ... 24 (rigid)	23 ... 22 (rigid)	27 ... 24 (flexible)	26 ... 22 (rigid)
Transmission speed	1 Gbps	1 Gbps	10 Gbps	-
Housing material	Zinc die-cast	Zinc die-cast	Plastic	PA-GF
External cable diameter	5.5 mm ... 10 mm	5.5 mm ... 10 mm	5 mm ... 8 mm	5 mm ... 8 mm
Insertion/withdrawal cycles	≥ 750	≥ 750	≥ 200	≥ 500
Temperature data				
Ambient temperature (operation)	-40°C ... 70°C	-40°C ... 70°C	-25°C ... 60°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.
	Ethernet		**PROFINET**		**Ethernet**		**PROFINET**	
Push-pull ADVANCE, RJ45 industrial connector, IP67, 8-pos.								
Single pack	1422662	1	1422665	1				
Push/pull connector (version 14) for 10 Gbps, with RJ45 crimp connection, for 26 ... 24 AWG flexible conductors, 5.0 mm ... 8.0 mm cable diameter								
8-pos., 10 Gbps					1422205	1		
Push-pull connector (version 14) for PROFINET with RJ45 QUICKON fast connection technology, for 22 AWG 1 and 7-wire conductors, cable diameter of 5.0 mm ... 8.0 mm								
4-pos., 100 Mbps							1608126	1
4-pos., 1 Gbps							1404142	1
8-pos., 1 Gbps							1657834	1

	Accessories			Accessories		
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1
Electronic diagonal cutter, tapered head, without chamfer, with opening spring, non-reflective phosphate-treated surface, punched version	**MICROFOX-SP-1**	1212487	1			
Protective cover, IP65, with push/pull locking, for covering the contact insert in the push/pull connector for RJ45 and SC-RJ, plastic				**VS-PPC-F1-PC-POBK**	1405316	1
Shielding foil set, 25 pcs., replacement for VS-PN-RJ45-5-Q/IP20				**VS-08-RJ45-FOLIEN-SET**	1417184	1

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Push-pull connectors, IP65/IP67

RJ45 connector, straight cable outlet

RJ45 connectors, EMC, straight cable outlet

	Technical data		Technical data	
	PROFINET	PROFINET	PROFINET	
Degree of protection	IP65/IP67	IP65/IP67	IP65/IP67	
Connection cross section AWG	26 ... 22 (rigid)	26 ... 22 (rigid)	22 ... 22 (rigid)	
Transmission speed	100 Mbps	-	-	
Housing material	Zinc die-cast	Zinc die-cast	Zinc die-cast	
External cable diameter	5 mm ... 8 mm	5 mm ... 8 mm	5 mm ... 8 mm	
Insertion/withdrawal cycles	≥ 500	≥ 500	≥ 500	
Temperature data				
Ambient temperature (operation)	-40°C ... 70°C	-40°C ... 70°C	-40°C ... 70°C	

	Ordering data			Ordering data		
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	PROFINET		PROFINET		PROFINET			
Push-pull connector (version 14) for PROFINET with RJ45 QUICKON fast connection technology, for 22 AWG 1 and 7-wire conductors, cable diameter of 5.0 mm ... 8.0 mm								
4-pos., 100 Mbps	1608100	1						
8-pos., 100 Mbps	1608016	1						
Push-pull connector (version 14) for PROFINET with RJ45 QUICKON fast connection technology, for 22 AWG 1 and 7-wire conductors, cable diameter of 5.0 mm ... 8.0 mm								
4-pos., 1 Gbps			1405141	1				
8-pos., 1 Gbps			1404126	1				
Push/pull connector (Version 14) optimized for use in environments subject to EMI, with RJ45 QUICKON fast connection technology, for 5.0 mm ... 8.0 mm cable diameter								
4-pos., 100 Mbps					1403366	1		
8-pos., 100 Mbps					1403367	1		

	Accessories			Accessories		
Stripping tool, for multiple-stage repositioning of shielded conductors	VS-CABLE-STRIP-VARIO	1657407	1	VS-CABLE-STRIP-VARIO	1657407	1

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RJ45 panel mounting frames and Freenet socket inserts, IP20

Panel mounting frame and modules

Freenet panel mounting frame with central nut and modules

	Technical data	Technical data
	VS-08-BU-RJ45-5-F/PK	CUC-F-...-S/R4IDC8
Electrical data		
Nominal voltage U_N	50 V	-
Rated current	1 A	-
Housing material	Copper alloy	Zinc die-cast
Contact material	Copper alloy	Spring steel
Flammability rating in accordance with UL 94	V0	-
Number of positions	8	8
Connection method	IDC	Female
Insertion/withdrawal cycles	≥ 750	≥ 750
Temperature data		
Ambient temperature (operation)	-20°C ... 70°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
RJ45 Freenet socket insert, 8-pos., shielded, with cable connection						
10 Gbps, CAT6$_A$	**CUC-F-J1ZNI-S/R4IDC8**	1418984	1	**CUC-F-J1ZNI-S/R4IDC8**	1418984	1
RJ45 Freenet socket insert, 8-pos., shielded, with cable connection						
1 Gbps, CAT5	**VS-08-BU-RJ45-5-F/PK**	1652936	1	**VS-08-BU-RJ45-5-F/PK**	1652936	1
RJ45 Freenet socket insert, 8-pos., shielded, female to female						
1 Gbps, CAT6	**CUC-F-D1ZNI-S/R4GC8**	1419022	1	**CUC-F-D1ZNI-S/R4GC8**	1419022	1
RJ45 Freenet panel mounting frame, Version 14, IP65/IP67, for rectangular mounting cutout, with seal, without mounting screws						
Metal housing	**VS-PPC-F1-RJ45-MNNA-1R-F**	1405358	1			
RJ45 Freenet panel mounting frame, Version 14, IP65/IP67, for round mounting cutout, with seal and central nut						
Metal housing				**VS-PPC-F1-RJ45-MNNA-1C-F**	1405222	1
RJ45 panel mounting frame with socket insert, Version 14, IP65/IP67, for rectangular mounting cutout, with seal and mounting screws, 8-pos., shielded, with cable connection, CAT6$_A$						
Zinc die-cast housing	**CUC-V14-F1ZNI-EM/R4F8**	1413961	1			
RJ45 panel mounting frame with socket insert, Version 14, IP65/IP67, for rectangular mounting cutout, with seal and mounting screws, 8-pos., shielded, female to female, CAT6						
Zinc die-cast housing	**CUC-V14-F1ZNI-EM/R4B8**	1413962	1			
Adapter, zinc die-cast						
45°	**CUC-V14-A1ZNI-R45**	1413988	1			
180°	**CUC-V14-A1ZNI-S180**	1413989	1			
	Accessories			**Accessories**		
Protective cover, for data port	**VS-PPC-C1-PC-ROBK-L**	1405293	1	**VS-PPC-C1-PC-ROBK-L**	1405293	1
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1
Adapter, with filler plug and marking element	**CUC-V14-A1RBK-PC**	1413985	1			
Marking element, without filler plug	**CUC-V14-A1PBK-BA:50**	1413979	50			
Protective cover, with spring lid	**CUC-V14-A1PBK-PC**	1413970	1			
Screw set, M3x20 V2A, including plastic washers, toothed lock washers, and nuts	**CUC-V14-A-SCREW-M3:20**	1413987	20			
Strain relief plate	**CUC-V14-A3ST-SR**	1413990	1			

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Field couplings, IP65/67

RJ45 and power field coupling with cable connection

RJ45 field coupling with cable connection

	Technical data	Technical data
	VS-MP-PPC/CG-PO/10G	VS-MP-PPC/CG-10G
Electrical data		
Transmission characteristics (category)	$CAT6_A$	$CAT6_A$
Material data		
Housing material	Aluminum press-drawn section / die-cast zinc	Aluminum press-drawn section / die-cast zinc
Connection data		
Connection method	Spring connection / IDC	IDC
Connection cross section AWG	-	-
Cable diameter	5 mm ... 8 mm (Data cable gland)	5 mm ... 8 mm (Data cable gland)
Insertion/withdrawal cycles	> 1000 (Data)	> 1000 (Data)
Temperature data		
Ambient temperature (operation)	-40°C ... 70°C	-40°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Multi-port connection, for passive PROFINET cabling to robots, including mounting foot, for **cable diameter:**						
1 Gbps	**VS-MP-PPC/PPC-PO/1G**	1406395	1	**VS-MP-PPC/CG-10G**	1403678	1
10 Gbps	**VS-MP-PPC/CG-PO/10G**	1403682	1			
Multi-port power connection: push-pull power, for passive PROFINET cabling to robots, including mounting foot						
	VS-MP-PPC/CG-PO	1403681	1			
	Accessories			**Accessories**		
Protective cover						
for data port	**VS-PPC-C1-PC-ROBK-L**	1405293	1	**VS-PPC-C1-PC-ROBK-L**	1405293	1
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1

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Power and data field couplings, IP65/67

– Fixed mounting is also an option
– Robust design
– Including covers to protect against environmental influences

RJ45 and power field coupling

EAC

Technical data

	VS-MP-PPC/PPC-1G
Electrical data	
Rated voltage	72 V (DC)
Rated current	-
Transmission characteristics (category)	CAT5
Material data	
Housing material	Aluminum press-drawn section / die-cast zinc
Contact material	Phosphor bronze
Flammability rating in accordance with UL 94	V0
Mechanical data	
Number of positions	8
Degree of protection	IP65
Temperature data	
Ambient temperature (operation)	-40°C ... 70°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Multi-port data coupling: for passive PROFINET cabling to robots, including mounting foot Metal housing	**VS-MP-PPC/PPC-1G**	1403685	1
Multi-port power coupling: for passive PROFINET cabling to robots, including mounting foot	**VS-MP-PPC/PPC-PO**	1403684	1

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Terminal outlets, IP65/67

- Easy installation, thanks to captive cover screws
- Robust design
- Including covers to protect against environmental influences
- Integrated cable management system

Terminal outlet with 2 x RJ45 slots

Terminal outlet with RJ45 and power slots

	Technical data	Technical data
Electrical data		
Rated voltage	72 V (DC)	72 V (DC)
Rated current	-	-
Transmission characteristics (category)	CAT6	CAT6
Material data		
Housing material	Aluminum cast alloy, powder-coated	Aluminum cast alloy, powder-coated
Mechanical data		
Color	black	black
Degree of protection	IP65/IP67	IP65/IP67

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Terminal outlet, IP65/IP67, 2 slots, Version 14, with protective plugs, 2 cable entries Push-pull with 2 x RJ45	**VS-TO-RO-MCBK-F1411/1411**	1404281	1			
Terminal outlet, IP65/IP67, 2 slots, Version 14, with protective plugs, 2 cable entries Push-pull with 1 x Power and 1 x RJ45				**VS-TO-RO-MCBK-F1411/1413**	1404333	1

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Push-pull power connectors, IP65/IP67

– Fixed coding for PROFINET
– Flexible coding
– Various solder versions
– Spring connection

Push-pull connector

Push-pull panel mounting side

	Technical data	Technical data	
	CUC-PPC-C2ZNI-S.../24FKP5	VS-MSTBA...-BK-A	VS-PPC-F2-MSTB-MNNA...
Electrical data			
Rated current	16 A (at 20°C)	16 A	-
Material data			
Housing material	Zinc die-cast	-	Zinc die-cast
Flammability rating in accordance with UL 94	V0	V0	V0
Conductor cross section	0.75 mm² ... 2.5 mm²	-	-
Connection cross section AWG	18 ... 13	-	-
Insertion/withdrawal cycles	≥ 100	≥ 100	≥ 500
Temperature data			
Ambient temperature (operation)	-40°C ... 85°C	-40°C ... 70°C	-40°C ... 80°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
MSTB connector, IP67, with push-pull interlocking, 5-pos., with spring connection, metal housing, 24 V, molded coding						
for cable diameter of 6.5 mm ... 9 mm	**CUC-PPC-C2ZNI-SX/24FKP5**	1421783	1			
for cable diameter of 9 mm ... 13 mm	**CUC-PPC-C2ZNI-SS/24FKP5**	1421785	1			
MSTB connector, IP67,without logo, with push-pull locking, 5-pos., with spring connection, metal housing, 24 V, molded coding						
for cable diameter of 9 mm ... 13 mm	**CUC-PPC-C2ZNI-SX/24FKP5:WO**	1032276	1			
MSTB connector, IP67, with push-pull interlocking, 5-pos., with spring connection, metal housing, 24 V, variable coding						
for cable diameter of 6.5 mm ... 9 mm	**CUC-PPC-C2ZNI-SS/24FKP5:FC**	1425515	1			
for cable diameter of 9 mm ... 13 mm	**CUC-PPC-C2ZNI-SX/24FKP5:FC**	1425514	1			
MSTB connector, IP67,without logo, with push-pull locking, 5-pos., with spring connection, metal housing, 24 V, variable coding						
for cable diameter of 9 mm ... 13 mm	**CUC-PPC-C2ZNI-SX/24FKP5:FCWO**	1032275	1			
Blind plug, for MSTB connectors	**CUC-PPC-C2ZNI-DC**	1001432	1			
MSTB contact insert, for PCB mounting, 24 V, 5-pos., RAL 9005 (black), for panel mounting frame VS-PPC-F2-MSTB-...-1R-P						
Angled solder pins				**VS-MSTBAH 2,5/ 5-GB-5,08-BK-A**	1657915	50
Straight solder pins				**VS-MSTBVA 2,5/ 5-GB-5,08-BK-A**	1609565	50
MSTB panel mounting frame, IP67, for Push-Pull locking, for PCB connection, for rectangular assembly opening, with gasket, without mounting screws						
Metal housing				**VS-PPC-F2-MSTB-MNNA-1R-P**	1608087	1
MSTB panel mounting frame, IP67, for push-pull interlocking, with integrated contact insert for conductor connection, spring connection, for rectangular mounting cutout, with seal, without mounting screws						
24 V, metal				**VS-PPC-F2-MSTB-MNNA-1R-SPSA5**	1608249	1
MSTB panel mounting frame, IP67, for push-pull interlocking, metal, with integrated contact insert for conductor connection, spring connection, for round mounting cutout, with seal, without mounting screws						
24 V				**VS-PPC-F2-MSTB-MNNA-1C-SPSA5**	1405248	1
Protective cover, for MSTB panel mounting frame				**CUC-PPC-A2RBK-PC**	1424989	1
Protective cap, IP65, with push-pull locking for covering the contact insert in the push-pull connector for Power, plastic				**VS-PPC-F2-PC-POBK**	1405329	1

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Push-pull power distributors, IP65/IP67

Push-pull Y-distributor

Push-pull H-distributor

	Technical data	Technical data
	VS-PPC-J-1220-1227-1020-0,2	VS-PPC-J-4X-1227
Electrical data		
Rated voltage	24 V	24 V
Rated current	16 A	16 A (at 20°C)
Material data		
Housing material	Aluminum die-cast	Zinc die-cast
Mechanical data		
Number of positions	5	5
Degree of protection	IP65/IP67	IP65/IP67
Temperature data		
Ambient temperature (operation)	-40°C ... 70°C (cable, fixed installation)	-40°C ... 85°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
PROFINET Y-distributor with assembled power cable, 5-pos., IP65/IP67, **MSTB connector** with metal housing to 2 x socket in the metal housing, cable length:						
0.2 m	**VS-PPC-J-1220-1227-1020-0,2**	1404799	1			
Variable	**VS-PPC-J-1220-1227-1020-...**	1405484	1			
Power H distributor, 4 x MSTB contact inserts, metal housing, without mounting screws						
				VS-PPC-J-4X-1227	1405387	1
	Accessories			**Accessories**		
Mounting foot for power distributors, plastic	**VS-PPC-J-M**	1405390	1	**VS-PPC-J-M**	1405390	1

Ordering example for products **with** variable cable length:

For a distributor with a cable length of 34.5 m, the ordering data is as follows:

Order No.	Length [m]
1405484 /	**34.5** **Increment:** 0.5 m **Maximum length:** 50 m

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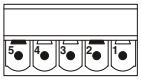
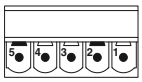
Assembled power cables 2.5 mm²

Power, metal, 24 V 2.5 mm²


Ordering data		
Power, metal, 24 V, 2.5 mm²		Order No.
		1609170 1609183 1609196
	Variable	1609206

Ordering example for cables **with** variable cable length:

Assembled PROFINET power cable for 24 V, with two metal push-pull connectors and a cable length of 34.5 m.

Order No.	Length [m] Max. 100 m
1609206 /	34.5
	Increments: 1.0 m ... 3.0 m = 0.1 m > 3.0 m = 0.5 m

Technical data		Technical data
Technical data		Power, metal, 24 V 1.5 mm²
Housing material		Zinc die-cast
Outer sheath, material		PVC
Conductor cross section	[mm²]	2.5
External cable diameter	[mm]	11.8
Degree of protection		IP65
Ambient temperature		
Fixed installation	[°C]	-40 ... 70
Flexible installation	[°C]	-5 ... 70
Male connector/female connector	[°C]	-40 ... 70

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Push-Pull ADVANCE connectors, IP65/IP67

– Easy handling, thanks to one-piece design
– Locking system to prevent unintentional removal

SC-RJ connector, cable outlet straight, for polymer fibers 980 / 1000 µm

SC-RJ connector, cable outlet at the top, for polymer fibers 980 / 1000 µm

	Technical data	Technical data
Degree of protection	IP65/IP67	IP65/IP67
Housing material	Zinc die-cast	Zinc die-cast
External cable diameter	5.5 mm ... 10 mm	5.5 mm ... 10 mm
Insertion/withdrawal cycles	≥ 100	≥ 100
Temperature data		
Ambient temperature (operation)	-25°C ... 70°C	-25°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Push-pull ADVANCE, SC-RJ connector Single pack	FOC-V14-C1ZNI-S/SJFP	1407896	1	FOC-V14-C1ZNI-T/SJFP	1408028	1
	Accessories			**Accessories**		
Tool set for POF assembly, for field installation of SC connectors.	TF-SCRJ-POF KONF SET	1405246	1	TF-SCRJ-POF KONF SET	1405246	1

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Push-Pull ADVANCE connectors, IP65/IP67

SC-RJ connector, cable outlet at the bottom, for polymer fibers 980 / 1000 µm

Technical data

Degree of protection	IP65/IP67
Housing material	Zinc die-cast
External cable diameter	5.5 mm ... 10 mm
Insertion/withdrawal cycles	≥ 100
Temperature data	
Ambient temperature (operation)	-25°C ... 70°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Push-pull ADVANCE, SC-RJ connector Single pack	**FOC-V14-C1ZNI-B/SJFP**	1407902	1

Accessories

Tool set for POF assembly, for field installation of SC connectors.	**TF-SCRJ-POF KONF SET**	1405246	1

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FO connectors, panel mounting frames, and couplings

SC-RJ panel mounting side

Technical data	
Housing material	Zinc die-cast
Flammability rating in accordance with UL 94	V0
Degree of protection	IP65/IP67
Insertion/withdrawal cycles	≥ 50
Temperature data	
Ambient temperature (operation)	-40°C ... 70°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
SC-RJ panel mounting frame, IP67, for push-pull interlocking, for rectangular mounting cutout, for **AVAGO transceiver (type: AFBR5978BZ)** on PCB, with seal and mounting screws			
Zinc die-cast housing	**FOC-V14-F1ZNI-EM/SJO**	1413981	1
SC-RJ panel mounting frame, IP67, incl. SC-RJ coupling, for push-pull interlocking, for rectangular mounting cutout, with seal and mounting screws			
Zinc die-cast housing	**FOC-V14-F1ZNI-EM/SJB**	1413964	1
SC-RJ panel mounting frame, IP67, incl. SC-RJ coupling, for push-pull interlocking, for round mounting cutout, with seal			
	VS-PPC-F1-SCRJ-MNNA-1C-F	1405235	1
Adapter, zinc die-cast			
45°	**CUC-V14-A1ZNI-R45**	1413988	1
180°	**CUC-V14-A1ZNI-S180**	1413989	1

Accessories

Protective cover, for data port	**VS-PPC-C1-PC-ROBK-L**	1405293	1
Adapter, with filler plug and marking element	**CUC-V14-A1RBK-PC**	1413985	1
Marking element, without filler plug	**CUC-V14-A1PBK-BA:50**	1413979	50
Protective cover, with spring lid	**CUC-V14-A1PBK-PC**	1413970	1
Screw set, M3x20 V2A, including plastic washers, toothed lock washers, and nuts	**CUC-V14-A-SCREW-M3:20**	1413987	20

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Power and data field couplings, IP65/67

SC-RJ and power field coupling with cable connection

SC-RJ field coupling with cable connection

	Technical data		Technical data
	VS-MP-PPC/CG-PO/FO	VS-MP-PPC/CG-PO	VS-MP-PPC/CG-FO
Material data			
Housing material	Aluminum press-drawn section / die-cast zinc	Aluminum press-drawn section / die-cast zinc	Aluminum press-drawn section / die-cast zinc
Connection data			
Connection profile	Data/power: SCRJ/5-pos.	Power: 5-pos.	Data: SCRJ
Insertion/withdrawal cycles	≥ 500 (Data)	≤ 100 (Power)	≥ 500 (Data)
Temperature data			
Ambient temperature (operation)	-40°C ... 70°C	-40°C ... 70°C	-40°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Multi-port connection, for passive PROFINET cabling to robots, including mounting foot	**VS-MP-PPC/CG-PO/FO**	1404321	1	**VS-MP-PPC/CG-FO**	1404319	1
Multi-port power connection, push-pull power, for passive PROFINET cabling to robots, including mounting foot	**VS-MP-PPC/CG-PO**	1403681	1			
Multi-port power coupling, for passive PROFINET cabling to robots, including mounting foot	**VS-MP-PPC/PPC-PO**	1403684	1			
	Accessories			**Accessories**		
Protective cover for data port	**VS-PPC-C1-PC-ROBK-L**	1405293	1			
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1

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Terminal outlets and couplings, IP65/67

- Easy installation, thanks to captive cover screws
- Robust design
- Including covers to protect against environmental influences
- Integrated cable management system

Terminal outlet
with SC-RJ and power slots

SC-RJ field coupling

	Technical data	Technical data
Material data		
Housing material	Aluminum cast alloy, powder-coated	Zinc die-cast
Connection data		
Connection profile	-	-
Insertion/withdrawal cycles	-	>= 500
Temperature data		
Ambient temperature (operation)	-40°C ... 70°C	-40°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Terminal outlet SC-RJ/Power IP65/67 Push-Pull, 2 slots version 14, with protective plugs, 2 cable entries	**VS-TO-RO-MCBK-F1417/1413**	1404346	1			
Terminal outlet SC-RJ IP65/67 Push-Pull, 2 slots version 14, with protective plugs, 2 cable entries	**VS-TO-RO-MCBK-F1417/1417**	1404320	1			
SC-RJ push/pull coupling, IP67, metal, with protective cover, color: nickel-plated				**VS-PPC-J-1-SCRJ-MNBK**	1405206	1

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RJ45 connectors, IP20

RJ45 crimp connectors

RJ45 field connection connectors

	Technical data		Technical data	
	VS-08-RJ45-10G/C	VS-08-ST-H21P-RJ45	VS-08-RJ45-5-Q/IP20...	CUC-STD-C1P...
Electrical data				
Transmission characteristics (category)	$CAT6_A$	-	CAT5 (IEC 11801:2002)	CAT6
Overvoltage category	I	I	I	-
Material data				
Housing material	-	-	PA	PA
Contact material	Phosphor bronze	Copper alloy	Cu/Sn	Phosphor bronze
Flammability rating in accordance with UL 94	V2	V2	V0	V2
Degree of pollution	-	2	1	2
External cable diameter	-	-	4.5 mm ... 8 mm	7 mm
Insertion/withdrawal cycles	≥ 750	≥ 750	≥ 1000	≥ 750
Temperature data				
Ambient temperature (operation)	-25°C ... 60°C	-25°C ... 60°C	-20°C ... 70°C	-25°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
RJ45 connector, IP20, CAT5, 8-pos., with QUICKON fast connection technology, for 1-wire and 7-wire 26 to 23 AWG conductors, color:						
gray				**VS-08-RJ45-5-Q/IP20**	1656725	1
black				**VS-08-RJ45-5-Q/IP20 BK**	1658008	1
RJ45 connector, IP20, **$CAT6_A$,** 8-pos., with QUICKON fast connection technology, for 26 ... 24 AWG 1-wire and 7-wire conductors, color:						
black				**VS-08-RJ45-10G/Q**	1419001	1
RJ45 connector, 4-pos., with QUICKON fast connection technology, for 22 AWG, color:						
gray				**VS-PN-RJ45-5-Q/IP20**	1658435	1
RJ45 connector, IP20, CAT6, 8-pos., with crimp connection, for 27 ... 24 AWG, color:						
gray	**CUC-STD-C1PGY-S/R4E8:1**	1414382	1			
green	**CUC-STD-C1PGN-S/R4E8:1**	1414400	1			
RJ45 connector, IP20, $CAT6_A$, 8-pos., with crimp connection, for 27 ... 24 AWG, color:						
gray	**CUC-STD-C1PGY-S/R4EA:1**	1414395	1			
green	**CUC-STD-C1PGN-S/R4EA:1**	1414402	1			
RJ45 male insert, $CAT6_A$, 10 Gbps	**VS-08-RJ45-10G/C**	1418853	5			
RJ45 male insert, 8-pos., shielded, IDC connection technology, for 27 ... 26 AWG litz wires, with strain relief						
CAT5	**VS-08-ST-H11-RJ45**	1652716	5			
RJ45 bend protection sleeve, for VS-08-ST-H11-RJ45 and VS-08-RJ45-10G/C male inserts, for cable diameter up to 7 mm, color:						
gray	**VS-08-KS-H/GY**	1654743	5			
green	**VS-08-KS-H/GN**	1654756	5			
	Accessories			**Accessories**		
Crimp tool, pliers with die, for VS-08-ST-H...-RJ45	**VS-CT-RJ45-H**	1653265	1			
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1
Shielding foil set, 25 pcs., replacement for VS-PN-RJ45-5-Q/IP20				**VS-08-RJ45-FOLIEN-SET**	1417184	1

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RJ45 industrial connectors, IP20

- Optimized for industrial use with a high degree of resistance to vibration
- High resistance to ESD and EMI for reliable transmission
- Easy handling, thanks to one-piece design
- Metal locking mechanism

RJ45 industrial, straight cable outlet

RJ45 industrial, cable outlet at the bottom and top

	Technical data		Technical data	
	Ethernet	**PROFINET**	**Ethernet**	**PROFINET**
Degree of protection	IP20	IP20	IP20	IP20
Connection cross section AWG	26 ... 24 (rigid)	23 ... 22 (rigid)	26 ... 24 (rigid)	23 ... 22 (rigid)
Connection cross section AWG	26 ... 24 (flexible)	23 ... 22 (flexible)	26 ... 24 (flexible)	23 ... 22 (flexible)
Transmission speed	1 Gbps	1 Gbps	1 Gbps	1 Gbps
Housing material	Zinc die-cast	Zinc die-cast	Zinc die-cast	Zinc die-cast
External cable diameter	5 mm ... 9 mm	5 mm ... 9 mm	5 mm ... 9 mm	5 mm ... 9 mm
Insertion/withdrawal cycles	≥ 750	≥ 750	≥ 750	≥ 750
Temperature data				
Ambient temperature (operation)	-40°C ... 70°C	-40°C ... 70°C	-40°C ... 70°C	-40°C ... 70°C

	Ordering data			Ordering data		
Description	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.
	Ethernet		**PROFINET**		**Ethernet**		**PROFINET**	
RJ45 industrial connector, 8-pos.	1421607	1	1421126	1				
RJ45 industrial connector, 8-pos., cable outlet at the bottom					1421877	1	1421128	1
RJ45 industrial connector, 8-pos., cable outlet at the top					1421876	1	1421127	1

	Accessories			Accessories		
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1
Electronic diagonal cutter, tapered head, without chamfer, with opening spring, non-reflective phosphate-treated surface, punched version	**MICROFOX-SP-1**	1212487	1	**MICROFOX-SP-1**	1212487	1
Markers for terminal blocks, roll, unmarked, can be marked with: THERMOMARK ROLL, THERMOMARK X, THERMOMARK S1.1 white	**TMT 5 R**	0816430	1	**TMT 5 R**	0816430	1
Marker for terminal blocks, sheet, white, unmarked, can be marked with: BLUEMARK CLED, BLUEMARK LED, plotter	**UC-TMF 5**	0818153	10	**UC-TMF 5**	0818153	10

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RJ45 panel mounting frames and inserts, IP20

Keystone panel mounting frame and keystones

EAC

Technical data

	VS-08-BU-RJ45-6/KA/LSA
Electrical data	
Rated current	2 A
Transmission characteristics (category)	CAT6
Material data	
Housing material	PC+ABS
Contact material	Phosphor bronze
Flammability rating in accordance with UL 94	V0
Mechanical data	
Number of positions	8
Connection method	LSA
Conductor cross section	0.13 mm² ... 0.25 mm² (rigid)
Connection cross section AWG	26 ... 23 (rigid)
Temperature data	
Ambient temperature (operation)	-20°C ... 70°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
RJ45 socket insert, 8-pos., shielded, female to female CAT5	**VS-08-BU-RJ45/BU**	1689064	5
RJ45 socket insert, 8-pos., shielded, female to female CAT6	**VS-08-BU-RJ45-6-MOD/BU**	1653155	5
RJ45 socket insert, 8-pos., shielded, with cable connection $CAT6_A$	**CUC-K-J1ZNI-S/R4IDC8**	1419021	1
RJ45 panel mounting frame, single, for modular female inserts (Keystone), without mounting screws	**VS-08-A-RJ45/MOD-1-IP20**	1689433	5

Accessories

Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1

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DIN rail adapters

new

DIN rail adapter

DIN rail adapter housing, inserts

	Technical data		Technical data	
	FL-PP-RJ45-...		FOC-I-D1PGN-S/...	CUC-I-...1ZNI-S/R4...
Electrical data				
Transmission characteristics (category)	CAT6		-	$CAT6_A$
Material data				
Housing material	PC-GF		PBT	Zinc die-cast
Contact material	CuSn		-	CuSn
Flammability rating in accordance with UL 94	V0		V0	-
Mechanical data				
Number of positions	8		-	8
Color	gray		-	-
Degree of protection	IP20		IP20	IP20
Connection method	Coupling		Coupling	IDC connection
Connection cross section AWG	-		-	26 ... 22 (rigid)
Temperature data				
Ambient temperature (operation)	-10°C ... 60°C		-10°C ... 70°C	-25°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
DIN rail adapter, IP20, coupler module						
CAT6 for 1 Gbps	**CUC-PP-D1PGY/R4GC8**	1418094	1			
DIN rail adapter, IP20, $CAT6_A$, connection cross section: 26 ... 22 AWG						
$CAT6_A$ for 10 Gbps	**CUC-PP-D1PGY/R4IDC8**	1419024	1			
DIN rail adapter, patch panel, SC-RJ, IP20, female/female, can be used with glass, multimode, HCS, and polymer fibers						
	VS-PP-F-SCRJ	1658121	1			
DIN rail adapter housing				**NBC-PP-G1PGY**	1041740	1
Insert, for DIN rail adapter housings						
LC duplex coupling				**FOC-I-D1PGN-S/LCGCSM**	1041780	1
SC simplex coupling				**FOC-I-D1PGR-S/SCGCSM**	1041800	1
MTP coupling, type A				**FOC-I-D1PGY-S/MPAGC**	1041820	1
MTP coupling, type B				**FOC-I-D1PGY-S/MPBGC**	1041840	1
RJ45 female insert, $CAT6_A$				**CUC-I-J1ZNI-S/R4IDC8**	1417274	1
RJ45 coupling, $CAT6_A$				**CUC-I-D1ZNI-S/R4GC8**	1041760	1
	Accessories			**Accessories**		
Plug Guard Security frame, white, for DIN rail adapters, for securing the RJ45 interface against unauthorized disconnection, with key element				**NBC-PP-F1PWH:10**	1041881	10
Dust protection flap, gray, for DIN rail adapters				**NBC-PP-P1PGY:10**	1041860	10
Port Guard Security element, red, for securing the RJ45 interface against unauthorized access, with key element				**NBC-PP-A1PRD:10**	1041900	10

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FO connectors, IP20

POF, 980/1000 µm

PCF, 200/230 µm, 2.9 mm

	Technical data	Technical data
Material data		
Housing material	PBT	PBT
Ferrule material	Copper alloy	Copper alloy
Flammability rating in accordance with UL 94	V0	V0
Color	black	black
Degree of protection	IP20	IP20
Insertion/withdrawal cycles	≥ 500	≥ 1000
Temperature data		
Ambient temperature (operation)	-25°C ... 70°C	-20°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
FO connector SC-RJ, duplex, with fast connection						
IP20	**VS-SCRJ-POF-FA-IP20**	1654879	1			
IP20, for single wire diameter: 2.9 mm				**VS-SCRJ-HCS-FA-IP20**	1654866	1
FO connector for 200/230 µm PCF fibers, crimp connection						
- SC-RJ						
- SC duplex						
Connector set for polymer fibers (diameter of the individual elements: 2.2 mm), for self-assembly, with bend protection						
- F-SMA set, 4 connectors	**PSM-SET-FSMA/4-KT**	2799720	1			
Connector set for PCF fibers (diameter of the individual elements: 2.9 mm), for self-assembly, with bend protection						
- F-SMA set, 4 connectors				**PSM-SET-FSMA/4-HCS**	2799487	1
- B-FOC (ST®) set, 4 connectors				**PSM-SET-B-FOC/4-HCS**	2708481	1
Connector set for PROFINET PCF fibers (diameter of the individual elements: 2.2 mm), for self-assembly, with bend protection						
- SC duplex set, 2 duplex connectors						
- B-FOC (ST®) set, 4 connectors						

	Accessories			Accessories		
Tool set for POF assembly, for field installation of SC connectors.	**TF-SCRJ-POF KONF SET**	1405246	1			
Tool set for PCF assembly, for field installation of SC connectors						
PCF (GI) DIY case for SC-RJ and SC duplex quick mounting connectors, stripping blade, stripping pliers, aramid yarn scissors, fiber stripper, fiber cleaving tool, and microscope						

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PCF, 200/230 µm, 2.2 mm

PCF, 200/230 µm

EAC

Technical data	
PBT	
Copper alloy	
V0	
black	
IP20	
≥ 1000	
-20°C ... 70°C	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
PSM-SET-SC-DUPLEX/2-HCS/PN	**2313779**	1
PSM-SET-B-FOC/4-HCS/PN	**2313782**	1

Accessories		
PSM-HCS-KONFTOOL/SC-RJ	**2708876**	1

EAC

Technical data	
PBT	
Zirconia ceramics	
V0	
beige	
IP20	
≥ 500	
-40°C ... 70°C	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
FOC-C-SCRJ-PCF	**1411304**	1
FOC-C-SCDU-PCF	**1411305**	1

Accessories		
FOC-TOOL-PCF KONF SET	**1411051**	1
PSM-HCS-KONFTOOL/SC-RJ	**2708876**	1

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FO connectors, IP20, field connection

– Cleave technology
– Reusable connectors
– Optimum attenuation values with easy assembly
– No bonding or polishing

LC duplex connector, 1.25 mm - ferrules

LC simplex connector for pigtails, 1.25 mm - ferrules

	Technical data	Technical data
Material data		
Housing material	PBT	-
Ferrule material	Zirconia ceramics	Zirconia ceramics
Flammability rating in accordance with UL 94	V0	V0
Color	beige	beige
Degree of protection	IP20	IP20
Insertion/withdrawal cycles	≥ 500 (in accordance with IEC 61300-2-2)	≥ 500 (in accordance with IEC 61300-2-2)
Temperature data		
Ambient temperature (operation)	-10°C ... 60°C (IEC 61300-2)	-10°C ... 60°C (IEC 61300-2)

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
FO connector, fast connection, reusable						
GOF, 50/125 µm, multimode	**FOC-C-LCDU-GOF-MM**	1411052	1	**FOC-C-LC:P-GOF-MM**	1411294	1
GOF, 9/125 µm, single mode (APC)	**FOC-C-LCDU-GOF-SM-APC**	1412472	1	**FOC-C-LC:P-GOF-SM-APC**	1412476	1
GOF, 9/125 µm, single mode (PC)	**FOC-C-LCDU-GOF-SM-PC**	1411053	1	**FOC-C-LC:P-GOF-SM-PC**	1411295	1
FO connector, fast connection, reusable, **value pack**						
GOF, 50/125 µm, multimode	**FOC-C-LCDU-GOF-MM/10**	1411298	1			
GOF, 9/125 µm, single mode (APC)	**FOC-C-LCDU-GOF-SM-APC/10**	1412479	1			
GOF, 9/125 µm, single mode (PC)	**FOC-C-LCDU-GOF-SM-PC/10**	1411299	1			
	Accessories			**Accessories**		
Tool set for GOF assembly, for field installation of LC and SC connectors	**FOC-TOOL-GOF KONF SET**	1411049	1	**FOC-TOOL-GOF KONF SET**	1411049	1

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SC duplex connector, 2.5 mm - ferrules

SC simplex connector for pigtails, 2.5 mm - ferrules

SC-RJ connector, 2.5 mm - ferrules

EAC

Technical data

	-
	Zirconia ceramics
	V0
	green
	IP20
	≥ 500 (in accordance with IEC 61300-2-2)
	-10°C ... 60°C (IEC 61300-2)

Ordering data

Type	Order No.	Pcs./Pkt.
FOC-C-SCDU-GOF-MM	1411292	1
FOC-C-SCDU-GOF-SM-APC	1412474	1
FOC-C-SCDU-GOF-SM-PC	1411293	1
FOC-C-SCDU-GOF-MM/10	1411302	1
FOC-C-SCDU-GOF-SM-APC/10	1412481	1
FOC-C-SCDU-GOF-SM-PC/10	1411303	1

Accessories

FOC-TOOL-GOF KONF SET	1411049	1

EAC

Technical data

	-
	Zirconia ceramics
	V0
	blue
	IP20
	≥ 500 (in accordance with IEC 61300-2-2)
	-10°C ... 60°C (IEC 61300-2)

Ordering data

Type	Order No.	Pcs./Pkt.
FOC-C-SC:P-GOF-MM	1411296	1
FOC-C-SC:P-GOF-SM-APC	1412478	1
FOC-C-SC:P-GOF-SM-PC	1411297	1

Accessories

FOC-TOOL-GOF KONF SET	1411049	1

EAC

Technical data

	-
	Zirconia ceramics
	V0
	beige
	IP20
	≥ 500 (in accordance with IEC 61300-2-2)
	-10°C ... 60°C (IEC 61300-2)

Ordering data

Type	Order No.	Pcs./Pkt.
FOC-C-SCRJ-GOF-MM	1411290	1
FOC-C-SCRJ-GOF-SM-APC	1412473	1
FOC-C-SCRJ-GOF-SM-PC	1411291	1
FOC-C-SCRJ-GOF-MM/10	1411300	1
FOC-C-SCRJ-GOF-SM-APC/10	1412480	1
FOC-C-SCRJ-GOF-SM-PC/10	1411301	1

Accessories

FOC-TOOL-GOF KONF SET	1411049	1

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Fiber optic couplings

Suitable for fiber types:
– POF (980/1000 µm), PCF (200/230 µm), GOF MM (50/125 µm), GOF SM (9/125 µm)

SC-RJ coupling

Couplings for connecting FO cables

	Technical data	Technical data
Material data		
Housing material	PBT	-
Ferrule material	Zirconia ceramics	-
Flammability rating in accordance with UL 94	V0	V0
Color	black	bare metallic
Degree of protection	IP20	IP20
Insertion/withdrawal cycles	≥ 500	-
Temperature data		
Ambient temperature (operation)	-25°C ... 70°C	-25°C ... 85°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
SC-RJ coupling, for terminal outlets VS-TO-... and 19" patch panels VS-PP-19-1HE-16-F and front plate VS-SI-FP-2F						
1x SC-RJ (duplex)	**VS-SCRJ-GOF-KU**	1654358	1			
Coupling; set, consisting of:						
2 x F-SMA/F-SMA				**PSM-SET-FSMA-LINK/2**	2799416	1
2 x B-FOC (ST®)/B-FOC (ST®)				**PSM-SET-BFOC-LINK/2**	2799429	1
1x SC-RJ/SC-RJ (duplex)				**VS-SCRJ-GOF-BU/BU**	1652978	1
1 x LC/LC (duplex, multimode fiber)				**FL MM PATCH COUPLER LC-LC**	2700312	1
1x LC/LC (duplex, single-mode fiber (PC))				**FL SM PATCH COUPLER LC-LC**	2700313	1
1x SC duplex/SC duplex				**FL COUPLER SC-DUPLEX**	2901788	1

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FO splice boxes, FDX 20 series, IP20

new

- Compact dimensions despite large splice comb
- Snap-in adapter for easy DIN rail mounting
- Ready for equipotential bonding
- Suitable for industrial applications
- Up to twelve duplex front connections
- Preassembly ready for splicing
- Intuitive front operation

FDX 20 splice box, DIN rail mounting

Technical data

Material data	
Housing material	Sheet steel
Ferrule material	Zirconia ceramics
Flammability rating in accordance with UL 94	V0
Color	traffic gray A RAL 7042
Degree of protection	IP20
Insertion/withdrawal cycles	≥ 500
Temperature data	
Ambient temperature (operation)	-40°C ... 85°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
DIN rail splice box, for 6 x LC duplex			
Without pigtails	**FOC-FDX20-PP-LCD6-MM**	1019710	1
OM2 (G50 / 125 µm)	**FOC-FDX20-PP-LCD6-OM2-PT9**	1019713	1
OM4 (G50 / 125 µm)	**FOC-FDX20-PP-LCD6-OM4-PT9**	1019712	1
OS2 (PC) (E9 / 125 µm)	**FOC-FDX20-PP-LCD6-OSP-PT9**	1019711	1
OS2 (APC) (E9 / 125 µm)	**FOC-FDX20-PP-LCD6-OSA-PT9**	1083665	1
DIN rail splice box, for 12 x LC duplex			
Without pigtails	**FOC-FDX20-PP-LCQ6-MM**	1019705	1
OM2 (G50 / 125 µm)	**FOC-FDX20-PP-LCQ6-OM2-PT9**	1019709	1
OM4 (G50 / 125 µm)	**FOC-FDX20-PP-LCQ6-OM4-PT9**	1019708	1
OS2 (PC) (E9 / 125 µm)	**FOC-FDX20-PP-LCQ6-OSP-PT9**	1019707	1
DIN rail splice box, for 6 x SC duplex			
Without pigtails	**FOC-FDX20-PP-SCD6-MM**	1019686	1
OM2 (G50 / 125 µm)	**FOC-FDX20-PP-SCD6-OM2-PT9**	1019700	1
OM4 (G50 / 125 µm)	**FOC-FDX20-PP-SCD6-OM4-PT9**	1019698	1
OS2 (PC) (E9 / 125 µm)	**FOC-FDX20-PP-SCD6-OSP-PT9**	1019692	1
DIN rail splice box, for 6 x ST duplex			
Without pigtails	**FOC-FDX20-PP-STD6-MM**	1019681	1
OM1 (G62,5 / 125 µm)	**FOC-FDX20-PP-STD6-OM1-PT9**	1019684	1
OM2 (G50 / 125 µm)	**FOC-FDX20-PP-STD6-OM2-PT9**	1019683	1
OS2 (PC) (E9 / 125 µm)	**FOC-FDX20-PP-STD6-OSP-PT9**	1019682	1
DIN rail splice box, for 6 x LSH duplex			
OS2 (APC) (E9 / 125 µm)	**FOC-FDX20-PP-E2D6-OSA-PT9**	1019680	1

Accessories

Shrink splice protection, for FDX 20 splice boxes	**FOC-SHRINKSPLICE-PROTECT**	1019676	12
Crimp splice protection, for FDX 20 splice boxes	**FOC-CRIMPSPLICE-PROTECT**	1019678	12

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FO 19" splice boxes

19" splice box

Technical data	
Material data	
Housing material	Sheet steel
Flammability rating in accordance with UL 94	V0
Color	light gray RAL 7035
Degree of protection	IP20
Insertion/withdrawal cycles	min. 1000
Temperature data	
Ambient temperature (operation)	-10°C ... 60°C

Ordering data			
Description	Type	Order No.	Pcs./Pkt.
19" splice box, 1 RU, fully pre-assembled ready to splice, for 12x LC duplex			
gray, OM2	**FOC-SB-FR19:1U-LCD12-OM2 GY**	1418815	1
black, OM4	**FOC-SB-FR19:1U-LCD12-OM4 BK**	1418817	1
19" splice box, 1 RU, fully pre-assembled ready to splice, for 24x LC duplex			
gray, OM2	**FOC-SB-FR19:1U-LCD24-OM2 GY**	1418816	1
black, OM4	**FOC-SB-FR19:1U-LCD24-OM4 BK**	1418818	1

Accessories for fiber optic assembly

Ferrule cleaner

Fiber stripper

Ordering data			
Description	Type	Order No.	Pcs./Pkt.
Ferrule cleaner, approx. 500 cleaning cycles			
1.25 mm, for LC	**FOC-TOOL-FERRULECLEANER-1.25**	1407032	1
2.50 mm, for ST, SC, FC	**FOC-TOOL-FERRULECLEANER-2.50**	1407029	1
Stick cleaner for couplings and plug end faces			
1.25 mm, for LC			
2.50 mm, for ST, SC, FC			

Ordering data			
Type	Order No.	Pcs./Pkt.	
FOC-TOOL-STICKCLEANER-1.25	1407000	1	
FOC-TOOL-STICKCLEANER-2.50	1407002	1	

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Tools for processing fiber optics

Fiber and T-stripper

Solvent dispenser and ceramic blade

Description	Ordering data			Ordering data		
	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Fiber stripper, for stripping the coating from 250 µm to 125 µm						
For 1 fiber	**FOC-TOOL-STRIPPING-1HOLE-250**	1407004	1			
For 2 fibers	**FOC-TOOL-STRIPPING-2HOLE-250**	1407008	1			
T-stripper						
AWG 18 ... 10/1.0 mm ... 2.6 mm	**FOC-TOOL-STRIPPING-T-1**	1407016	1			
AWG 30 ... 22 / 0.25 mm ... 0.64 mm	**FOC-TOOL-STRIPPING-T-2**	1407014	1			
Solvent dispenser, 100 ml, lockable pump dispenser						
				FOC-TOOL-DISPENSER	1406995	1
Ceramic blade						
				FOC-TOOL-CERAMIC-BLADE	1407019	1

Polishing accessories fiber optic connectors

Polishing film

Polishing disc

Description	Ordering data			Ordering data		
	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Polishing film, silicon carbide						
15 µm	**FOC-POLISHINGFILM-SK-15.0**	1407034	25			
Polishing film, ALO^2						
1 µm	**FOC-POLISHINGFILM-AO-01.0**	1407037	25			
3 µm	**FOC-POLISHINGFILM-AO-03.0**	1407039	25			
Polishing film, diamond						
0.1 µm	**FOC-POLISHINGFILM-D-00.1**	1407046	10			
1 µm	**FOC-POLISHINGFILM-D-01.0**	1407042	10			
9 µm	**FOC-POLISHINGFILM-D-09.0**	1407044	10			
Polishing disc						
1.25 mm, for LC				**FOC-POLISHINGDISC-1.25**	1407024	1
2.50 mm, for ST, SC, FC				**FOC-POLISHINGDISC-2.50**	1407021	1

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Tools for FO cabling, POF

– For quick and easy field assembly
– No bonding or polishing
– Blade can be replaced easily on site
– Optimum attenuation values with easy assembly
– Reusable connectors

EAC

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Polymer fiber DIY Case, consisting of: Stripping knife, stripping pliers, polishing wheel for F-SMA and SC-RJ quick mounting connectors, polishing pad and emery paper	PSM-POF-KONFTOOL	2744131	1			
Power meter measuring case, comprising an optical power meter, F-SMA and B-FOC (ST®) coupling, reference fibers, and operating instructions				PSM-FO-POWERMETER	2799539	1
Powermeter supplementary set for devices with SC-RJ interface, comprising one-meter polymer reference fiber (SC Simplex connector to F-SMA connector), one-meter PCF GI reference fiber (SC Simplex connector to B-FOC (ST®) connector), and SC-RJ coupling				PSM-FO-POWERMETER SCRJ-SET	2901560	1
Tool set for POF assembly, for field installation of SC connectors.				TF-SCRJ-POF KONF SET	1405246	1
Cutting tool, SC-RJ, for polymer fiber				CUTFOX-SCRJ-POF	1405247	1
Sheath stripping tool, for polymer fiber				WIREFOX-PN POF	1405249	1
Electrician's scissors, high cutting performance, thanks to micro-serrated cutting area, suitable for copper, aluminum (flexible), Kevlar® fibers, and plastic, two-component non-slip soft-grip handles, ergonomic design, adjustable screw joint				CUTFOX-ES	1212621	1

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Tools for FO cabling, PCF

- Cleave technology
- For quick and easy field assembly
- No bonding or polishing
- A real alternative to splicing
- Optimum attenuation values with easy assembly

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Tool set for PCF assembly, for field installation of SC connectors	FOC-TOOL-PCF KONF SET	1411051	1
PCF assembly case, stripping knife, stripping pliers, Aramid yarn scissors, fiber stripper, fiber cleaving tool and microscope			
- For SCRJ/SC duplex connectors	PSM-HCS-KONFTOOL/SC-RJ	2708876	1
- For B-FOC (ST®) connectors	PSM-HCS-KONFTOOL/B-FOC	2708465	1
- For F-SMA connectors	PSM-HCS-KONFTOOL	2799526	1
Fiber cleaving tool for PCF fiber			
- For SCRJ/SC duplex connectors	PSM-HCS-CLEAVETOOL/SCRJ	2313122	1
- For B-FOC (ST®) connectors	PSM-HCS-CLEAVETOOL/B-FOC	2708478	1
- For F-SMA connectors	PSM-HCS-CLEAVETOOL	2744995	1

Tools for FO cabling, GOF

- Cleave technology
- For quick and easy field assembly
- No bonding or polishing
- A real alternative to splicing
- Optimum attenuation values with easy assembly
- Reusable connectors

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Tool set for GOF assembly, for field installation of LC and SC connectors	FOC-TOOL-GOF KONF SET	1411049	1

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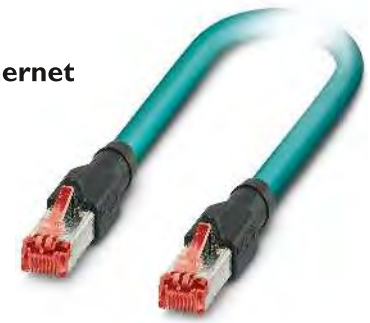
RJ45 Ethernet cables

Notes:

For accessories, see page: 388

Ethernet



RJ45 Ethernet cable for IP20 applications

Technical data

Cable, properties	
Transmission characteristics (category)	CAT5
Conductor structure	7x 0.16 mm
Conductor cross section	4x 2x 0.14 mm²
Conductor structure for signal	7x 0.16 mm
AWG signal line	26
Cable diameter	6.2 mm
Conductor resistance	≤ 290 Ω/km (at 20°C)
Type of shield	Tinned copper braided shield
Conductor material	Bare Cu litz wires
Outer sheath material	PUR
Color of outer sheath	water blue RAL 5021
Color, single wire	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
General data	
Ambient temperature (operation)	-20°C ... 70°C (RJ45 connector)

Ordering data

Description	Length of cable	Type	Order No.	Pcs./Pkt.
Ethernet cable, CAT5, pre-assembled				
	0.3 m	**NBC-R4AC/0,3-94Z/R4AC**	1423032	1
	0.5 m	**NBC-R4AC/0,5-94Z/R4AC**	1403926	1
	1 m	**NBC-R4AC/1,0-94Z/R4AC**	1403927	1
	1.75 m	**NBC-R4AC/1,75-94Z/R4AC**	1423433	1
	2 m	**NBC-R4AC/2,0-94Z/R4AC**	1403929	1
	3 m	**NBC-R4AC/3,0-94Z/R4AC**	1403930	1
	5 m	**NBC-R4AC/5,0-94Z/R4AC**	1403933	1
	10 m	**NBC-R4AC/10,0-94Z/R4AC**	1403934	1
	15 m	**NBC-R4AC/15,0-94Z/R4AC**	1410797	1
	20 m	**NBC-R4AC/20,0-94Z/R4AC**	1423033	1

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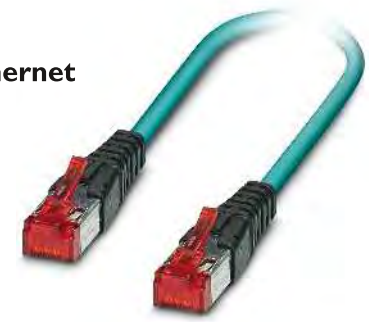
RJ45 patch cables

Notes:
For accessories, see page: 388

Ethernet



**RJ45 patch cable
for IP20 applications**

EAC

Technical data	
Cable, properties	
Transmission characteristics (category)	$CAT6_A$
Conductor structure	6.00 mm +0.2 mm -0.1 mm
Conductor structure for signal	6.00 mm +0.2 mm -0.1 mm
AWG signal line	26
Type of shield	S/FTP
Outer sheath material	PUR
General data	
Ambient temperature (operation)	-25°C ... 70°C (RJ45 connector)

Ordering data

Description	Length of cable	Type	Order No.	Pcs./Pkt.
Patch cable, $CAT6_A$, pre-assembled, outer sheath color: water blue				
	0.3 m	**NBC-R4AC1/0,3-94G/R4AC1-BU**	1413158	1
	0.5 m	**NBC-R4AC1/0,5-94G/R4AC1-BU**	1413159	1
	1 m	**NBC-R4AC1/1,0-94G/R4AC1-BU**	1413160	1
	2 m	**NBC-R4AC1/2,0-94G/R4AC1-BU**	1413161	1
	3 m	**NBC-R4AC1/3,0-94G/R4AC1-BU**	1413162	1
	5 m	**NBC-R4AC1/5,0-94G/R4AC1-BU**	1413163	1
	10 m	**NBC-R4AC1/10,0-94G/R4AC1-BU**	1413164	1
	15 m	**NBC-R4AC1/15,0-94G/R4AC1-BU**	1413165	1
	20 m	**NBC-R4AC1/20,0-94G/R4AC1-BU**	1413166	1
Patch cable, $CAT6_A$, pre-assembled, outer sheath color: yellow				
	0.3 m	**NBC-R4AC1/0,3-94G/R4AC1-YE**	1421168	1
	0.5 m	**NBC-R4AC1/0,5-94G/R4AC1-YE**	1421169	1
	1 m	**NBC-R4AC1/1,0-94G/R4AC1-YE**	1421170	1
	2 m	**NBC-R4AC1/2,0-94G/R4AC1-YE**	1421171	1
	3 m	**NBC-R4AC1/3,0-94G/R4AC1-YE**	1421172	1
	5 m	**NBC-R4AC1/5,0-94G/R4AC1-YE**	1421173	1
	10 m	**NBC-R4AC1/10,0-94G/R4AC1-YE**	1421174	1
	15 m	**NBC-R4AC1/15,0-94G/R4AC1-YE**	1421175	1
	20 m	**NBC-R4AC1/20,0-94G/R4AC1-YE**	1421176	1
Patch cable, $CAT6_A$, pre-assembled, outer sheath color: red				
	0.3 m	**NBC-R4AC1/0,3-94G/R4AC1-RD**	1421138	1
	0.5 m	**NBC-R4AC1/0,5-94G/R4AC1-RD**	1421139	1
	1 m	**NBC-R4AC1/1,0-94G/R4AC1-RD**	1421140	1
	2 m	**NBC-R4AC1/2,0-94G/R4AC1-RD**	1421141	1
	3 m	**NBC-R4AC1/3,0-94G/R4AC1-RD**	1421143	1
	5 m	**NBC-R4AC1/5,0-94G/R4AC1-RD**	1421144	1
	10 m	**NBC-R4AC1/10,0-94G/R4AC1-RD**	1421145	1
	15 m	**NBC-R4AC1/15,0-94G/R4AC1-RD**	1421146	1
	20 m	**NBC-R4AC1/20,0-94G/R4AC1-RD**	1421147	1

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Accessories

The reliability of networks is becoming more and more important and is a decisive factor for the future of entire companies. Independent studies show that more than 70% of network errors and crashes are due to faulty cabling infrastructure and manipulation of the connecting cables.

With the new accessories for Factoryline patch cables, the various safety requirements for automation are comprehensively met.

Dust protection for SFN switches and FL MC 1000 and 2000 media converters

Security lock for SFN switches and FL MC 1000 and 2000 media converters

Description	Ordering data: Type	Ordering data: Order No.	Ordering data: Pcs./Pkt.	Ordering data: Type	Ordering data: Order No.	Ordering data: Pcs./Pkt.
Dust protection with color marking, for SFN switch and angled patch connector						
- Black	**FL DUST CVR BK**	2891107	10			
- Blue	**FL DUST CVR BU**	2891204	10			
- Brown	**FL DUST CVR BN**	2891301	10			
- Yellow	**FL DUST CVR YE**	2891408	10			
- Gray	**FL DUST CVR GY**	2891505	10			
- Green	**FL DUST CVR GN**	2891602	10			
- Red	**FL DUST CVR RD**	2891709	10			
- Violet	**FL DUST CVR VT**	2891806	10			
- White	**FL DUST CVR WH**	2891903	10			
Security frame for SFN switch and patch fields						
- Green				**FL PLUG GUARD GN**	2891615	20
- Red				**FL PLUG GUARD RD**	2891712	20
- White				**FL PLUG GUARD WH**	2891819	20
Locking element for security frame FL PLUG GUARD...						
- Locking element				**FL PORT GUARD**	2891220	20
- Key				**FL PLUG GUARD KEY**	2891327	1
Color marking for FL CAT... Patch...						
- Black						
- Blue						
- Brown						
- Yellow						
- Gray						
- Green						
- Red						
- Violet						
Security element for FL CAT ...patch...						
- Security element						
- Security element, lockable						
- Key						
Dust protection cap for RJ45 socket						
- Black						
- Gray						

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Color coding
for RJ45 FL patch cables

Security element
for RJ45 FL patch cables

Dust protection
for RJ45 sockets

Ordering data

Type	Order No.	Pcs./Pkt.
FL PATCH CCODE BK	2891194	20
FL PATCH CCODE BU	2891291	20
FL PATCH CCODE BN	2891495	20
FL PATCH CCODE YE	2891592	20
FL PATCH CCODE GY	2891699	20
FL PATCH CCODE GN	2891796	20
FL PATCH CCODE RD	2891893	20
FL PATCH CCODE VT	2891990	20

Ordering data

Type	Order No.	Pcs./Pkt.
FL PATCH SAFE CLIP	2891246	20
FL PATCH GUARD	2891424	20
FL PATCH GUARD KEY	2891521	1

Ordering data

Type	Order No.	Pcs./Pkt.
FL RJ45 PROTECT CAP	2832991	10
FL RJ45 PROTECT CAP GY	1065531	100

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19" patch bays

new

19" patch bay

new

19" mounting frame

	Technical data	Technical data
	FOC-FR19:1U-2OS12-LCD12-OM1	FOC-FR19:3U
Material data		
Housing material	Aluminum alloy	Aluminum alloy
Flammability rating in accordance with UL 94	V0	V0
Temperature data		
Ambient temperature (operation)	-10°C ... 60°C (IEC 61300-2-22)	-20°C ... 60°C (IEC 61300-2-22)

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
19" patch bay, 1 RU, 2 x Q-ODC-12 female to 12 x LC duplex coupling	**FOC-FR19:1U-2OS12-LCD12-OM1**	1419973	1			
19" mounting frame, 3 RU, modular, unassembled				**FOC-FR19:3U**	1419976	1
Module insert, marshalling panel, for 19" mounting frame, 3 RU, 1 x Q-ODC-12 female to 6 x LC duplex coupling				**FOC-MODUL:3U-OS12-LCD6-OM1**	1419978	1
	Accessories			**Accessories**		
Patch cable, IP68, 10 meters, Q-ODC-12 male to Q-ODC-12 male	**FOC-OP12-OP12-GL02/10**	1415353	1	**FOC-OP12-OP12-GL02/10**	1415353	1

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19" patch bays

Ethernet

Patch bay for 19" rack and matching female inserts

Ethernet

Patch bay for 19" rack and matching female inserts

	Technical data	Technical data
	VS-PP-19-1HE-16-F	CUC-PP-FR19:1U-I-EMPTY:24
Material data		
Housing material	PC-GF	PC-GF
Flammability rating in accordance with UL 94	V0	V0
Temperature data		
Ambient temperature (operation)	5°C ... 55°C	5°C ... 55°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Patch panel, 19" mounting, IP20, with 16 installation slots for contact inserts with Freenet system	**VS-PP-19-1HE-16-F**	1652994	1			
Patch bay, 19" mounting, IP20, with 24 installation slots for RJ45 cable connection module, adapter-free						
gray				**CUC-PP-FR19:1U-I-EMPTY:24**	1422978	1
black				**CUC-PP-FR19:1U-I-EMPTY:24 BK**	1422979	1
	Accessories			**Accessories**		
RJ45 Freenet socket insert, 8-pos., shielded, with cable connection						
1 Gbps, CAT5	**VS-08-BU-RJ45-5-F/PK**	1652936	1			
SC-RJ coupling, for terminal outlets VS-TO-... and 19" patch panels VS-PP-19-1HE-16-F and front plate VS-SI-FP-2F						
1x SC-RJ (duplex)	**VS-SCRJ-GOF-KU**	1654358	1			
LC/LC coupling for mounting in angled patch connectors and patch panels with Freenet slots						
1 x LC/LC (duplex, multimode fiber)	**FL MM PATCH COUPLER LC-LC**	2700312	1			
1x LC/LC (duplex, single-mode fiber (PC))	**FL SM PATCH COUPLER LC-LC**	2700313	1			
Insert, for patch bay						
MTP coupling, type A				**FOC-I-D1PGY-S/MPAGC**	1041820	1
MTP coupling, type B				**FOC-I-D1PGY-S/MPBGC**	1041840	1
LC duplex coupling				**FOC-I-D1PGN-S/LCGCSM**	1041780	1
SC simplex coupling				**FOC-I-D1PGR-S/SCGCSM**	1041800	1
RJ45 female insert, $CAT6_A$				**CUC-I-J1ZNI-S/R4IDC8**	1417274	1
USB socket insert, 4-pos., female USB to flat-ribbon cable terminal strip, 2.54 pitch, socket, type A	**VS-04-BUA-FK-F/IP67**	1653854	1			
USB socket insert, 4-pos., female USB to flat-ribbon cable terminal strip, 2.54 pitch, socket, type B	**VS-04-BUB-FK-F/IP67**	1653867	1			

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Network cables, sold by the meter, PROFINET, EtherCAT®, shielded

Notes:
For information about the cable qualities, see page 454

4-wire, star quad, cable coil

4-wire, star quad, cable drum

EAC

Description	Ordering data			Ordering data		
	Type	**Order No.**	Pcs./Pkt.	**Type**	**Order No.**	Pcs./Pkt.
PVC rigid - green, 1 x 4 x 22 AWG, CAT5, SF/TQ, type A						
Cable coil: 100 m	**VS-OE-OE-93A-100,0**	1416392	1			
Cable coil: 1 m ... 100 m	**VS-93A/...**	1416486	1			
PVC flexible - green, 1 x 4 x 22 AWG, CAT5, SF/TQ, type B						
Cable coil: 100 m	**VS-OE-OE-93B-100,0**	1416389	1			
Cable coil: 1 m ... 100 m	**VS-OE-OE-93B/...**	1417362	1			
Cable drum: 110 m ... 500 m				**NBC-93B/...**	1408537	1
PUR suitable for use with drag chain - green, 1 x 4 x 22 AWG, CAT5, SF/TQ, type C						
Cable coil: 100 m	**VS-OE-OE-93C-100,0**	1416376	1			
Cable coil: 1 m ... 100 m	**VS-OE-OE-93C/...**	1417491	1			
Cable drum: 110 m ... 500 m				**NBC-93C/...**	1408538	1
PUR suitable for use with robots - green, 1 x 4 x 22 AWG, CAT5, S/TQ						
Cable coil: 100 m	**VS-OE-OE-93R-100,0**	1416363	1			
Cable coil: 1 m ... 100 m	**VS-OE-OE-93R/...**	1417388	1			
Cable drum: 110 m ... 500 m				**NBC-93R/...**	1408539	1
RADOX® for railway applications - black, 1 x 4 x 22 AWG, CAT5, SF/TQ						
Cable coil: 1 m ... 100 m	**VS-OE-OE-937/...**	1402687	1			
Cable drum: 110 m ... 500 m				**NBC-937/...**	1408540	1

Ordering example for cables with variable cable length:

For a 34.0 m long **type 93A** network cable, the ordering data is as follows:

Order No.		Length [m] 100 m, maximum
1416486	/	**34.0**
		Increment: 1.0 m ... 100 m = **1.0 m** 110 m ... 500 m = **10 m**

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Network cables, sold by the meter, Ethernet, shielded

Notes:
For information about the cable qualities, see page 454

Ethernet

2-pair, twisted pair

Ethernet

4-pair, twisted pair

Description	Ordering data			Ordering data		
	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
PUR flexible - blue, 2 x 2 x 26 AWG, CAT5, SF/UTP						
Cable coil: 100 m	**VS-OE-OE-93E-100,0**	1416295	1			
Cable coil: 1 m ... 100 m	**VS-OE-OE-93E/...**	1417320	1			
Cable drum: 110 m ... 500 m	**NBC-93E/...**	1408534	1			
PUR rigid - blue, 4 x 2 x 24 AWG, CAT5, SF/UTP						
Cable coil: 100 m				**VS-OE-OE-94A-100,0**	1416305	1
Cable coil: 1 m ... 100 m				**VS-94A/...**	1416415	1
PUR flexible - blue, 4 x 2 x 26 AWG, CAT5, SF/UTP						
Cable coil: 100 m				**VS-OE-OE-94B-100,0**	1416567	1
Cable coil: 1 m ... 100 m				**VS-OE-OE-94B/...**	1417333	1
Cable drum: 110 m ... 500 m				**NBC-94B/...**	1408535	1
PUR suitable for use with drag chain - blue, 4 x 2 x 26 AWG, CAT5, S/UTP						
Cable coil: 100 m				**VS-OE-OE-94C-100,0**	1416318	1
Cable coil: 1 m ... 100 m				**VS-OE-OE-94C/...**	1417346	1
Cable drum: 110 m ... 500 m				**NBC-94C/...**	1408536	1
PVC flexible, outdoor - black, 4 x 2 x 26 AWG, CAT5, SF/UTP						
Cable coil: 100 m				**VS-OE-OE-94D-100,0**	1416334	1
Cable coil: 1 m ... 100 m				**VS-94D/...**	1416444	1
FRNC rigid - blue, 4 x 2 x 23 AWG, CAT7, S/FTP						
Cable coil: 100 m				**VS-OE-OE-94E-100,0**	1416350	1
Cable coil: 1 m ... 100 m				**VS-94E/...**	1416460	1
PUR flexible - blue, 4 x 2 x 26 AWG, CAT6$_A$, S/FTP						
Cable coil: 100 m				**VS-OE-OE-94F-100,0**	1416347	1
Cable coil: 1 m ... 100 m				**VS-OE-OE-94F/...**	1417359	1

Ordering example for cables with variable cable length:

For a 34.0 m long **type 94A** network cable, the ordering data is as follows:

Order No.		Length [m] 100 m, maximum
1416415	/	**34.0**
		Increment: 1.0 m ... 100 m = **1.0 m** 110 m ... 500 m = **10 m**

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Assembled cables, PROFINET, EtherCAT®, Ethernet, 4-pos., shielded, A-coded

PROFINET Ethernet

EtherCAT

	M8 male connector		M8 female connector	
	M8MS		M8FS	
	Ordering data		Ordering data	
		Order No.		Order No.
Open cable end				
OE	1 m	1407344		
	2 m	1407345		
	5 m	1407346		
	10 m	1407347		
	Variable	1408719	Variable	1408716
M8 male connector				
M8MS	1 m	1407348		
	2 m	1407349		
	5 m	1407350		
	10 m	1407351		
	Variable	1408718	Variable	1408715
RJ45 connector, IP20				
R4AC	1 m	1407352		
	2 m	1407353		
	5 m	1407354		
	10 m	1407355		
	Variable	1408717	Variable	1408714

Information for products with fixed cable length:

Products with fixed cable length are produced with the **93B** cable type and are available from stock.

Ordering data for cables with variable cable length:

For a **4.5 m long type 93B** network cable with **M8 male connector, straight** and **RJ45 connector, IP20**, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1408717	93B	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty: 25 pcs.

Pin		Wire color		Signal
M8	RJ45			
2	1	YE		TD+
3	2	OG		TD–
1	3	WH		RD+
4	6	BU		RD–

		Technical data
		PROFINET PVC flexible CAT5 [93B]
Transmission characteristics (category)		CAT5
Cable structure		1x4xAWG22/7; SF/TQ
Conductor cross section		4x 0.34 mm²
Conductor structure for signal		7x 0.25 mm
AWG signal line		22
Cable diameter		6.5 mm
Conductor resistance		-
Type of shield		Aluminum-coated foil, tinned copper braided shield
Conductor material		Tin-plated Cu litz wires
Outer sheath material		PVC
Color of outer sheath		green RAL 6018
Color, single wire		White, yellow, blue, orange
Ambient temperature		
Fixed installation	[°C]	-40 ... 70
Flexible installation	[°C]	-40 ... 70

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Assembled cables, PROFINET, EtherCAT®, Ethernet, 4-pos., shielded, D-coded

PROFINET

EtherCAT

	M8 male connector		M8 male connector	
		M8MSD		M8MRD
	Ordering data		Ordering data	
		Order No.		Order No.
Open cable end				
OE	1 m	1423703	1 m	1080526
	2 m	1423704	2 m	1080528
	5 m	1423705	5 m	1080530
	10 m	1423706	10 m	1080531
M8 male connector				
M8MSD	1 m	1423707	1 m	1080538
	2 m	1423708	2 m	1080539
	5 m	1423709	5 m	1080540
	10 m	1423710	10 m	1080542
M8 male connector				
M8MRD			1 m	1080532
			2 m	1080535
			5 m	1080536
			10 m	1080537
RJ45 connector, IP20				
R4AC	1 m	1423711	1 m	1080543
	2 m	1423712	2 m	1080544
	5 m	1423713	5 m	1080545
	10 m	1423714	10 m	1080546

Information for products with fixed cable length:

Products with fixed cable length are produced with the **93C** cable type and are available from stock.

Pin M8	Pin RJ45	Wire color		Signal
1	1	YE		TD+
3	2	OG		TD–
2	3	WH		RD+
4	6	BU		RD–

		Technical data
		PROFINET drag chain CAT5 [93C]
Transmission characteristics (category)		CAT5
Cable structure		1x4xAWG22/7; SF/TQ
Conductor cross section		4x 0.34 mm²
Conductor structure for signal		7x 0.25 mm
AWG signal line		22
Cable diameter		6.5 mm
Conductor resistance		-
Type of shield		Aluminum-coated foil, tinned copper braided shield
Conductor material		Tin-plated Cu litz wires
Outer sheath material		PUR
Color of outer sheath		green RAL 6018
Color, single wire		White, yellow, blue, orange
Ambient temperature		
Fixed installation	[°C]	-40 ... 70
Flexible installation	[°C]	-40 ... 70

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Assembled cables, PROFINET, EtherCAT®, 4-pos., shielded, CAT5

PROFINET

EtherCAT

	RJ45 connector, IP20		RJ45 connector, IP20		RJ45 connector, Version 14, metal	
	R4AC		R4ACR		R4RC	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Open cable end						
OE					5.00 m	1416162
	Variable	1411857	Variable	1411858	Variable	1411859
RJ45 connector, IP20						
R4AC	1.00 m	1408968	1.00 m	1418248		
	2.00 m	1408969	2.00 m	1418277		
	5.00 m	1408970			5.00 m	1416138
	10.00 m	1408971				
	Variable	1411861	Variable	1411862	Variable	1411863
RJ45 connector, IP20						
R4ACR			1.00 m	1409002		
			2.00 m	1409003		
			5.00 m	1409004		
			10.00 m	1409005		
			Variable	1411865		
RJ45 connector, Version 14, metal						
R4RC					1.00 m	1408974
					2.00 m	1408975
					5.00 m	1408972
					10.00 m	1408976
					Variable	1411866
RJ45 connector, Version 14, plastic						
R4QC						
M12 male connector						
MSD SCO						
M12 male connector						
MRD SCO						

Information for products with fixed cable length:

Products with fixed cable length are produced with the **93B** cable type and are available from stock.

Ordering data for cables with variable cable length:

For a **4.5 m long type 93C** network cable with **M12 male connector, straight** and **RJ45 connector, IP20**, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1408639	93C	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Note:
The maximum length is 100 m for 2 x RJ45 connectors and 1 x RJ45 connector with open cable end.

Cable description	Cable type
PVC flexible – green, 1 x 4, CAT5	93B
PUR suitable for drag chain applications – green, 1 x 4, CAT5	93C
PUR for robot applications – green, 1 x 4, CAT5	93R
RADOX® for railway applications – black, 1 x 4, CAT5	937
PUR flexible – green, 1 x 4, CAT5	93M

Pin M12	Pin RJ45	Wire color	Signal
1	1	YE	TD+
3	2	OG	TD–
2	3	WH	RD+
4	6	BU	RD–

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RJ45 connector, Version 14, plastic		M12 male connector		M12 male connector		M12 female connector		M12 female connector		M12 flush-type female connector, rear mounting	
	R4QC		MSD SCO		MRD SCO		FSD SCO		FRD SCO		FSDBP
Ordering data		Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
	Order No.		Order No.		Order No.		Order No.		Order No.		Order No.
		1 m	1407495			1 m	1407528			1 m	1437779
		2 m	1407496			2 m	1407529			2 m	1437782
5.00 m	1416168	5 m	1407497			5 m	1407530			5 m	1437795
		10 m	1407498			10 m	1407531				
Variable	1411860	Variable	1408640	Variable	1408633	Variable	1408623	Variable	1408615		
		1 m	1407499			1 m	1407532				
		2 m	1407500			2 m	1407533				
5.00 m	1416141	5 m	1407501			5 m	1407534				
		10 m	1407502			10 m	1407535				
Variable	1411864	Variable	1408639	Variable	1408632	Variable	1408622	Variable	1408613		
		1 m	1407508			1 m	1407536				
		2 m	1407509			2 m	1407537				
		5 m	1407510			5 m	1407538				
		10 m	1407511			10 m	1407539				
		Variable	1408638	Variable	1408631	Variable	1408621	Variable	1408612		
		1 m	1407516			1 m	1407544				
		2 m	1407517			2 m	1407545				
		5 m	1407518			5 m	1407546				
		10 m	1407519			10 m	1407547				
		Variable	1408636	Variable	1408628	Variable	1408619	Variable	1408610		
1.00 m	1408978	1 m	1407520			1 m	1407548				
2.00 m	1408979	2 m	1407521			2 m	1407549				
5.00 m	1408977	5 m	1407522			5 m	1407551				
10.00 m	1408980	10 m	1407523			10 m	1407552				
Variable	1411867	Variable	1408635	Variable	1408626	Variable	1408618	Variable	1408609		
		1 m	1407524			1 m	1407553				
		2 m	1407525			2 m	1407554				
		5 m	1407526			5 m	1407555				
		10 m	1407527			10 m	1407556				
		Variable	1408634	Variable	1408625	Variable	1408617	Variable	1408608		
				Variable	1408624	Variable	1408616	Variable	1408607		

		Technical data	Technical data	Technical data	Technical data
		PROFINET PVC flexible CAT5 [93B]	PROFINET drag chain CAT5 [93C]	PROFINET robot CAT5 [93R]	PROFINET railway applications [937]
Transmission characteristics (category)		CAT5	CAT5	CAT5	CAT5
Cable structure		1x4xAWG22/7; SF/TQ	1x4xAWG22/7; SF/TQ	1x4xAWG22/19; S/TQ	1x4xAWG22/7; SF/TQ
Conductor cross section		4x 0.34 mm²	4x 0.34 mm²	4x 0.34 mm²	4x 0.34 mm²
Conductor structure for signal		7x 0.25 mm	7x 0.25 mm	19x 0.15 mm	7x 0.25 mm
AWG signal line		22	22	22	22
Cable diameter		6.5 mm	6.5 mm	6.5 mm	6.6 mm
Conductor resistance		-	-	-	≤ 54.4 Ω/km
Type of shield		Aluminum-coated foil, tinned copper braided shield	Aluminum-coated foil, tinned copper braided shield	Tinned copper braided shield	Plastic-coated aluminum foil, tinned copper braided shield
Conductor material		Tin-plated Cu litz wires	Tin-plated Cu litz wires	Tin-plated Cu litz wires	silver-plated Cu litz wires
Outer sheath material		PVC	PUR	PUR	PE-X
Color of outer sheath		green RAL 6018	green RAL 6018	green RAL 6018	black RAL 9005
Color, single wire		White, yellow, blue, orange	White, yellow, blue, orange	White, yellow, blue, orange	white-blue, orange-yellow
Ambient temperature					
Fixed installation	[°C]	-40 ... 70	-40 ... 70	-40 ... 80	-50 ... 90
Flexible installation	[°C]	-40 ... 70	-40 ... 70	-40 ... 80	-40 ... 90

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Assembled cables, Ethernet, 4-pos., shielded, CAT5

Ethernet

	RJ45 connector, IP20	RJ45 connector, Version 6	RJ45 connector, Version 14, metal
	R4AC	R4MC	R4RC
	Ordering data	Ordering data	Ordering data
	Order No.	Order No.	Order No.
Open cable end OE	1.00 m 1405633 Variable 1411827	2.00 m 1405675 Variable 1411828	5.00 m 1405743 Variable 1411829
RJ45 connector, IP20 R4AC	1.00 m 1408933 2.00 m 1408934 5.00 m 1408935 10.00 m 1408936 Variable 1411831	2.00 m 1405921 Variable 1411832	5.00 m 1405992 Variable 1411833
RJ45 connector, Version 6 R4MC		1.00 m 1408937 2.00 m 1408938 5.00 m 1408939 10.00 m 1408940 Variable 1411835	
RJ45 connector, Version 14, metal R4RC			1.00 m 1408941 2.00 m 1408942 5.00 m 1408943 10.00 m 1408945 Variable 1411836
RJ45 connector, Version 14, plastic R4QC			
M12 male connector MSD SCO			
M12 male connector MRD SCO			

Information for products with fixed cable length:

Products with fixed cable length are produced with the **93E** cable type and are available from stock.

Cable description	Cable type
PUR flexible – blue, 2 x 2, CAT5	93E

Pin M12	Pin RJ45	Wire color	Signal
1	1	WHOG	TD+
3	2	OG	TD–
2	3	WHGN	RD+
4	6	GN	RD–

Ordering data for cables with variable cable length:

For a **4.5 m long type 93E** network cable with **M12 male connector, straight** and **RJ45 connector, IP20**, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1408712	93E	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Note:
The maximum length is 100 m for 2 x RJ45 connectors and 1 x RJ45 connector with open cable end.

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RJ45 connector, Version 14, plastic		M12 male connector		M12 male connector		M12 female connector		M12 female connector		M12 flush-type female connector, rear mounting	
	R4QC		MSD SCO		MRD SCO		FSD SCO		FRD SCO		FSDBP
Ordering data		**Ordering data**		**Ordering data**		**Ordering data**		**Ordering data**		**Ordering data**	
	Order No.		**Order No.**		**Order No.**		**Order No.**		**Order No.**		**Order No.**
		1 m	1407356			1 m	1407380				
		2 m	1407357			2 m	1407381			2 m	1405866
5.00 m	1405772	5 m	1407358			5 m	1407382				
		10 m	1407359			10 m	1407383				
Variable	1411830	Variable	1408713	Variable	1408705	Variable	1408697	Variable	1408690		
		1 m	1407360			1 m	1407384				
		2 m	1407361			2 m	1407385			2.00 m	1406085
5.00 m	1406030	5 m	1407362			5 m	1407386				
		10 m	1407363			10 m	1407387				
Variable	1411834	Variable	1408712	Variable	1408704	Variable	1408696	Variable	1408689		
		1 m	1407364			1 m	1407388				
		2 m	1407365			2 m	1407389			2.00 m	1406247
		5 m	1407366			5 m	1407390				
		10 m	1407367			10 m	1407391				
		Variable	1408710	Variable	1408703	Variable	1408695	Variable	1408688		
		1 m	1407368			1 m	1407392				
		2 m	1407369			2 m	1407393			2.00 m	1406519
		5 m	1407370			5 m	1407394				
		10 m	1407371			10 m	1407395				
		Variable	1408709	Variable	1408702	Variable	1408694	Variable	1408687		
1.00 m	1408947	1 m	1407372			1 m	1407396				
2.00 m	1408948	2 m	1407373			2 m	1407397			2.00 m	1406603
5.00 m	1408946	5 m	1407374			5 m	1407398				
10.00 m	1408949	10 m	1407375			10 m	1407399				
Variable	1411837	Variable	1408707	Variable	1408701	Variable	1408693	Variable	1408686		
		1 m	1407376			1 m	1407400				
		2 m	1407377			2 m	1407401				
		5 m	1407378			5 m	1407402				
		10 m	1407379			10 m	1407403				
		Variable	1408706	Variable	1408700	Variable	1408692	Variable	1408684		
				Variable	1408699	Variable	1408691	Variable	1408683		

		Technical data
		PUR ETHERNET 2x2 FLEX [93E]
Transmission characteristics (category)		CAT5
Cable structure		2x2xAWG26/7; SF/UTP
Conductor cross section		2x 2x 0.14 mm²
Conductor structure for signal		7x 0.16 mm
AWG signal line		26
Cable diameter		6.4 mm
Conductor resistance		-
Type of shield		Aluminum-coated foil, tinned copper braided shield
Conductor material		Bare Cu litz wires
Outer sheath material		PUR
Color of outer sheath		water blue RAL 5021
Color, single wire		white/orange-orange, white/green-green
Ambient temperature		
Fixed installation	[°C]	-40 ... 80
Flexible installation	[°C]	-20 ... 80

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Assembled cables, Ethernet, 8-pos., shielded, CAT5

Ethernet

	RJ45 connector, IP20		RJ45 connector, Version 6		RJ45 connector, Version 14, metal	
	R4AC		R4MC		R4RC	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Open cable end						
OE	5.00 m	1407699	5.00 m	1407725	5.00 m	1407783
	Variable	1411838	Variable	1411839	Variable	1411840
RJ45 connector, IP20						
R4AC	1.00 m	1408950				
	2.00 m	1408951				
	5.00 m	1408952	5.00 m	1407932	5.00 m	1407990
	10.00 m	1408953				
	Variable	1411842	Variable	1411843	Variable	1411844
RJ45 connector, Version 6						
R4MC			1.00 m	1408955		
			2.00 m	1408956		
			5.00 m	1408954		
			10.00 m	1408958		
			Variable	1411846		
RJ45 connector, Version 14, metal						
R4RC					1.00 m	1408961
					2.00 m	1408962
					5.00 m	1408959
					10.00 m	1408963
					Variable	1411847
RJ45 connector, Version 14, plastic						
R4QC						
M12 male connector						
MS SCO						
M12 male connector						
MR SCO						

Information for products with fixed cable length:

Products with fixed cable length are produced with the **94B** cable type and are available from stock.

Ordering data for cables with variable cable length:

For a **4.5 m long type 94C** network cable with **M12 male connector, straight** and **RJ45 connector, IP20**, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1408681	94C	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Note:
The maximum length is 100 m for 2 x RJ45 connectors and 1 x RJ45 connector with open cable end.

Cable description	Cable type
PUR flexible – blue, 4 x 2, CAT5	94B
PUR suitable for drag chain applications – blue, 4 x 2, CAT5	94C

Pin M12	Pin RJ45	Wire color	Signal
6	1	WHOG	D1+
4	2	OG	D1–
1	5	WHBU	D3–
7	4	BU	D3+
5	3	WHGN	D2+
8	6	GN	D2–
2	7	WHBN	D4+
3	8	BN	D4–

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RJ45 connector, Version 14, plastic		M12 male connector		M12 male connector		M12 female connector		M12 female connector		M12 flush-type female connector, rear mounting	
	R4QC		MS SCO		MR SCO		FS SCO		FR SCO		FSBP
Ordering data		Ordering data		Ordering data		Ordering data		Ordering data		Ordering data	
	Order No.		Order No.		Order No.		Order No.		Order No.		Order No.
		1 m	1407404			1 m	1407439				
		2 m	1407405			2 m	1407440				
5.00 m	1407819	5 m	1407406			5 m	1407441			5 m	1407877
		10 m	1407407			10 m	1407442				
Variable	1411841	Variable	1408682	Variable	1408675	Variable	1408665	Variable	1408657		
		1 m	1407414			1 m	1407443				
		2 m	1407415			2 m	1407444				
5.00 m	1412024	5 m	1407416			5 m	1407445			5.00 m	1412082
		10 m	1407417			10 m	1407446				
Variable	1411845	Variable	1408681	Variable	1408674	Variable	1408664	Variable	1408655		
						1 m	1407451				
		2 m	1407423			2 m	1407452				
		5 m	1407424			5 m	1407453				
		10 m	1407425			10 m	1407454				
		Variable	1408679	Variable	1408671	Variable	1408662	Variable	1408653		
		1 m	1407426			1 m	1407455				
		2 m	1407427			2 m	1407456				
		5 m	1407428			5 m	1407457			5.00 m	1412503
		10 m	1407429			10 m	1407458				
		Variable	1408678	Variable	1408670	Variable	1408661	Variable	1408652		
1.00 m	1408965	1 m	1407430			1 m	1407459				
2.00 m	1408966	2 m	1407431			2 m	1407460				
5.00 m	1408964	5 m	1407432			5 m	1407461			5.00 m	1412590
10.00 m	1408967	10 m	1407433			10 m	1407462				
Variable	1411848	Variable	1408677	Variable	1408668	Variable	1408660	Variable	1408651		
		1 m	1407434			1 m	1407463				
		2 m	1407435			2 m	1407464				
		5 m	1407436			5 m	1407465				
		10 m	1407438			10 m	1407466				
		Variable	1408676	Variable	1408667	Variable	1408659	Variable	1408650		
				Variable	1408666	Variable	1408658	Variable	1408649		

		Technical data	Technical data
		Ethernet, flexible, CAT5 [94B]	Ethernet drag chain CAT5 [94C]
Transmission characteristics (category)		CAT5	CAT5
Cable structure		4x2xAWG26/7; SF/UTP	4x2xAWG26/19; S/UTP
Conductor cross section		4x 2x 0.14 mm²	4x 2x 0.14 mm²
Conductor structure for signal		7x 0.16 mm	19x 0.10 mm
AWG signal line		26	26
Cable diameter		6.4 mm	6.9 mm
Conductor resistance		≤ 290 Ω/km	-
Type of shield		Aluminum-coated foil, tinned copper braided shield	Tinned copper braided shield
Conductor material		Bare Cu litz wires	Bare Cu litz wires
Outer sheath material		PUR	PUR
Color of outer sheath		water blue RAL 5021	water blue RAL 5021
Color, single wire		white/blue-blue, white/orange-orange, white/green-green, white/brown-brown	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Ambient temperature			
Fixed installation	[°C]	-40 ... 80	-40 ... 80
Flexible installation	[°C]	-20 ... 80	-20 ... 80

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Assembled cables, Ethernet, CC-Link IE, 8-pos., shielded, CAT6$_A$

Ethernet

CC-Link IE

	RJ45 connector, IP20	RJ45 connector, Version 6	RJ45 connector, Version 14, metal
	R4AC	R4MC	R4RC
	Ordering data	Ordering data	Ordering data
	Order No.	Order No.	Order No.
Open cable end			
OE	Variable 1411853	Variable 1415639	Variable 1415637
RJ45 connector, IP20			
R4AC	1.00 m 1418866 2.00 m 1408360 5.00 m 1418879 10.00 m 1408367 Variable 1411854	Variable 1414321	Variable 1411855
RJ45 connector, Version 6			
R4MC		Variable 1414322	
RJ45 connector, Version 14, metal			
R4RC			Variable 1414323
RJ45 connector, Version 14, plastic			
R4QC			
M12 male connector			
MSX SCO			
M12 male connector			
M12MRX			

Information for products with fixed cable length:

Products with fixed cable length are produced with the **94F** cable type and are available from stock.

Ordering data for cables with variable cable length:

For a **4.5 m long type 94F** network cable with **M12 male connector, straight** and **RJ45 connector, IP20**, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1408647	94F	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty:
25 pcs.

Note:
The maximum length is 100 m for 2 x RJ45 connectors and 1 x RJ45 connector with open cable end.

Cable description	Cable type
PUR flexible – blue, 4 x 2, CAT6$_A$	94F

Pin M12	Pin RJ45	Wire color	Signal
1	1	WHOG	D1+
2	2	OG	D1–
7	5	WHBU	D3–
8	4	BU	D3+
3	3	WHGN	D2+
4	6	GN	D2–
5	7	WHBN	D4+
6	8	BN	D4–

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RJ45 connector, Version 14, plastic		M12 male connector		M12 male connector		M12 female connector		M12 female connector		M12 flush-type female connector, rear mounting	
R4QC		MSX SCO		M12MRX		M12FSX		M12FRX		FSBPX	
Ordering data		**Ordering data**		**Ordering data**		**Ordering data**		**Ordering data**		**Ordering data**	
	Order No.		**Order No.**		**Order No.**		**Order No.**		**Order No.**		**Order No.**
		1 m	1407467	1 m	1080716	1 m	1080728	1 m	1080746	0.5 m	1424135
		2 m	1407468	2 m	1080717	2 m	1080729	2 m	1080747	1 m	1424148
		5 m	1407469	5 m	1080718	5 m	1080731	5 m	1080748	2 m	1424151
		10 m	1407470	10 m	1080719	10 m	1080732	10 m	1080750	5 m	1424164
Variable	1415638	Variable	1408648								
		1 m	1407471			1 m	1080733				
		2 m	1407472			2 m	1080734				
		5 m	1407473			5 m	1080736				
		10 m	1407474			10 m	1080737				
Variable	1411856	Variable	1408647								
		1 m	1407475			1 m	1080738				
		2 m	1407476			2 m	1080739				
		5 m	1407477			5 m	1080740				
		10 m	1407478			10 m	1080741				
		Variable	1408646								
		1 m	1407479								
		2 m	1407480								
		5 m	1407481								
		10 m	1407482								
Variable	1414324	Variable	1408645								
		1 m	1407483	1 m	1080724	1 m	1080742	1 m	1080751		
		2 m	1407484	2 m	1080725	2 m	1080743	2 m	1080752		
		5 m	1407485	5 m	1080726	5 m	1080744	5 m	1080753		
		10 m	1407486	10 m	1080727	10 m	1080745	10 m	1080754		
		Variable	1408644								
				1 m	1080720						
				2 m	1080721						
				5 m	1080722						
				10 m	1080723						

		Technical data
		Ethernet 10 Gbit [94F]
Transmission characteristics (category)		$CAT6_A$
Cable structure		4x2xAWG26/7; S/FTP
Conductor cross section		4x 2x 0.14 mm^2
Conductor structure for signal		7x 0.16 mm
AWG signal line		26
Cable diameter		6.4 mm
Conductor resistance		-
Type of shield		Tinned copper braided shield
Type of pair shielding		Aluminum-lined foil
Conductor material		Bare Cu litz wires
Outer sheath material		PUR
Color of outer sheath		water blue RAL 5021
Color, single wire		white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Ambient temperature		
Fixed installation	[°C]	-40 ... 80
Flexible installation	[°C]	-20 ... 80

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Assembled cables for railway applications, Ethernet, shielded, CAT6$_A$

Ethernet

CAT6$_A$ 10 Gigabit/s

M12 male connector	Order No.
MSX SCO	
Ordering data	
Open cable end	
OE	2 m 1415599 5 m 1415600 10 m 1415601
M12 male connector, straight	
MSX SCO	2 m 1415595 5 m 1415598

Pin M12	Wire color	Signal
1	WHOG	D1+
2	OG	D1–
7	WHBU	D3–
8	BU	D3+
3	WHGN	D2+
4	GN	D2–
5	WHBN	D4+
6	BN	D4–

Technical data	Ethernet for rail applications [94S]
Transmission characteristics (category)	CAT7
Cable structure	4x2xAWG26/7; S/FTP
Conductor cross section	4x 2x 0.14 mm²
Conductor structure for signal	7x 0.16 mm
AWG signal line	26
Cable diameter	6.6 mm
Conductor resistance	≤ 145 Ω/km
Type of shield	Tinned copper braided shield
Type of pair shielding	Aluminum-lined polyester foil
Conductor material	Tin-plated Cu litz wires
Outer sheath material	PE-X
Color of outer sheath	black
Color, single wire	White-blue, white-orange, white-green, white-brown
Ambient temperature	
Fixed installation [°C]	-40 ... 80

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Assembled cables, Ethernet hybrid, 4+4-pos., shielded, CAT5

Ethernet

	M12 male connector		M12 flush-type female connector, rear mounting	
		MSY SCO		FSBPY
	Ordering data		Ordering data	
		Order No.		Order No.
Open cable end				
OE	1 m	1407487	0.5 m	1407504
	2 m	1407488	1 m	1407505
	5 m	1407489	2 m	1407506
	10 m	1407490	5 m	1407507
	Variable	1408642		
M12 male connector				
MSY SCO	1 m	1407491		
	2 m	1407492		
	5 m	1407493		
	10 m	1407494		
	Variable	1408641		

Notes:

For H, Y, and T distributors, see page 436

Information for products with fixed cable length:

Products with fixed cable length are produced with the **94H** cable type and are available from stock.

Ordering data for cables with variable cable length:

For a **4.5 m long type 94H** network cable with **M12 male connector, straight** and **RJ45 connector, IP20**, the ordering data is as follows:

Order No.	Cable type	Length [m] Max. 40 m
1408717	94H	4.5

Increments:
0.2 ... 3 m = 0.1 m
> 3 m = 0.5 m

Minimum order qty: 25 pcs.

Pin M12	Wire color	Signal
1	WHOG	TD+
2	OG	TD–
3	WHGN	RD+
4	GN	RD–
5	BU	
6	WH	
7	BN	
8	BK	

		Technical data
		Ethernet hybrid [94H]
Transmission characteristics (category)		CAT5
Cable structure		1x4xAWG26+1x4xAWG20
Conductor cross section for signal	[mm²]	0.15
Conductor structure for signal		19x 0.10 mm
AWG signal line		26
Conductor cross section for power	[mm²]	0.6
Conductor structure for power		19x 0.20 mm
AWG power supply		20
Cable diameter		7.6 mm
Type of shield		Tinned copper braided shield
Conductor material		Bare Cu litz wires
Outer sheath material		PUR
Color of outer sheath		black RAL 9005
Color, single wire		White/orange, orange, white/green, green, white, blue, brown, black
Ambient temperature		
Fixed installation	[°C]	-40 ... 90
Flexible installation	[°C]	-30 ... 70

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Fiber optics patch cables

Connectors:
– LC
– SC duplex
– B-FOC (ST®)

Fixed lengths:
– 1 m
– 2 m
– 5 m

Fiber types:
– Single-mode fiberglass (SM)

Sheath colors:
– Single-mode: yellow

Technical Data:
– Halogen-free
– Flame-retardant
– No corrosive or toxic fumes
– External dimensions: 2.8 mm x 5.7 mm

LC connector

EAC

Technical data

Cable, properties	
Individual wire diameter	900 µm
Outer sheath, material	FRNC
External sheath, strain relief elements	Non-metallic, aramide fiber
Lateral pressure, long-term	60.00 N/cm
Tensile strength short-term/long-term	600 N
Halogen-free	In accordance with IEC 60754-2
General data	
Ambient temperature (storage/transport)	-25°C ... 70°C
Ambient temperature (installation)	-5°C ... 50°C
Ambient temperature (operation)	-5°C ... 70°C

Ordering data

Description	Length of cable	Type	Order No.	Pcs./Pkt.
FO patch cable with **single mode fiberglass (OS1)** - **LC plug** to LC, SC duplex or B-FOC plug				
	1 m	**FL SM PATCH 1,0 LC-LC**	2989187	1
	2 m	**FL SM PATCH 2,0 LC-LC**	2989284	1
	5 m	**FL SM PATCH 5,0 LC-LC**	2901826	1
FO patch cable with **single mode fiberglass (OS1)** - **SC duplex plug** to SC duplex or B-FOC plug				
	1 m			
	2 m			
	5 m			
FO patch cable with **single mode fiberglass (OS1)** - **B-FOC plug** to B-FOC plug				
	1 m			
	2 m			
	5 m			

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SC duplex connector

B-FOC connector

EAC

Technical data	
900 µm	
FRNC	
Non-metallic, aramide fiber	
60.00 N/cm	
600 N	
In accordance with IEC 60754-2	
-25°C ... 70°C	
-5°C ... 50°C	
-5°C ... 70°C	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
FL SM PATCH 1,0 LC-SC	2989190	1
FL SM PATCH 2,0 LC-SC	2989297	1
FL SM PATCH 5,0 LC-SC	2901827	1
FL SM PATCH 1,0 SC-SC	2901829	1
FL SM PATCH 2,0 SC-SC	2901830	1
FL SM PATCH 5,0 SC-SC	2901831	1

Technical data	
900 µm	
FRNC	
Non-metallic, aramide fiber	
60.00 N/cm	
600 N	
In accordance with IEC 60754-2	
-25°C ... 70°C	
-5°C ... 50°C	
-5°C ... 70°C	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
FL SM PATCH 1,0 LC-ST	2989242	1
FL SM PATCH 2,0 LC-ST	2989349	1
FL SM PATCH 5,0 LC-ST	2901828	1
FL SM PATCH 1,0 SC-ST	2901832	1
FL SM PATCH 2,0 SC-ST	2901833	1
FL SM PATCH 5,0 SC-ST	2901834	1
FL SM PATCH 1,0 ST-ST	2901836	1
FL SM PATCH 2,0 ST-ST	2901837	1
FL SM PATCH 5,0 ST-ST	2901838	1

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Fiber optic outdoor cables, sold by the meter

- Robust round cables for outdoor installation
- Ozone and UV resistant
- Watertight lengthwise
- Integrated vapor barrier and rodent-proof scrim

GOF fiber type

PCF fiber type

	Technical data		Technical data	
	FOC-OE-OE-GB01/...	FOC-OE-OE-GB02/...	FOC-OE-OE-GB03/...	FOC-OE-OE-HB01/...
Cable data				
Cable abbreviation in accordance with IEC 61977:2010	02-G50/FJ(ZNG)H-...22	02-G50/FJ(ZN)Z-...22	04-G50/FJ(ZNG)H-...22	02-H200/VJ(ZNG)H-...22
Fibers	50/125 µm OM2	50/125 µm OM2	50/125 µm OM2	200/230 µm
Attenuation, typical	2.7 dB/km (at 850 nm); 0.8 dB/km (at 1300 nm)	2.7 dB/km (at 850 nm); 0.8 dB/km (at 1300 nm)	2.7 dB/km (at 850 nm); 0.8 dB/km (at 1300 nm)	10 dB/km (at 660 nm), 8 dB/km (at 850 nm)
Outer sheath				
Material	PE	PUR	PE	PE
Color	black	black	black	black
Strain relief elements	Aramide/glass fibers	Non-metallic, aramide fiber	Aramide/glass fibers	Aramide/glass fibers
Diameter	7.5 mm	7.5 - 8 mm	9 mm	7.5 mm
Individual wire				
Color	Black/orange	Black/orange	Black/orange	Black/orange
Diameter	2.2 mm	2.2 mm	2.15 mm	2.2 mm
Strain relief elements	Non-metallic, aramide fibers	Non-metallic, aramide fibers	Non-metallic, aramide fibers	Non-metallic, aramide fibers
General data				
Weight	59.00 kg/km	46.00 kg/km	90.00 kg/km	67.00 kg/km
Ambient temperature (operation)	-40°C ... 70°C	-40°C ... 85°C	-40°C ... 70°C	-20°C ... 70°C
Ambient temperature (storage/transport)	-45°C ... 70°C	-45°C ... 85°C	-40°C ... 70°C	-25°C ... 70°C
Ambient temperature (installation)	-20°C ... 60°C	-20°C ... 60°C	-20°C ... 60°C	-10°C ... 60°C
Halogen-free:	In acc. with IEC 60754-1/2	In acc. with IEC 60754-1/2	In acc. with IEC 60754-1/2	In acc. with IEC 60754-1/2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
GOF outdoor cable, 2-wire, full breakout cable for **fixed** installation	**FOC-OE-OE-GB01/...**	1406429	1			
GOF outdoor cable, 2-wire, full breakout cable for **flexible** installation	**FOC-OE-OE-GB02/...**	1406430	1			
GOF outdoor cable, 4-wire, full breakout cable for **fixed** installation	**FOC-OE-OE-GB03/...**	1406431	1			
PCF outdoor cable, 2-wire, full breakout cable for **fixed** installation				**FOC-OE-OE-HB01/...**	1406432	1

Ordering example for cables by the meter:

For a 34.0 m long FO outdoor type **GB02** cable, the ordering data is as follows:

Order No.		Length [m] Max. 1000 m
1406430	/	34
		Increment: **1 m ... 1000 m = 1 m**

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Assembled FO cables

- Universal installation cables for fixed installation indoors
- 2.2 mm individual wires made from extremely hard-wearing polyvinyl chloride (PVC)
- Ozone and UV resistant
- PVC outer cable sheath
- PROFINET type B

Ethernet

PROFINET

Assembled FO cable, SC-RJ to BFOC (ST®)

Technical data

	FOC-SJ:14-ST/.../.../...
Cable data	
Cable abbreviation in accordance with IEC 61977:2010	AT-V(ZN)YY 2K200/230 HCS
Fibers	200/230 µm
Attenuation, typical	10 dB/km (at 660 nm), 8 dB/km (at 850 nm)
Outer sheath	
Material	PVC
Color	green
Strain relief elements	Non-metallic, aramide fiber
Diameter	6.7 - 7.7 mm
Individual wire	
Color	Black and orange with arrow labeling
Diameter	2.2 mm ±0.1 mm
Strain relief elements	Non-metallic, aramide fibers
General data	
Weight	45.00 kg/km
Ambient temperature (operation)	-30°C ... 70°C
Ambient temperature (storage/transport)	-40°C ... 70°C
Ambient temperature (installation)	-5°C ... 50°C
Halogen-free:	yes

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Assembled FO cable, PROFINET cable type B with SC-RJ Push-Pull metal housing to BFOC (ST®) male connector	**FOC-SJ:14-ST/.../.../...**	**1417723**	1

Ordering example for a configured cable:

For an **HCS cable,** fitted with an **SC-RJ push-pull male connector** on one end and a **B-FOC(ST®) male connector, IP20** on the other end, and a **length of 15 m,** the ordering data is as follows:

Order No.		Length [m] Max. 2000 m
1417723	/	15
		Increment: **1 m ... 5 m = 0.25 m** **5 m ... 1000 m = 1 m**

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Universal PROFINET B PCF cables for free assembly, type PN-B-PCF-1018

- Universal installation cables for fixed installation indoors
- 2.2 mm individual wires made from extremely hard-wearing polyvinyl chloride (PVC)
- Ozone and UV resistant
- PVC outer cable sheath
- PROFINET type B

Ethernet

	Free end	FSMA connector, IP20	SC-RJ connector, IP20
	OE	FSMA	SCRJ
	Ordering data	Ordering data	Ordering data
	Order No.	Order No.	Order No.
Free end OE	By the meter 2313766	Variable 2901556	Variable 2901556
FSMA connector, IP20 FSMA	Variable 2901556	Variable 2901556	Variable 2901556
SC-RJ connectors, IP20 SCRJ	Variable 2901556	Variable 2901556	Variable 2901556
SC duplex connector, IP20 SCDUP	Variable 2901556	Variable 2901556	Variable 2901556
B-FOC (ST®) connector, IP20 BFOC	Variable 2901556	Variable 2901556	Variable 2901556
LC male connector LC	Variable 2901556	Variable 2901556	Variable 2901556
Push/pull SC-RJ, plastic PPCPL	Variable 1402190	Variable 1402190	Variable 1402190
Push/pull SC-RJ, metal PPCME	Variable 1402190	Variable 1402190	Variable 1402190

Ordering example for configured cable:

For an **HCS cable**, fitted at one end with an **SC-RJ connector** and a **B-FOC(ST®) connector, IP20** at the other end, and a **length of 15 m**, the ordering data as follows:

Order No.	Connector 1	Connector 2	Length [m]
2901556	SCRJ	BFOC	15

Length:	Min. 1 m Max. 2000 m	
Increment:	0.25 m 1 m	1 m ... 5 m 5 m ... 2000 m

Ordering example for cable sold by the meter:

For an **HCS cable** with a **length of 70 m**, the ordering data is as follows:

Order No.	Length [m]
2313766	70

Length:	Min. 1 m Max. 2000 m/cable drum	
Increment:	0.25 m 1 m	1 m ... 5 m 5 m ... 2000 m

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SC duplex connector, IP20	B-FOC (ST®) connector, IP20	LC connector	Push/pull SC-RJ, plastic	Push/pull SC-RJ, metal
SCDUP	BFOC	LC	PPCPL	PPCME
Ordering data	Ordering data	Ordering data	Ordering data	Ordering data
Order No.	Order No.	Order No.	Order No.	Order No.
Variable 2901556	Variable 2901556	Variable 2901556	Variable 1402190	Variable 1402190
Variable 2901556	Variable 2901556	Variable 2901556	Variable 1402190	Variable 1402190
Variable 2901556	Variable 2901556	Variable 2901556	Variable 1402190	Variable 1402190
Variable 2901556	Variable 2901556	Variable 2901556	Variable 1402190	Variable 1402190
Variable 2901556	Variable 2901556	Variable 2901556	Variable 1402190	Variable 1402190
Variable 1402190	Variable 1402190	Variable 1402190	Variable 1402190	
Variable 1402190	Variable 1402190	Variable 1402190		Variable 1402190

Technical data	
Cable data	
Cable abbreviation in accordance with IEC 61977:2010	AT-V(ZN)YY 2K200/230 HCS
Fibers	HCS, 200/230 µm
Attenuation, typical	10 dB/km
Outer sheath	
Material	PVC
Color	green
Diameter	6.7 - 7.7 mm
Strain relief elements	Non-metallic, aramide fiber
Individual wire	
Structure	PVC
Color	Black and orange with arrow labeling
Diameter	2.2 mm ±0.1 mm
Strain relief elements	Non-metallic, aramide fibers
General data	
Weight	45 kg/km
Ambient temperature (operation)	-40°C ... 90°C
Ambient temperature (storage/transport)	-40°C ... 90°C
Ambient temperature (installation)	-5°C ... 50°C
Halogen-free:	-

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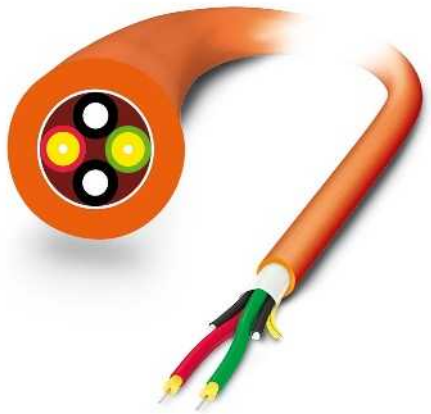
Robust PCF cables for free assembly, type PCF-RUGGED-1014



- Robust installation cables for indoor use
- Highly tear-resistant aramid strain relief elements
- 2.9 mm individual wires made from highly flexible FRNC material
- Halogen-free, ozone and UV resistant
- Robust polyurethane (PUR) outer cable sheath

	Free end		FSMA connector, IP20		SC-RJ connector, IP20	
	OE		FSMA		SCRJ	
	Ordering data		Ordering data		Ordering data	
		Order No.		Order No.		Order No.
Free end OE	By the meter	2799885	Variable	2901555	Variable	2901555
FSMA connector, IP20 FSMA	Variable	2901555	Variable	2901555	Variable	2901555
SC-RJ connectors, IP20 SCRJ	Variable	2901555	Variable	2901555	Variable	2901555
SC duplex connector, IP20 SCDUP	Variable	2901555	Variable	2901555	Variable	2901555
B-FOC (ST®) connector, IP20 BFOC	Variable	2901555	Variable	2901555	Variable	2901555
LC connector LC	Variable	2901555	Variable	2901555	Variable	2901555
Push/pull SC-RJ, plastic PPCPL	Variable	1402191	Variable	1402191	Variable	1402191
Push/pull SC-RJ, metal PPCME	Variable	1402191	Variable	1402191	Variable	1402191
SC-RJ male connector, IP67 IP67	Variable	1402191	Variable	1402191	Variable	1402191

Ordering example for configured cable:

For an **HCS cable**, fitted at one end with an **SC-RJ connector** and a **B-FOC(ST®) connector, IP20** at the other end, and a **length of 15 m**, the ordering data is as follows:

Order No.	Connector 1	Connector 2	Length [m]
2901555	SCRJ	BFOC	15

Length:	Min. 1 m Max. 2000 m	
Increment:	0.25 m 1 m	1 m ... 5 m 5 m ... 2000 m

Ordering example for cable sold by the meter:

For an **HCS cable** with a **length of 70 m**, the ordering data is as follows:

Order No.	Length [m]
2799885	70

Length:	Min. 1 m Max. 2000 m/cable drum	
Increment:	0.25 m 1 m	1 m ... 5 m 5 m ... 2000 m

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SC duplex connector, IP20	B-FOC (ST®) connector, IP20	LC connector	Push/pull SC-RJ, plastic	Push/pull SC-RJ, metal	SC-RJ male connector, IP67
SCDUP	BFOC	LC	PPCPL	PPCME	IP67
Ordering data	Ordering data	Ordering data	Ordering data	Ordering data	Ordering data
Order No.	Order No.	Order No.	Order No.	Order No.	Order No.
Variable 2901555	Variable 2901555	Variable 2901555	Variable 1402191	Variable 1402191	Variable 1402191
Variable 2901555	Variable 2901555	Variable 2901555	Variable 1402191	Variable 1402191	Variable 1402191
Variable 2901555	Variable 2901555	Variable 2901555	Variable 1402191	Variable 1402191	Variable 1402191
Variable 2901555	Variable 2901555	Variable 2901555	Variable 1402191	Variable 1402191	Variable 1402191
Variable 2901555	Variable 2901555	Variable 2901555	Variable 1402191	Variable 1402191	Variable 1402191
Variable 2901555	Variable 2901555	Variable 2901555	Variable 1402191	Variable 1402191	Variable 1402191
Variable 1402191	Variable 1402191	Variable 1402191	Variable 1402191		
Variable 1402191	Variable 1402191	Variable 1402191		Variable 1402191	
Variable 1402191	Variable 1402191	Variable 1402191			Variable 1402191

	Technical data
Cable data	
Cable abbreviation in accordance with IEC 61977:2010	I-VH11Y 2K200/230 HCS
Fibers	HCS, 200/230 µm
Attenuation, typical	10 dB/km
Outer sheath	
Material	PUR
Color	orange
Diameter	7.5 - 8.5 mm
Individual wire	
Structure	FRNC material
Color	Red/Green
Diameter	2.9 mm ±0.1 mm
Strain relief elements	Non-metallic, aramide fibers
General data	
Weight	54 kg/km
Ambient temperature (operation)	-40°C ... 70°C
Ambient temperature (storage/transport)	-40°C ... 70°C
Ambient temperature (installation)	-20°C ... 60°C

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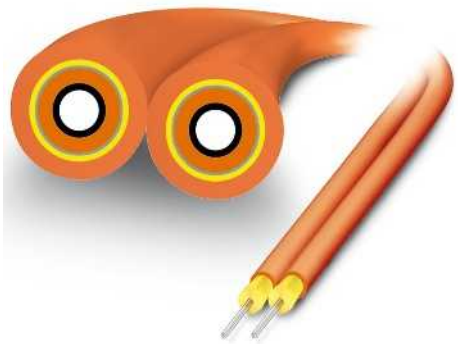
Zip cord fiberglass cables for assembly, OM1



- Multimode patch cables for indoor installation
- Ideal for use in distributor systems and for connecting termination devices
- 2.8 mm single elements made from halogen-free and flame-retardant material
- UL approval type OFNR (riser) for USA and Canada

	Free end		FSMA connector, IP20		SC duplex connector, IP20	
	OE		FSMA		SCDUP	
	Ordering data		Ordering data		Ordering data	
	Order No.		Order No.		Order No.	
Free end						
OE	Variable	1411566				
FSMA connector, IP20			1.00 m	1409855	1.00 m	1409857
FSMA			Variable	1406532	Variable	1406536
SC duplex connector, IP20			1.00 m	1409857	1.00 m	1413828
SCDUP			Variable	1406536	Variable	1413790
B-FOC (ST®) connector, IP20			1.00 m	1409856	1.00 m	1413830
BFOC			Variable	1406535	Variable	1413791
LC duplex connector, IP20			1.00 m	1413825	1.00 m	1413827
LC			Variable	1413787	Variable	1413789

Ordering example for a configured cable:

For a **15 m long zip cord fiberglass cable,** fitted with an **FSMA male connector, IP20**, at one end and an **SC Duplex connector, IP20**, at the other end, the ordering data is as follows:

Order No.	Length [m]
1406536	/ 15

Length:	Min. 1 m Max. 1000 m
Increment:	1 m 1 m ... 1000 m

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B-FOC (ST®) connector, IP20		LC duplex connector, IP20	
BFOC		LC	
Ordering data		Ordering data	
	Order No.		Order No.
1.00 m	1409856	1.00 m	1413825
Variable	1406535	Variable	1413787
1.00 m	1413830	1.00 m	1413827
Variable	1413791	Variable	1413789
1.00 m	1413832	1.00 m	1413831
Variable	1413821	Variable	1413792
1.00 m	1413831	1.00 m	1413826
Variable	1413792	Variable	1413788

	Technical data
Cable data	
Cable abbreviation in accordance with IEC 61977:2010	I-V(ZN)H
Fibers	-
Attenuation, typical	3.2 dB/km (at 850 nm); 0.9 dB/km (at 1300 nm)
Outer sheath	
Material	-
Color	orange
Diameter	2.8 - 5.7 mm
Strain relief elements	-
Individual wire	
Structure	-
Color	-
Diameter	-
General data	
Weight	15.80 kg/km
Ambient temperature (operation)	-10°C ... 60°C
Ambient temperature (storage/transport)	-10°C ... 60°C
Ambient temperature (installation)	-5°C ... 50°C
Halogen-free:	In accordance with IEC 60754-2

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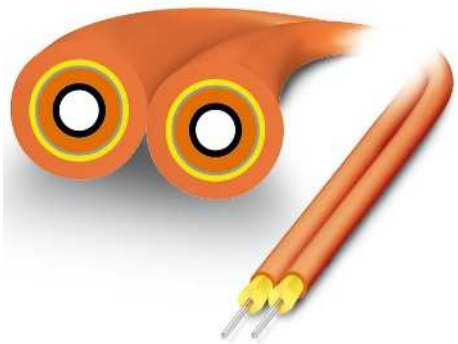
Zip cord fiberglass cables for assembly, OM2



- Multimode patch cables for indoor installation
- Ideal for use in distributor systems and for connecting termination devices
- 2.8 mm single elements made from halogen-free and flame-retardant material
- UL approval type OFNR (riser) for USA and Canada

	Free end		SC-RJ connector, IP20		SC duplex connector, IP20	
	OE		SCRJ		SCDUP	
	Ordering data		Ordering data		Ordering data	
	Order No.		Order No.		Order No.	
Free end						
OE	Variable	1411561				
SC-RJ connector, IP20			1.00 m 2.00 m	1409813 1400697	1.00 m 2.00 m	1409810 1400690
SCRJ			Variable	1405703	Variable	1405700
SC duplex connector, IP20					1.00 m 2.00 m	1409798 1400685
SCDUP					Variable	1405697
B-FOC (ST®) connector, IP20						
BFOC						
LC duplex connector, IP20					1.00 m 2.00 m	1409790 1400639
LC					Variable	1405691

Ordering example for a configured cable:

For a **15 m** long **zip cord fiberglass cable,** fitted with an **SC duplex connector, IP20**, at one end and an **SC-RJ connector, IP20**, at the other end, the ordering data is as follows:

Order No.	Length [m]
1405700	/ 15

Length:	1 m, minimum 1000 m, maximum
Increment:	1 m 1 m ... 1000 m

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B-FOC (ST®) connector, IP20		LC duplex connector, IP20	
	BFOC		LC
Ordering data		Ordering data	
	Order No.		Order No.
1.00 m	1409822	1.00 m	1409793
2.00 m	1400706	2.00 m	1400682
Variable	1405710	Variable	1405694
	1409819		
	1400703		
Variable	1405708		
1.00 m	1409824		
2.00 m	1404768		
Variable	1405712		
1.00 m	1409816	1.00 m	1409787
2.00 m	1400701	2.00 m	1400604
Variable	1405706	Variable	1405688

	Technical data
Cable data	
Cable abbreviation in accordance with IEC 61977:2010	I-V(ZN)H
Fibers	-
Attenuation, typical	2.7 dB/km (at 850 nm); 0.8 dB/km (at 1300 nm)
Outer sheath	
Material	-
Color	orange
Diameter	2.8 - 5.7 mm
Strain relief elements	-
Individual wire	
Structure	-
Color	-
Diameter	900 µm
General data	
Weight	15.80 kg/km
Ambient temperature (operation)	-10°C ... 60°C
Ambient temperature (storage/transport)	-10°C ... 60°C
Ambient temperature (installation)	-5°C ... 50°C
Halogen-free:	In acc. with IEC 60754-1/2

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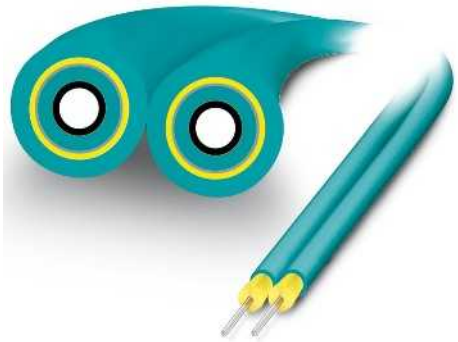
Zip cord fiberglass cables for assembly, OM3



- Multimode patch cables for indoor installation
- Ideal for use in distributor systems and for connecting termination devices
- 2.8 mm single elements made from halogen-free and flame-retardant material
- UL approval type OFNR (riser) for USA and Canada
- Low-bend fiber
- Data rate: up to 10 Gbps up to 300 m

	Free end		SC-RJ male connector, IP20		SC duplex connector, IP20	
	OE		SCRJ		SCDUP	
	Ordering data		Ordering data		Ordering data	
	Order No.		Order No.		Order No.	
Free end 	Variable	1411563				
SC-RJ connector, IP20 			1.00 m 2.00 m	1409814 1400699	1.00 m 2.00 m	1409811 1400691
			Variable	1405704	Variable	1405701
SC duplex connector, IP20 					1.00 m 2.00 m	1409799 1400688
					Variable	1405698
LC duplex connector, IP20 					1.00 m 2.00 m	1409791 1400673
					Variable	1405692

Ordering example for a configured cable:

For a **15 m** long **zip cord fiberglass cable,** fitted with an **SC duplex connector, IP20**, at one end and an **SC-RJ connector, IP20**, at the other end, the ordering data is as follows:

Order No.	Length [m]
1405701	/ 15

Length:	1 m, minimum 1000 m, maximum
Increment:	1 m 1 m ... 1000 m

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B-FOC (ST®) connector, IP20		LC duplex connector, IP20	
	BFOC		LC
Ordering data		Ordering data	
	Order No.		Order No.
1.00 m	1409823	1.00 m	1409796
2.00 m	1400711	2.00 m	1400683
Variable	1405711	Variable	1405695
1.00 m	1409821		
2.00 m	1400705		
Variable	1405709		
1.00 m	1409818	1.00 m	1409788
2.00 m	1400702	2.00 m	1400621
Variable	1405707	Variable	1405695

	Technical data
Cable data	
Cable abbreviation in accordance with IEC 61977:2010	I-V(ZN)H
Fibers	-
Attenuation, typical	2.5 dB/km (at 850 nm), 0.7 dB/km (at 1300 nm)
Smallest bending radius, fixed installation	15 mm
Smallest bending radius, movable installation	30 mm
Outer sheath	
Material	-
Color	aqua
Diameter	2.8 - 5.7 mm
Strain relief elements	-
Individual wire	
Structure	-
Color	-
Diameter	-
General data	
Weight	15.80 kg/km
Ambient temperature (operation)	-10°C ... 60°C
Ambient temperature (storage/transport)	-10°C ... 60°C
Ambient temperature (installation)	-5°C ... 50°C
Halogen-free:	In acc. with IEC 60754-1/2

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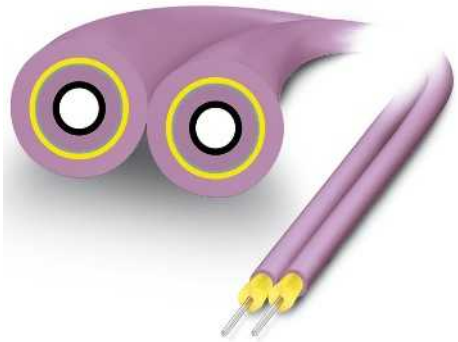
Zip cord fiberglass cables for assembly, OM4



- Multimode patch cables for indoor installation
- Ideal for use in distributor systems and for connecting termination devices
- 2.8 mm single elements made from halogen-free and flame-retardant material
- UL approval type OFNR (riser) for USA and Canada
- Low-bend fiber
- Data rate: up to 10 Gbps up to 550 m

	Free end		SC-RJ connector, IP20		SC duplex connector, IP20	
	OE		SCRJ		SCDUP	
	Ordering data		Ordering data		Ordering data	
	Order No.		Order No.		Order No.	
Free end						
OE	Variable	1411564				
SC-RJ connector, IP20						
SCRJ			1.00 m 2.00 m	1409815 1400700	1.00 m 2.00 m	1409812 1400695
			Variable	1405705	Variable	1405702
SC duplex connector, IP20						
SCDUP					1.00 m 2.00 m	1409801 1400689
					Variable	1405699
LC duplex connector, IP20						
LC					1.00 m 2.00 m	1409792 1400681
					Variable	1405693

Ordering example for a configured cable:

For a **15 m** long **zip cord fiberglass cable,** fitted with an **SC duplex connector, IP20**, at one end and an **SC-RJ connector, IP20**, at the other end, the ordering data is as follows:

Order No.	Length [m]
1405702	/ 15

Length:	1 m, minimum 1000 m, maximum
Increment:	1 m 1 m ... 1000 m

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LC duplex connector, IP20

LC

Ordering data	
	Order No.
1.00 m	1409797
2.00 m	1400684
Variable	1405696
1.00 m	1409789
2.00 m	1400622
Variable	1405690

	Technical data
Cable data	
Cable abbreviation in accordance with IEC 61977:2010	I-V(ZN)H
Fibers	-
Attenuation, typical	2.5 dB/km (at 850 nm), 0.7 dB/km (at 1300 nm)
Smallest bending radius, fixed installation	15 mm
Smallest bending radius, movable installation	30 mm
Outer sheath	
Material	-
Color	Violet
Diameter	2.8 - 5.7 mm
Strain relief elements	-
Individual wire	
Structure	-
Color	-
Diameter	-
General data	
Weight	15.80 kg/km
Ambient temperature (operation)	-10°C ... 60°C
Ambient temperature (storage/transport)	-10°C ... 60°C
Ambient temperature (installation)	-5°C ... 50°C
Halogen-free:	In acc. with IEC 60754-1/2

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Connectors, for assembly

INTERBUS

PROFIBUS DP

		Technical data		Technical data	
		Push-in connection	**Screw connection**	**Push-in connection**	**Screw connection**
M12 circular connector in accordance with:		IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101
Degree of pollution		3	3	3	3
Degree of protection		IP65 / IP67	IP67	IP65 / IP67	IP67
Connection method		Push-in connection	Screw connection	Push-in connection	Screw connection
Connection cross section		0.14 mm² ... 0.75 mm²	0.25 mm² ... 0.75 mm²	0.14 mm² ... 0.75 mm²	0.25 mm² ... 0.75 mm²
External cable diameter		4 mm ... 8 mm	6.5 mm ... 8.5 mm	4 mm ... 8 mm	6.5 mm ... 8.5 mm
Electrical data					
Rated voltage		48 V AC / 60 V DC	48 V AC / 60 V DC	48 V AC / 60 V DC	48 V AC / 60 V DC
Rated current		4 A	4 A	4 A	4 A
Insulation resistance		≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ
Material data					
Contact material		CuSn	CuZn	CuSn	CuZn
Contact surface material		Ni/Au	Au	Ni/Au	Au
Contact carrier material		PA 6.6	PA 6.6	PA 6.6	PA 6.6
Flammability rating in accordance with UL 94		V0	HB	V0	HB
Coding		B - inverse	B - inverse	B - inverse	B - inverse
Number of positions		5	5	2	5
Temperature data					
Male connector/female connector	[°C]	-40 ... 85	-40 ... 85	-40 ... 85	-40 ... 85

	Ordering data				Ordering data			
Description	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.
	Push-in connection		**Screw connection**		**Push-in connection**		**Screw connection**	
Connectors								
Female, straight	1424676	1	1507777	1	1424680	1	1507777	1
Male, straight	1424674	1	1507764	1	1424678	1	1507764	1
Female, angled	1424677	1	1430420	1	1424681	1	1430420	1
Male, angled	1424675	1	1430417	1	1424679	1	1430417	1
Cable connector, shielded, color-coded and numbered connection area								

	Accessories			Accessories		
Description	**Type**	**Order No.**	Pcs./ Pkt.	**Type**	**Order No.**	Pcs./ Pkt.
Stripping tool, for multiple-stage repositioning of shielded conductors	**VS-CABLE-STRIP-VARIO**	1657407	1	**VS-CABLE-STRIP-VARIO**	1657407	1

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PROFIBUS DP, PROFIBUS PA

CANopen®, DeviceNet™

CC-Link

Technical data

PROFIBUS DP	PROFIBUS PA
in accordance with IEC 61076-2-101	in accordance with IEC 61076-2-101
3	3
IP65 / IP67	IP65 / IP67
Insulation displacement connection	Insulation displacement connection
0.25 mm² ... 0.75 mm²	0.25 mm² ... 0.75 mm²
5 mm ... 9.7 mm	5 mm ... 9.7 mm
48 V AC / 60 V DC	30 V DC
4 A	4 A
≥ 100 MΩ	≥ 100 MΩ
CuSn	CuSn
Ni/Au	Ni/Au
PA 6.6	PA 6.6
V0	V0
B - inverse	A - standard
2	2
-40 ... 85	-40 ... 85

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
PROFIBUS DP		PROFIBUS PA	
1413932	1	1413934	1
1413931	1	1413933	1
1420426	1		

Accessories

Type	Order No.	Pcs./Pkt.
VS-CABLE-STRIP-VARIO	1657407	1

Technical data

Push-in connection	Insulation displacement connection
IEC 61076-2-101	in accordance with IEC 61076-2-101
3	3
IP65 / IP67	IP65 / IP67
Push-in connection	Insulation displacement connection
0.14 mm² ... 0.75 mm²	0.14 mm² ... 0.75 mm²
4 mm ... 8 mm	5 mm ... 9.7 mm
48 V AC / 60 V DC	48 V AC / 60 V DC
4 A	4 A
≥ 100 MΩ	≥ 100 MΩ
CuSn	CuSn
Ni/Au	Ni/Au
PA 6.6	PA 6.6
V0	V0
A - standard	A - standard
5	5
-40 ... 85	-40 ... 85

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
Push-in connection		Insulation displacement connection	
1424672	1	1422760	1
1424670	1	1422759	1
1424673	1		
1424671	1		

Accessories

Type	Order No.	Pcs./Pkt.
VS-CABLE-STRIP-VARIO	1657407	1

Technical data

Push-in connection
IEC 61076-2-101
3
IP65 / IP67
Push-in connection
0.14 mm² ... 0.75 mm²
4 mm ... 8 mm
48 V AC / 60 V DC
4 A
≥ 100 MΩ
CuSn
Ni/Au
PA 6.6
V0
A - standard
4
-40 ... 85

Ordering data

Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
Push-in connection			
1424700	1		
1424699	1		

Accessories

Type	Order No.	Pcs./Pkt.
VS-CABLE-STRIP-VARIO	1657407	1

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Device connectors, shielded

With 0.5 m long litz wires, front mounting

Technical data

M12 circular connector in accordance with:		IEC 61076-2-101
Degree of pollution		3
Degree of protection		IP67
Connection method		Individual wires
Electrical data		
Rated voltage		250 V
Rated current		4 A
Contact resistance		≤ 3 mΩ
Insulation resistance		≥ 100 MΩ
Material data		
Material contact/contact surface		CuZn / Ni/Au
Contact carrier material		PA66 GF
Flammability rating in accordance with UL 94		V0
Temperature data		
Male connector/female connector	[°C]	-25 ... 85

Ordering data

Description	Coding	Type	Order No.	Pcs./Pkt.
Device connectors				
Female	A - standard	**SACC-E-M12FS-4CON-PG9/0,5 FFVA**	1431429	1
Male	A - standard	**SACC-E-M12MS-4CON-PG9/0,5 FFVA**	1431432	1

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Device connectors, with assembled cable, type 900

Rear mounting

Front mounting, can be positioned

	Technical data		Technical data	
	M16 fastening thread	**Pg9 fastening thread**	**M16 fastening thread**	
M12 circular connector in accordance with:	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution	3	3	3	
Degree of protection	IP67	IP67	IP67	
Electrical data				
Rated voltage	60 V	60 V	60 V	
Rated current	4 A	4 A	4 A	
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ	
Insulation resistance	≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ	
Material data				
Material contact/contact surface	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	
Contact carrier material	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94	V0	V0	V0	
Temperature data				
Male connector/female connector [°C]	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data		Ordering data			
Description	Cable length	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.
		M16 fastening thread		**Pg9 fastening thread**		**M16 fastening thread**	
Device connector, B-coded, with bus system cable, 6-wire, shielded, PUR, halogen-free, green outer sheath, 3 x 2 x 0.25 mm²							
Female	0.5 m	1534546	1	1437601	1	1529742	1
Male	0.5 m	1534504	1	1437643	1	1529629	1
Female	1 m	1534559	1	1437614	1	1529755	1
Male	1 m	1534517	1	1437656	1	1530223	1
Female	2 m	1534562	1	1437627	1	1529768	1
Male	2 m	1534520	1	1437669	1	1529726	1
Female	5 m	1534575	1	1437630	1	1529771	1
Male	5 m	1534533	1	1437672	1	1529739	1
EMC hexagonal nut with fine toothing, for all device connectors with:							
M16 fastening thread		1440164	10				
Pg9 fastening thread				1440177	10		

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Device connectors, with assembled cable, type 910

Rear mounting

Front mounting, can be positioned

	Technical data		Technical data	
	M16 fastening thread	**Pg9 fastening thread**	**M16 fastening thread**	
M12 circular connector in accordance with:	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution	3	3	3	
Degree of protection	IP67	IP67	IP67	
Electrical data				
Rated voltage	60 V	60 V	60 V	
Rated current	4 A	4 A	4 A	
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ	
Insulation resistance	≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ	
Material data				
Material contact/contact surface	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	
Contact carrier material	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94	V0	V0	V0	
Temperature data				
Male connector/female connector [°C]	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data		Ordering data			
Description	Cable length	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.
		M16 fastening thread		**Pg9 fastening thread**		**M16 fastening thread**	
Device connector, B-coded, with bus system cable, 2-wire, shielded, PUR, halogen-free, violet outer sheath, 1 x 2 x 0.25 mm²							
Female	0.5 m	1534384	1	1437449	1	1525597	1
Male	0.5 m	1534342	1	1437481	1	1525555	1
Female	1 m	1534397	1	1437452	1	1525607	1
Male	1 m	1534355	1	1437494	1	1525568	1
Female	2 m	1534407	1	1437465	1	1519574	1
Male	2 m	1534368	1	1437504	1	1519561	1
Female	5 m	1534410	1	1437478	1	1525610	1
Male	5 m	1534371	1	1437517	1	1525571	1
EMC hexagonal nut with fine toothing, for all device connectors with:							
M16 fastening thread		1440164	10				
Pg9 fastening thread				1440177	10		

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Device connectors, with assembled cable, type 920

Rear mounting

Front mounting, can be positioned

	Technical data		Technical data	
	M16 fastening thread	**Pg9 fastening thread**	**M16 fastening thread**	
M12 circular connector in accordance with:	IEC 61076-2-101	IEC 61076-2-101	IEC 61076-2-101	
Degree of pollution	3	3	3	
Degree of protection	IP67	IP67	IP67	
Electrical data				
Rated voltage	60 V	60 V	60 V	
Rated current	4 A	2 A	4 A	
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ	
Insulation resistance	≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ	
Material data				
Material contact/contact surface	CuZn / Ni/Au	CuZn / Ni/Au	CuZn / Ni/Au	
Contact carrier material	PA 6.6	PA 6.6	PA 6.6	
Flammability rating in accordance with UL 94	V0	V0	V0	
Temperature data				
Male connector/female connector [°C]	-25 ... 85	-25 ... 85	-25 ... 85	

		Ordering data		Ordering data			
Description	Cable length	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.	**Order No.**	Pcs./Pkt.
		M16 fastening thread		**Pg9 fastening thread**		**M16 fastening thread**	
Device connector, A-coded, with bus system cable, 4-wire, shielded, PUR, halogen-free, violet outer sheath, 2 x 0.34 mm²; 2 x 0.25 mm²							
Female	0.5 m	1534465	1	1437520	1	1525678	1
Male	0.5 m	1534423	1	1437562	1	1525623	1
Female	1 m	1534478	1	1437533	1	1525681	1
Male	1 m	1534436	1	1437575	1	1525636	1
Female	2 m	1534481	1	1437546	1	1525694	1
Male	2 m	1534449	1	1437588	1	1525649	1
Female	5 m	1534494	1	1437559	1	1525704	1
Male	5 m	1534452	1	1437591	1	1525652	1
EMC hexagonal nut with fine toothing, for all device connectors with:							
M16 fastening thread		1440164	10				
Pg9 fastening thread				1440177	10		

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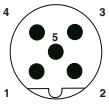
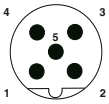
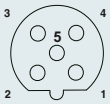
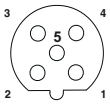
Assembled cables, INTERBUS, M12

Notes:
For information about the cable qualities, see page 454

	Free end		M12 male connector			
						
	Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**
			2 m	1507065		
			5 m	1507078		
			10 m	1507081		
			15 m	1507094		
	Variable	2723123	Variable	1537983	Variable	1430970
M12 female connector, straight						
			0.3 m	1507162		
			0.5 m	1507175		
			1 m	1507188		
	2 m	1507117	2 m	1507191		
	5 m	1507120	5 m	1507201		
	10 m	1507133	10 m	1507214		
	15 m	1507146	15 m	1507227		
	Variable	1538005	Variable	1538021	Variable	1431005
M12 female connector, angled						
						
	Variable	1430983	Variable	1430996	Variable	1431018

Ordering example for cable **with** connector assembly:

For an INTERBUS bus cable, straight M12 socket to straight M12 pin and 34.5 m cable length, the ordering data is as follows:

Order No.	Length [m] 40 m, maximum
1538021 /	34.5
	Increments: 0.2 ... 3.0 m = 0.1 m; > 3.0 m = 0.5 m

Ordering example for cable **without** connector assembly:

For an INTERBUS bus cable with 34.5 m cable length, the ordering data is as follows:

Order No.	Length [m] 400 m, maximum
2723123 /	34.5
	Increments: 0.5 ... 400.0 m = 0.5 m

		Technical data
		M12
Rated voltage		48 V AC / 60 V DC
Rated current	[A]	4
Contact resistance		≤ 5 mΩ
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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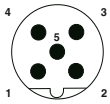
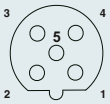
Assembled cables, PROFIBUS DP, M12

Notes:
For information about the cable qualities, see page 454
For H, Y, and T distributors, see page 436
For termination resistors, see page 437

PROFIBUS

	Free end		M12 male connector	
				
	Ordering data		Ordering data	Ordering data
Free end		**Order No.**		**Order No.**
			2 m	1507243
			5 m	1507256
			10 m	1507269
			15 m	1507272
	Variable	1511491	Variable	1538047
M12 female connector, straight				
			0.3 m	1507340
			0.5 m	1507353
			1 m	1507366
	2 m	1507298	2 m	1507379
	5 m	1507308	5 m	1507382
	10 m	1507311	10 m	1507395
	15 m	1507324	15 m	1507405
	Variable	1538063	Variable	1538089

Ordering example for cable **with** connector assembly:

For a PROFIBUS bus cable, straight M12 socket to straight M12 pin and 34.5 m cable length, the ordering data is as follows:

Order No.	Length [m] 40 m, maximum
1538089 /	34.5
	Increments: 0.2 ... 3.0 m = 0.1 m > 3.0 m = 0.5 m

Ordering example for cable **without** connector assembly:

For a PROFIBUS bus cable with 34.5 m cable length, the ordering data is as follows:

Order No.	Length [m] 400 m, maximum
1511491 /	34.5
	Increments: 0.5 ... 400.0 m = 0.5 m

		Technical data
		M12
Rated voltage		48 V AC / 60 V DC
Rated current	[A]	4
Contact resistance		≤ 5 mΩ
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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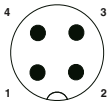
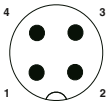
Assembled cables, PROFIBUS PA, M12 stainless steel

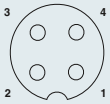
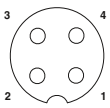
Notes:

For information about the cable qualities, see page 456

For H, Y, and T distributors, see page 436

PROFIBUS

	Free end	M12 male connector	
			

	Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**
			2 m	1419092	2 m	1419097
			5 m	1419093	5 m	1419098
			10 m	1419094	10 m	1419099
			15 m	1419095	15 m	1419100
			20 m	1419096	20 m	1419101
M12 female connector, straight						
			0.3 m	1419102	0.3 m	1419110
			0.5 m	1419103	0.5 m	1419111
			1 m	1419104	1 m	1419112
	2 m	1419082	2 m	1419105	2 m	1419113
	5 m	1419083	5 m	1419106	5 m	1419114
	10 m	1419084	10 m	1419107	10 m	1419115
	15 m	1419085	15 m	1419108	15 m	1419116
	20 m	1419086	20 m	1419109	20 m	1419117
M12 female connector, angled						
			0.3 m	1419118	0.3 m	1419126
			0.5 m	1419119	0.5 m	1419127
			1 m	1419120	1 m	1419128
	2 m	1419087	2 m	1419121	2 m	1419129
	5 m	1419088	5 m	1419122	5 m	1419130
	10 m	1419089	10 m	1419123	10 m	1419131
	15 m	1419090	15 m	1419124	15 m	1419132
	20 m	1419091	20 m	1419125	20 m	1419133

Color coding	Pin assignment M12
OG	1
n.c.	2
BU	3
Shield	4

		Technical data
		M12
Rated voltage		48 V AC / 60 V DC
Rated current	[A]	4
Contact resistance		≤ 5 mΩ
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Degree of protection		IP65 / IP67 / IP68 / IP69K
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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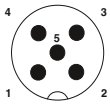
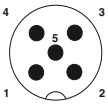
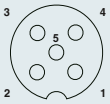
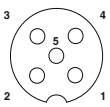
Assembled cables, DeviceNet™/CANopen®, M12, unshielded

Notes:
For information about the cable qualities, see page 455
For H, Y, and T distributors, see page 436
For termination resistors, see page 437

DeviceNet CANopen

Free end	M12 male connector
	 

	Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**
			2 m	1419039	2 m	1419044
			5 m	1419040	5 m	1419045
			10 m	1419041	10 m	1419046
			15 m	1419042	15 m	1419047
			20 m	1419043	20 m	1419048
M12 female connector, straight						
			0.3 m	1419049	0.3 m	1419057
			0.5 m	1419050	0.5 m	1419058
			1 m	1419051	1 m	1419059
	2 m	1419081	2 m	1419052	2 m	1419060
	5 m	1419030	5 m	1419053	5 m	1419061
	10 m	1419031	10 m	1419054	10 m	1419062
	15 m	1419032	15 m	1419055	15 m	1419063
	20 m	1419033	20 m	1419056	20 m	1419064
M12 female connector, angled						
			0.3 m	1419065	0.3 m	1419073
			0.5 m	1419066	0.5 m	1419074
			1 m	1419067	1 m	1419075
	2 m	1419034	2 m	1419068	2 m	1419076
	5 m	1419035	5 m	1419069	5 m	1419077
	10 m	1419036	10 m	1419070	10 m	1419078
	15 m	1419037	15 m	1419071	15 m	1419079
	20 m	1419038	20 m	1419072	20 m	1419080

Color coding		Pin assignment M12
Shield		1
RD		2
BK		3
WH		4
BU		5

		Technical data
		M12
Rated voltage		48 V AC / 60 V DC
Rated current	[A]	4
Contact resistance		< 5 mΩ
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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Assembled cables, DeviceNet™/CANopen®, M8

Notes:
For information about the cable qualities, see page 455
For termination resistors, see page 437

DeviceNet CANopen

	Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**
			2 m	1575712		
			5 m	1575725		
			10 m	1575738		
			15 m	1575754		
			Variable	1575767	Variable	1575903
M8 female connector, straight						
			0.3 m	1575822		
			0.5 m	1575835		
			1 m	1575848		
	2 m	1575770	2 m	1575851		
	5 m	1575783	5 m	1575864		
	10 m	1575796	10 m	1575877		
	15 m	1575806	15 m	1575880		
	Variable	1575819	Variable	1575893	Variable	1575932
M8 female connector, angled						
	Variable	1575916			Variable	1575945

Ordering example for cable **with** variable cable length:

For a DeviceNet™ bus cable, straight M8 female to straight M8 male and 34.5 m cable length, the ordering data is as follows:

Order No.	Length [m] 40 m, maximum
1575893 /	**34.5**
	Increments: 0.2 ... 3.0 m = 0.1 m > 3.0 m = 0.5 m

		Technical data
		M8
Rated voltage		30 V AC / 30 V DC
Rated current	[A]	4
Contact resistance		≤ 5 mΩ
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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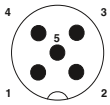
Assembled cables, DeviceNet™/CANopen®, M12

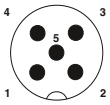
Notes:
For information about the cable qualities, see page 455
For H, Y, and T distributors, see page 436
For termination resistors, see page 437

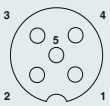
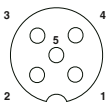
DeviceNet CANopen

Free end

M12 male connector





	Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**
			2 m	1507421		
			5 m	1507434		
			10 m	1507447		
			15 m	1507450		
	Variable	1511504	Variable	1538102	Variable	1431089
M12 female connector, straight						
			0.3 m	1507528		
			0.5 m	1507531		
			1 m	1507544		
	2 m	1507476	2 m	1507557		
	5 m	1507489	5 m	1507560		
	10 m	1507492	10 m	1507573		
	15 m	1507502	15 m	1507586		
	Variable	1538128	Variable	1538144	Variable	1431115
M12 female connector, angled						
						
	Variable	1431092	Variable	1431102	Variable	1431128

Ordering example for cable **with** connector assembly:

For a DeviceNet™ bus cable, straight M12 socket to straight M12 pin and 34.5 m cable length, the ordering data is as follows:

Order No.	Length [m] 40 m, maximum
1538144	/ 34.5
	Increments: 0.2 ... 3.0 m = 0.1 m > 3.0 m = 0.5 m

Ordering example for cable **without** connector assembly:

For a DeviceNet™ bus cable with 34.5 m cable length, the ordering data is as follows:

Order No.	Length [m] 400 m, maximum
1511504	/ 34.5
	Increments: 0.5 ... 400.0 m = 0.5 m

		Technical data
		M12
Rated voltage		48 V AC / 60 V DC
Rated current	[A]	4
Contact resistance		≤ 5 mΩ
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Degree of protection		IP65 / IP67
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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M12 Y distributors, DeviceNet™/CANopen®, unshielded

Notes:
For information about the cable qualities, see page 455
For H, Y, and T distributors, see page 436
For termination resistors, see page 437

Bus system cable

Bus system cable

EAC

EAC

		Technical data	Technical data
Electrical data			
Rated voltage		48 V AC / 60 V DC	48 V AC / 60 V DC
Rated current		4 A	4 A
Contact resistance		≤ 5 mΩ	≤ 5 mΩ
Material data			
Contact material		CuSn	CuSn
Contact surface material		Ni/Au	Ni/Au
Contact carrier material		TPU GF	TPU GF
Flammability rating in accordance with UL 94		HB	HB
Mechanical data			
Number of positions		5	5
Degree of pollution		3	3
Degree of protection		IP65/IP67	IP65/IP67
External cable diameter		6.70 mm	6.70 mm
Conductor cross section for signal		0.2 mm²	0.2 mm²
Conductor structure signal line		19x 0.12 mm	19x 0.12 mm
Conductor cross section for power		0.32 mm²	0.32 mm²
Conductor structure, voltage supply		19x 0.15 mm	19x 0.15 mm
Temperature data			
Male connector/female connector	[°C]	-25 ... 90	-25 ... 90
Cable, fixed installation	[°C]	-40 ... 80	-40 ... 80
Cable, flexible installation	[°C]	-20 ... 80	-20 ... 80

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Bus system Y-cable, 5-pos., shielded, PUR, halogen-free, violet, unshielded straight M12 Y-female to straight M12 female and straight M12 connector						
- Conductor length 0.3 m	**SAC-5PY-F/2X 0,3-920-MS-FS**	1436013	1			
- Conductor length 0.5 m	**SAC-5PY-F/2X 0,5-920-MS-FS**	1436026	1			
- Conductor length 1.0 m	**SAC-5PY-F/2X 1,0-920-MS-FS**	1436039	1			
- Conductor length 2.0 m	**SAC-5PY-F/2X 2,0-920-MS-FS**	1436042	1			
- Conductor length 5.0 m	**SAC-5PY-F/2X 5,0-920-MS-FS**	1436055	1			
- Conductor length 10.0 m	**SAC-5PY-F/2X10,0-920-MS-FS**	1436068	1			
- Conductor length 15.0 m	**SAC-5PY-F/2X15,0-920-MS-FS**	1436071	1			
Bus system Y-cable, 5-pos., shielded, PUR, halogen-free, violet, unshielded straight M12 Y-connector to free cable ends						
- Conductor length 2.0 m				**SAC-5PY-M/2X 2,0-920**	1436084	1
- Conductor length 5.0 m				**SAC-5PY-M/2X 5,0-920**	1436097	1
- Conductor length 10.0 m				**SAC-5PY-M/2X10,0-920**	1436107	1
- Conductor length 15.0 m				**SAC-5PY-M/2X15,0-920**	1436110	1
Bus system Y-cable, 5-pos., shielded, PUR, halogen-free, violet, unshielded straight M12 Y-female to free cable ends						
- Conductor length 2.0 m				**SAC-5PY-F/2X 2,0-920**	1436123	1
- Conductor length 5.0 m				**SAC-5PY-F/2X 5,0-920**	1436136	1
- Conductor length 10.0 m				**SAC-5PY-F/2X10,0-920**	1436149	1
- Conductor length 15.0 m				**SAC-5PY-F/2X15,0-920**	1436152	1

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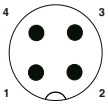
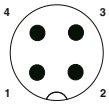
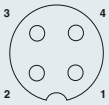
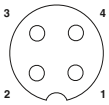
Assembled cables, FOUNDATION Fieldbus, M12 stainless steel

Notes:
For H, Y, and T distributors, see page 436
For termination resistors, see page 437





	Ordering data		Ordering data		Ordering data	
Free end		**Order No.**		**Order No.**		**Order No.**
			2 m	1431173		
			5 m	1431186		
			10 m	1431199		
			15 m	1431209		
	Variable	1432389	Variable	1431322	Variable	1431335
M12 female connector, straight						
			0.3 m	1431254		
			0.5 m	1431267		
			1 m	1431270		
	2 m	1431212	2 m	1431283		
	5 m	1431225	5 m	1431296		
	10 m	1431238	10 m	1431306		
	15 m	1431241	15 m	1431319		
	Variable	1431348	Variable	1431364	Variable	1431377
M12 female connector, angled						
	Variable	1431351	Variable	1431380	Variable	1431393

Ordering example for products with variable cable:

For a 34.5 m long FOUNDATION Fieldbus cable, fitted with a straight M12 male at one end and an M12 female at the other end, the ordering data is as follows:

Order No.	Length [m] max. 50 m
1431364 /	34.5 Increment: 0.5 m

Color coding		Pin assignment M12
BU		1
BN		2
Shield		3
n. c.		4

		Technical data
		Connectors M12
Rated voltage		48 V AC / 60 V DC
Rated current	[A]	4
Contact resistance		≤ 5 mΩ
Contact material		CuSn
Contact surface material		Ni/Au
Material of grip body		TPU, hardly inflammable, self-extinguishing
Material, knurls		Stainless steel
Degree of protection		IP65 / IP67 / IP68 / IP69K
Temperature data		
Male connector/female connector	[°C]	-25 ... 90

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H, Y, and T distributors

H and Y distributors

T-distributor

	Technical data		Technical data	
	H distributor, 5-pos.	Y distributor, hybrid	T distributor, 4-pos.	T distributor, 5-pos.
General data				
Degree of protection	IP65 / IP67	IP67	IP65 / IP67 / IP68	IP65 / IP67
Electrical data				
Rated voltage	48 V AC / 60 V DC	30 V AC (Power and data) / 30 V DC (Power and data)	48 V AC / 60 V DC	48 V AC / 60 V DC
Insulation resistance	≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ	≥ 100 MΩ
Overvoltage category / Degree of pollution	II / 3	III / 3	II / 3	II / 3
Material data				
Contact material	CuZn	CuZn	CuZn	CuZn
Contact surface material	Ni/Au	Ni/Au	Ni/Au	Ni/Au
Contact carrier material	TPU GF	-	TPU GF	TPU GF
Material of grip body	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
Temperature data				
Male connector/female connector [°C]	-25 ... 90	-25 ... 80	-25 ... 90	-25 ... 90

	Ordering data		Ordering data	
Description	Order No. / Pcs./Pkt.	Order No. / Pcs./Pkt.	Order No. / Pcs./Pkt.	Order No. / Pcs./Pkt.
	H distributor, 5-pos.	Y distributor, hybrid	T distributor, 4-pos.	T distributor, 5-pos.
Bus system H distributor, for **DeviceNet™** with two mounting holes				
M12 male to 3x M12 female	1417414 / 1			
Hybrid Y distributor, 4+4-pos., for data and power				
M12 connector (Y-coded) to M12 female (D-coded) and M12 connector (A-coded)		1410630 / 1		
Bus system T distributor, for **PROFIBUS,** B-coded, shielded 360°				
M12 female to 2x M12 connector				1424711 / 1
M12 female to M12 male and fixed M12 male				1424713 / 1
Bus system T distributor, for **CANopen® and DeviceNet™,** M12 female to M12 female and M12 connector				
Green				1541186 / 1
black, with two mounting holes				1424712 / 1
Bus system T distributor, for **CC-Link**				
M12 female on M12 female and M12 male			1559783 / 5	
Bus system T distributor, for FOUNDATION Fieldbus and PROFIBUS PA (M12), with stainless steel knurl				
M12 female on M12 female and M12 male			1431416 / 5	

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Termination resistors

M8 termination resistor

M12 termination resistor

	Technical data	
	SAC-5P-M 8MS DN TR	
Electrical data		
Nominal voltage U_N	30 V	
Insulation resistance	-	
Overvoltage category / Degree of pollution	II / 3	
Material data		
Contact material	CuSn	
Contact surface material	Ni/Au	
Contact carrier material	TPU GF	
Material of grip body	TPU, hardly inflammable, self-extinguishing	
Degree of protection	IP65/IP67/IP69K	
Temperature data		
Male connector/female connector [°C]	-25 ... 90	

	Technical data	
	SAC-5P-M12MS PB TR	SAC-4P-M12MS FF TR VA
Electrical data		
Nominal voltage U_N	48 V AC	24 V
Insulation resistance	≥ 100 MΩ	≥ 100 MΩ
Overvoltage category / Degree of pollution	II / 3	II / 3
Material data		
Contact material	CuSn	CuZn
Contact surface material	Ni/Au	Ni/Au
Contact carrier material	TPU GF	TPU GF
Material of grip body	TPU, hardly inflammable, self-extinguishing	TPU, hardly inflammable, self-extinguishing
Degree of protection	-	IP65/IP68/IP69K
Temperature data		
Male connector/female connector [°C]	-25 ... 90	-25 ... 90

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Termination resistor, M8 male			
- DeviceNet™	**SAC-5P-M 8MS DN TR**	1435988	5
Termination resistor, M12 male			
- PROFIBUS			
- DeviceNet™/CANopen®			
- CC-Link			
Termination resistor, M12 male, high-grade steel knurl			
- FOUNDATION Fieldbus			

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Termination resistor, M8 male			
- DeviceNet™			
Termination resistor, M12 male			
- PROFIBUS	**SAC-5P-M12MS PB TR**	1507803	5
- DeviceNet™/CANopen®	**SAC-5P-M12MS CAN TR**	1507816	5
- CC-Link	**SAC-4P-M12MS CCL TR**	1558470	1
Termination resistor, M12 male, high-grade steel knurl			
- FOUNDATION Fieldbus	**SAC-4P-M12MS FF TR VA**	1431403	5

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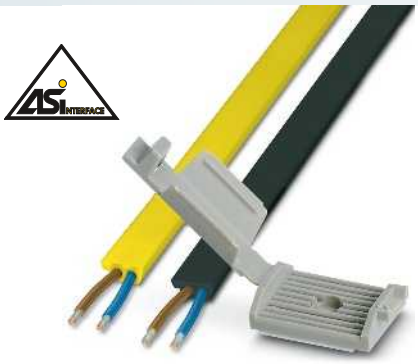
Flat-ribbon conductors, flat-ribbon conductor connectors and panel feed-throughs



Flat-ribbon conductors and accessories

Flat-ribbon conductors and panel feed-throughs with QUICKON fast connection technology

Technical data

		VS-ASI-FC-PVC...	VS-ASI-FC-PUR...
Mechanical data			
Number of positions		2	2
Degree of protection		-	-
Cable data			
Outer sheath material		PVC	PUR
Conductor cross section		1.5 mm²	1.5 mm²
Connector data QUICKON connection			
Conductor cross section [mm²]		-	-
Conductor cross section [AWG]		-	-
Temperature data			
Male connector/female connector	[°C]	-	-
Cable, fixed installation	[°C]	-30 ... 90	-40 ... 85
Cable, flexible installation	[°C]	-20 ... 90	-30 ... 85

Technical data

		Q 1,5/4IDC	Q 1,5/4M20
Mechanical data			
Number of positions		4	4
Degree of protection		IP65 / IP67	IP65 / IP67
Cable data			
Outer sheath material		-	-
Conductor cross section		-	-
Connector data QUICKON connection			
Conductor cross section [mm²]		0.75 mm² ... 1.5 mm²	0.75 mm² ... 1.5 mm²
Conductor cross section [AWG]		18 ... 16	18 ... 16
Temperature data			
Male connector/female connector	[°C]	-25 ... 80	-25 ... 80
Cable, fixed installation	[°C]	-	-
Cable, flexible installation	[°C]	-	-

Ordering data

Description	Cable length	Type	Order No.	Pcs./Pkt.
AS-Interface EPDM flat-ribbon conductor, 2 x 1.5 mm²				
yellow	100 m	**VS-ASI-FC-EPDM-YE 100M**	1432402	1
black	100 m	**VS-ASI-FC-EPDM-BK 100M**	1432415	1
AS-Interface PVC flat-ribbon conductor to UL, 2 x 1.5 mm²				
yellow	100 m	**VS-ASI-FC-PVC-UL-YE 100M**	1404906	1
black	100 m	**VS-ASI-FC-PVC-UL-BK 100M**	1404919	1
AS-Interface TPE flat-ribbon conductor to UL, 2 x 1.5 mm²				
yellow	100 m	**VS-ASI-FC-TPE-UL-YE 100M**	1404922	1
black	100 m	**VS-ASI-FC-TPE-UL-BK 100M**	1404935	1
AS-Interface PUR flat-ribbon conductor, 2 x 1.5 mm²				
yellow	100 m	**VS-ASI-FC-PUR-YE 100M**	1404883	1
black	100 m	**VS-ASI-FC-PUR-BK 100M**	1404896	1
Flat connector, 4-pos., for connecting one or two AS-i flat-ribbon conductors				
Panel feed-through, for accommodating one or two AS-i flat-ribbon conductors, on the rear side with manual solder/slip-on connection 4.8 x 0.8 mm				
Panel feed-through, for accommodating one or two AS-Interface flat-ribbon conductors, on the rear side with four individual 1.5 mm² wires	0.5 m			
Metal gland, for AS-Interface flat-ribbon conductor				
Thread type: M20				
Thread type: M25				

Ordering data

Type	Order No.	Pcs./Pkt.
Q 1,5/4IDC/24-24KU-KU-ASI-BK	1585058	1
Q 1,5/4FL/24-M20KU-ESA-ASI BK	1437261	1
Q 1,5/4A50/24-M20KU-ESA-ASI BK	1437274	1
HC-M-KV-M20(1ASI)	1584017	10
HC-M-KV-M25(1ASI)	1584020	10

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Distributors with spring connection and with round cables

Flat-ribbon conductor distributor and distributor with spring connection

Distributor with round cable and over-molded M12 connector

Technical data

		SAC-ASI-J-Y-B-FFKDS	SAC-ASI-J-Y-Y-N
Electrical data			
Rated voltage		≤ 32 V DC	≤ 32 V DC
Rated current		4 A	8 A
Material specifications for exit			
Material of grip body		-	-
Material specifications for distributor			
Housing material		PBT	PBT
Mechanical data			
Number of positions		4	4
Degree of protection		IP20	IP65 / IP67 / IP69K
Connection data for spring-cage terminal blocks			
Conductor cross section		0.2 mm² ... 1.5 mm² (without ferrule)	-
Connection cross section AWG		24 ... 16 (without ferrule)	-
Cable data			
Outer sheath material		-	-
External cable diameter		-	-
Conductor cross section		-	-
Temperature data			
Male connector/female connector	[°C]	-25 ... 75	-25 ... 75
Cable, fixed installation	[°C]	-	-
Cable, flexible installation	[°C]	-	-

Technical data

	SAC-ASI-J-Y-N...	SAC-ASI-J-Y-B...
Electrical data		
Rated voltage	≤ 32 V DC	≤ 32 V DC
Rated current	4 A	4 A
Material specifications for exit		
Material of grip body	TPU	TPU
Material specifications for distributor		
Housing material	PBT	PBT
Mechanical data		
Number of positions	2	4
Degree of protection	IP65 / IP67	IP65 / IP67
Connection data for spring-cage terminal blocks		
Conductor cross section	-	-
Connection cross section AWG	-	-
Cable data		
Outer sheath material	PUR	PUR
External cable diameter	4.3 mm	4.3 mm
Conductor cross section	4x 0.34 mm² (signal line)	4x 0.34 mm² (signal line)
Temperature data		
Male connector/female connector	-25 ... 75	-25 ... 75
Cable, fixed installation	-40 ... 80	-40 ... 80
Cable, flexible installation	-25 ... 80	-25 ... 80

Ordering data

Description	Cable length	Type	Order No.	Pcs./Pkt.
AS-Interface distributor with IP20 protection for **2 flat-ribbon conductors,** 4-pos., with **spring terminal blocks**		**SAC-ASI-J-Y-B-FFKDS**	1407579	1
AS-Interface H-distributor with high degree of protection, **parallel wired,** for distribution from one to two flat-ribbon conductors		**SAC-ASI-J-Y-Y-N**	1405622	1
AS-Interface distributor for **1 flat cable,** with **PUR** round cable and molded, **straight,** A-coded, **2-pos.** M12 female	1 m			
	2 m			
AS-Interface distributor for **2 flat cables,** with **PUR** round cable and molded, **straight,** A-coded, **4-pos.** M12 female	1 m			
	2 m			
AS-Interface distributor for **2 flat cables,** with **PUR** round cable and molded, **angled,** A-coded, **4-pos.** M12 female	1 m			
	2 m			
AS-Interface distributor for **1 flat-ribbon conductor,** with 2.0 m **PUR** round cable and open cable end	2 m			
AS-Interface distributor for **2 flat-ribbon conductors,** with 2.0 m **PUR** round cable and open cable end	2 m			

Ordering data

Type	Order No.	Pcs./Pkt.
SAC-ASI-J-Y-N-PUR-1,0-FS SCO	1407573	1
SAC-ASI-J-Y-N-PUR-2,0-FS SCO	1407574	1
SAC-ASI-J-Y-B-PUR-1,0-FS SCO	1407575	1
SAC-ASI-J-Y-B-PUR-2,0-FS SCO	1407576	1
SAC-ASI-J-Y-B-PUR-1,0-FR SCO	1407577	1
SAC-ASI-J-Y-B-PUR-2,0-FR SCO	1407578	1
SAC-ASI-J-Y-N-PUR-2,0-OE	1407580	1
SAC-ASI-J-Y-B-PUR-2,0-OE	1407581	1

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Distributors with M12-female, with screw connection, pre-assembled round cable

Distributors with M12 slot and with screw connection

PUR round cables with over-molded M12 connectors

Technical data

		SAC-ASI-J-Y-N-M12FS	VS-ASI-J-Y-N-SWA-LC
Material data			
Housing material		PBT	PA
Material of grip body		-	-
Number of positions		2	2
Degree of protection		IP65 / IP67	IP67
Connection data for screw connection			
Conductor cross section		-	0.14 mm² ... 1.5 mm² (without ferrule)
Connection cross section AWG		-	26 ... 16 (without ferrule)
Conductor cross section		-	0.14 mm² ... 0.75 mm² (with ferrule)
Connection cross section AWG		-	26 ... 18 (with ferrule)
Cable data			
Conductor cross section		-	-
Temperature data			
Male connector/female connector	[°C]	-25 ... 75	-25 ... 70
Cable, fixed installation	[°C]	-	-
Cable, flexible installation	[°C]	-	-

Technical data

	-
	-
	TPU, hardly inflammable, self-extinguishing
	4
	IP65 / IP67 / IP68
	-
	-
	-
	-
	0.75 mm²
	-25 ... 90
	-25 ... 80
	-5 ... 80

Ordering data

Description	Cable length	Type	Order No.	Pcs./Pkt.
AS-Interface distributor for flat-ribbon conductors, with straight, A-coded M12 female				
one flat conductor, 2-pos.		**SAC-ASI-J-Y-N-M12FS**	1405619	1
two flat conductors, 4-pos.		**SAC-ASI-J-Y-B-M12FS**	1405621	1
AS-Interface distributor, with straight, A-coded M12 female				
one flat conductor, 2-pos.		**VS-ASI-J-Y-N-M12FS-LC**	1433155	1
AS-Interface distributor, with screw connection, angled				
one flat conductor, 2-pos.		**VS-ASI-J-Y-N-SWA-LC**	1433168	1
Voltage supply cable, straight male, unshielded, M12 A-coded, free cable end				
	2 m			
	5 m			
	10 m			
	15 m			
Voltage supply cable, straight female, unshielded, M12 A-coded, free cable end				
	2 m			
	5 m			
	10 m			
	15 m			
Voltage supply cable, straight male, unshielded, M12 A-coded, straight female, unshielded, M12 A-coded				
	0.3 m			
	0.5 m			
	1 m			
	2 m			
	5 m			
	10 m			
	15 m			

Ordering data

Type	Order No.	Pcs./Pkt.
SAC-4P-M12MS/ 2,0-186	1509445	1
SAC-4P-M12MS/ 5,0-186	1509458	1
SAC-4P-M12MS/10,0-186	1509461	1
SAC-4P-M12MS/15,0-186	1509474	1
SAC-4P- 2,0-186/M12FS	1509487	1
SAC-4P- 5,0-186/M12FS	1509490	1
SAC-4P-10,0-186/M12FS	1509500	1
SAC-4P-15,0-186/M12FS	1509513	1
SAC-4P-M12MS/ 0,3-186/M12FS	1509526	1
SAC-4P-M12MS/ 0,5-186/M12FS	1509539	1
SAC-4P-M12MS/ 1,0-186/M12FS	1509542	1
SAC-4P-M12MS/ 2,0-186/M12FS	1509555	1
SAC-4P-M12MS/ 5,0-186/M12FS	1509568	1
SAC-4P-M12MS/10,0-186/M12FS	1509571	1
SAC-4P-M12MS/15,0-186/M12FS	1509584	1

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Digital I/O devices with M8 connection method

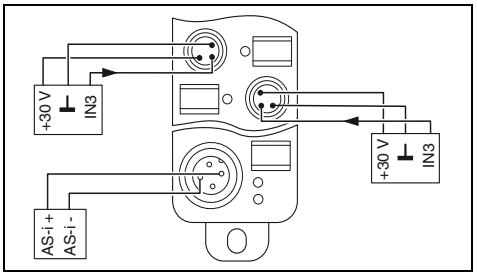
The digital I/O devices are particularly suitable for use in machines close to the process.

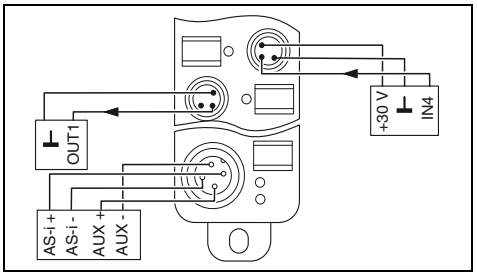
Features:

– Optimized for 30 mm mounting profile
– M12 connection technology with fast locking system for the AS-Interface connection
– M8 connection technology for inputs and outputs

4 digital inputs

4 digital inputs and 4 digital outputs





		Technical data	Technical data
Interface			
Fieldbus system		AS-i	AS-i
Connection method		M12 connector, (A-coded)	M12 connector, (A-coded)
AS-Interface			
AS-i specification		2.0	2.0
Required master specification		>= 2.0	>= 2.0
AS-i profile		S-0.0	S-7.0
Digital inputs			
Connection method		M8 connector	M8 connector
Connection technology		2, 3-wire	2, 3-wire
Maximum number of inputs		-	-
Input characteristic curve		-	-
Digital outputs			
Connection method		-	M8 connector
Connection technology		-	2-wire
Maximum number of outputs		-	-
Maximum output current per channel		-	1 A
Maximum output current per module / terminal block		-	4 A
General data			
Weight		85 g	125 g
Drill hole spacing		93 mm	133 mm
Dimensions	W / H / D	30 mm / 26 mm / 103 mm	30 mm / 26 mm / 143 mm
Degree of protection		IP65/IP67	IP65/IP67
Ambient temperature (operation)		-25°C ... 70°C	-25°C ... 70°C
EMC note		Class A product, see page 727	Class A product, see page 727

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Fieldline Extension AS-i digital input device						
- 4 inputs	**FLX ASI DI 4 M8**	2773403	1			
Fieldline Extension AS-i digital I/O device						
- 4 inputs, 4 outputs, 1 A				**FLX ASI DIO 4/4 M8-1A**	2773416	1

	Accessories			Accessories		
M8 screw plug	**PROT-M8**	1682540	5	**PROT-M8**	1682540	5
Zack marker strip, flat, 10-section, without color print	**ZBF 8:UNBEDRUCKT**	0808781	10	**ZBF 8:UNBEDRUCKT**	0808781	10
Manual addressing device, for AS-Interface devices	**ASI CC ADR**	2741338	1	**ASI CC ADR**	2741338	1

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Digital I/O devices with M12 connection method

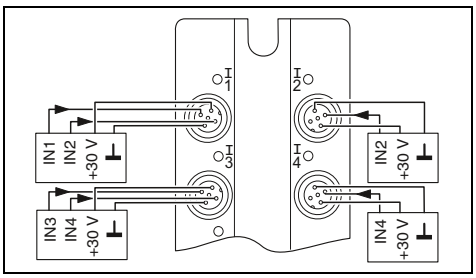
The innovative locking mechanism enables quick and easy installation of the I/O devices.

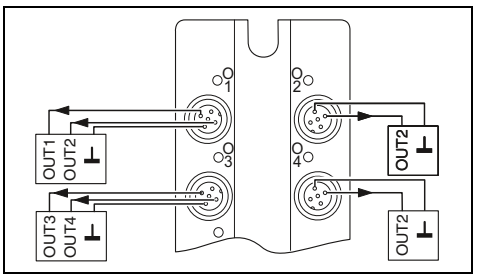
Features:

- Optimized for direct mounting and DIN rail mounting
- Tool-free connection to AS-Interface, thanks to piercing technology
- M12 connection technology with fast locking system for the inputs and outputs

4 digital inputs

4 digital outputs





Technical data

Interface			
Fieldbus system		AS-i	AS-i
Connection method		Flat-ribbon cable penetration technique	Flat-ribbon cable penetration technique
AS-Interface			
AS-i specification		2.1	2.0
Required master specification		>= 2.0	>= 2.0
AS-i profile		S-0.A.2	S-8.1
Digital inputs			
Connection method		M12 connector	-
Connection technology		2, 3-wire	-
Maximum number of inputs		-	-
Input characteristic curve		-	-
Digital outputs			
Connection method		-	M12 connector
Connection technology		-	2-wire
Maximum number of outputs		-	4
Maximum output current per channel		-	2 A
Maximum output current per module / terminal block		-	4 A
General data			
Weight		195 g	195 g
Drill hole spacing		108 mm	108 mm
Dimensions	W / H / D	58 mm / 118 mm / 35 mm	58 mm / 118 mm / 35 mm
Degree of protection		IP65/IP67	IP65/IP67
Ambient temperature (operation)		-25°C ... 70°C	-25°C ... 70°C
EMC note		Class A product, see page 727	Class A product, see page 727

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Fieldline Extension AS-i digital input device			
- 4 inputs	**FLX ASI DI 4 M12**	2773429	1
Fieldline Extension AS-i digital output device			
- 4 outputs, 2 A			
Fieldline Extension AS-i digital I/O device			
- 2 inputs, 2 outputs, 2 A			
- 4 inputs, 3 outputs, 2 A			
- 4 inputs, 4 outputs, 2 A			

Ordering data

Type	Order No.	Pcs./Pkt.
FLX ASI DO 4 M12-2A	2773458	1

Accessories

	Type	Order No.	Pcs./Pkt.
M12 screw plug	**PROT-M12**	1680539	5
Label sheet for laser printers, 64 x 16 mm, color: white	**BMKL 64X16 WH**	0821807	2
Manual addressing device, for AS-Interface devices	**ASI CC ADR**	2741338	1
Programming cable, for addressing the AS-i devices	**ASI CC ADR CAB CINCH**	2741341	1

Accessories

Type	Order No.	Pcs./Pkt.
PROT-M12	1680539	5
BMKL 64X16 WH	0821807	2
ASI CC ADR	2741338	1
ASI CC ADR CAB CINCH	2741341	1

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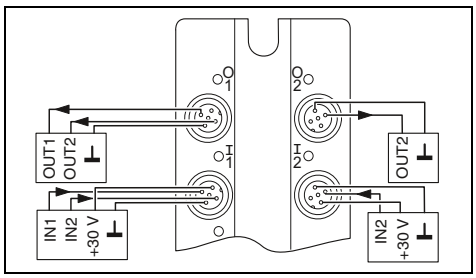
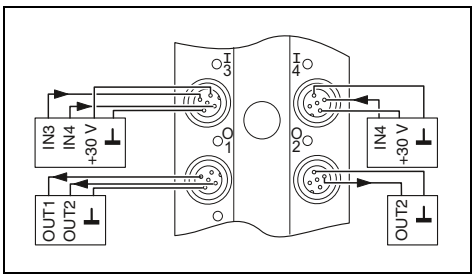
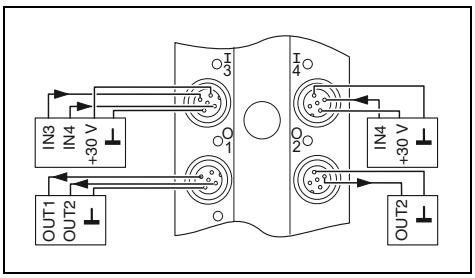
2 digital inputs and 2 digital outputs

4 digital inputs and 3 digital outputs

4 digital inputs and 4 digital outputs







Technical data

AS-i	
Flat-ribbon cable penetration technique	
2.1	
>= 2.0	
S-B.A.2	
M12 connector	
2, 3-wire	
-	
-	
M12 connector	
2-wire	
-	
2 A	
4 A	
195 g	
108 mm	
58 mm / 118 mm / 35 mm	
IP65/IP67	
-25°C ... 70°C	
Class A product, see page 727	

Ordering data

Type	Order No.	Pcs./Pkt.
FLX ASI DIO 2/2 M12-2A	**2773432**	1

Accessories

PROT-M12	**1680539**	5
BMKL 64X16 WH	**0821807**	2
ASI CC ADR	**2741338**	1
ASI CC ADR CAB CINCH	**2741341**	1

Technical data

AS-i	
Flat-ribbon cable penetration technique	
2.1	
>= 2.0	
S-7.A.2	
M12 connector	
2, 3-wire	
-	
-	
M12 connector	
2-wire	
-	
2 A	
4 A	
245 g	
108 mm	
58 mm / 150 mm / 35 mm	
IP65/IP67	
-25°C ... 70°C	
Class A product, see page 727	

Ordering data

Type	Order No.	Pcs./Pkt.
FLX ASI DIO 4/3 M12-2A	**2773445**	1

Accessories

PROT-M12	**1680539**	5
ASI CC ADR	**2741338**	1
ASI CC ADR CAB CINCH	**2741341**	1

Technical data

AS-i	
Flat-ribbon cable penetration technique	
3.0	
>= 3.0	
S-7.A.7	
M12 connector	
2, 3-wire	
-	
-	
M12 connector	
2-wire	
-	
2 A	
4 A	
245 g	
108 mm	
58 mm / 150 mm / 35 mm	
IP65/IP67	
-25°C ... 70°C	
Class A product, see page 727	

Ordering data

Type	Order No.	Pcs./Pkt.
FLX ASI 3.0 DIO 4/4 M12-2A	**2773474**	1

Accessories

PROT-M12	**1680539**	5
ASI CC ADR	**2741338**	1
ASI CC ADR CAB CINCH	**2741341**	1

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D-SUB connectors, IP67

D-SUB complete connector for INTERBUS in IP67 protection

D-SUB connector set IP67, consisting of: sleeve housing, panel mounting frame and accessories, shielded design

	Technical data	Technical data
Electrical data		
Rated voltage	63 V	-
Rated current	1 A	-
Overvoltage category	II	-
Material data		
Housing material	PA	PA
Contact material	Copper alloy	-
Contact surface material	Gold over nickel	-
Contact carrier material	PBTP	-
Flammability rating in accordance with UL 94	V0	V0
Mechanical data		
Number of positions	9	9
Color	gray	gray
Degree of pollution	2	2
Degree of protection	IP67	IP67
Connection method	Screw connection	-
Conductor cross section	0.14 mm² ... 0.5 mm²	-
Connection cross section AWG	26 ... 20	-
Insertion/withdrawal cycles	≥ 200	≥ 1000
Temperature data		
Ambient temperature (operation)	-20°C ... 70°C	-40°C ... 80°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
D-SUB complete connector, for INTERBUS, shell size 1, screw connection, shielded						
Male	**VS-09-IBS-ST**	1689271	1			
Female	**VS-09-IBS-BU**	1689284	1			
D-SUB complete connector, for PROFIBUS, shell size 1, male, shielded						
Screw connection	**VS-09-PROFIBUS-SC**	1654549	1			
Spring-cage connection	**VS-09-PROFIBUS-SP**	1654345	1			
D-SUB complete connector, for CANopen®, shell size 1, female, screw connection, shielded						
Female	**VS-09-CAN**	1689307	1			
D-SUB panel mounting frame, for taking up D-SUB contact inserts						
D-SUB 09				**VS-09-A**	1688366	5
D-SUB EMC shroud, for the IP67 panel mounting frame, for shield contacting to the housing panel						
D-SUB 09				**VS-09-A-EMV-S**	1688463	5
D-SUB connector set						
D-SUB 09				**VS-09-SET-EMV**	1689158	1

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D-SUB connectors, IP20/IP67

Screw connection
Fixing: 2.5 mm hole

D-SUB panel mounting frame IP67, with integrated gender changer

	Technical data	Technical data	
Electrical data			
Rated voltage	60 V	125 V	125 V
Rated current	5 A	5 A	5 A
Overvoltage category	III	III	III
Material data			
Housing material	Steel	PA	PA
Contact material	Cu	Copper alloy	Copper alloy
Contact surface material	Au/Ni	Hard gold-plated over nickel	Hard gold-plated over nickel
Contact carrier material	PBTP	Polyester GF	Polyester GF
Flammability rating in accordance with UL 94	V0	V0	V0
Mechanical data			
Number of positions	9	9	9
Color	-	gray	gray
Degree of pollution	2	2	2
Degree of protection	IP20	IP67	IP67
Connection method	Screw connection	-	-
Conductor cross section	0.14 mm² ... 0.5 mm²	-	-
Connection cross section AWG	26 ... 20	-	-
Insertion/withdrawal cycles	≥ 200	≥ 200	≥ 200
Temperature data			
Ambient temperature (operation)	-20°C ... 80°C	-40°C ... 80°C	-40°C ... 80°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
D-SUB contact insert						
Male	**VS-09-ST-DSUB/10-MPT-0,5**	1688379	10			
Female	**VS-09-BU-DSUB/9-MPT-0,5**	1688395	10			
D-SUB panel mounting frame, with integrated gender changer, shielded						
D-SUB 09, male/male				**VS-09-A-GC-ST/ST**	1689705	5
D-SUB 09, female/female				**VS-09-A-GC-BU/BU**	1689695	5
D-SUB coupling, with integrated gender changer, shielded						
D-SUB 09, male/male				**VS-09-KU-ST/ST**	1689640	5
D-SUB 09, female/female				**VS-09-KU-BU/BU**	1689637	5

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Signal contacts

Contacts for standard D-SUB contact carriers

Contacts for high density D-SUB contact carriers

Technical data

	AWG 28 ... 26	AWG 24 ... 20
Electrical data		
Rated voltage	-	-
Rated current	5 A (at 20°C)	5 A (at 20°C)
Contact material	Copper alloy	Copper alloy
Contact surface material	0.2 µm, gold over nickel	0.2 µm, gold over nickel
Mechanical data		
Connection method	Crimp connection	Crimp connection
Conductor cross section	0.08 mm² ... 0.12 mm²	0.2 mm² ... 0.5 mm²
Connection cross section AWG	28 ... 26	24 ... 20
Insertion/withdrawal cycles	≥ 200	≥ 200
Temperature data		
Ambient temperature (operation)	-55°C ... 130°C	-55°C ... 130°C

Technical data

CUC-DSC-...BAU-S/DSC22
-
3 A
Copper alloy
0.2 µm, gold over nickel
Crimp connection
0.08 mm² ... 0.34 mm²
28 ... 22
≥ 200
-55°C ... 115°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Turned male crimp contacts, for D-SUB contact inserts with standard contact density, gold-plated surface			
AWG 28 ... 26	**CUC-DSC-C1BAU-S/DSC28**	1418784	100
AWG 24 ... 20	**CUC-DSC-C1BAU-S/DSC24**	1418786	100
Turned female crimp contacts, for D-SUB contact inserts with standard contact density, gold-plated surface			
AWG 28 ... 26	**CUC-DSC-J1BAU-S/DSC28**	1418787	100
AWG 24 ... 20	**CUC-DSC-J1BAU-S/DSC24**	1418788	100
Turned crimp contacts, for D-SUB contact inserts with high density, gold-plated surface			
AWG 28 ... 22, male	**CUC-DSC-C1BAU-S/DSC22**	1418789	100
AWG 28 ... 22, female	**CUC-DSC-J1BAU-S/DSC22**	1418790	100

Accessories

Description	Type	Order No.	Pcs./Pkt.
Crimping pliers, for turned contacts, universal cross section setting, up to a maximum of 2.5 mm², digital display with 0.01 mm increments, unlockable pressure lock, lateral entry, including positioning tool			
for turned contacts, four-mandrel crimping	**CRIMPFOX-TC MP**	1212510	1
Insertion/Extraction Tool, for fitting and removing the D-SUB **standard** signal contacts	**VS-IET-DSUB-SIGNAL-STD**	1658794	1
Insertion/Extraction Tool, for fitting and removing the D-SUB **High Density** signal contacts			

Accessories

Type	Order No.	Pcs./Pkt.
CRIMPFOX RC 2,5	1205448	1
VS-IET-DSUB-SIGNAL-HD	1658503	1

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Power contacts

With straight solder cups or angled solder pins

With screw connection

	Technical data		Technical data
	VS.../2,6	VS-.../4,6	VS-...SC-2,6
Electrical data			
Rated voltage	-	-	-
Rated current	20 A (at 20°C)	40 A (at 20°C)	20 A
Material data			
Contact material	Copper alloy	Copper alloy	Copper alloy
Contact surface material	Au/Sn	Au/Sn	Hard gold-plated over nickel
Mechanical data			
Connection method	Solder cup	Solder cup	Screw connection
Conductor cross section	2 mm² ... 3.5 mm²	5 mm² ... 8.5 mm²	0.75 mm² ... 2 mm²
Connection cross section AWG	14 ... 12	10 ... 8	18 ... 14
Insertion/withdrawal cycles	≥ 500	≥ 500	≥ 500
Temperature data			
Ambient temperature (operation)	-55°C ... 130°C	-55°C ... 130°C	-55°C ... 155°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power contact, for D-SUB combination inserts, with straight solder cup, gold-plated surface						
Up to 20 A, male	**VS-ST-LK-3,6/22,4/2,6**	1688243	100			
Up to 40 A, male	**VS-ST-LK-3,6/22,4/4,6**	1688269	100			
Up to 20 A, female	**VS-BU-LK-3,6/22,8/2,6**	1688256	100			
Up to 40 A, female	**VS-BU-LK-3,6/22,8/4,6**	1688272	100			
Power contact, for D-SUB combination inserts, with straight solder pin, gold-plated surface						
Up to 20 A, male	**CUC-DSC-J1MAU-S/DSLS:100**	1426074	100			
Up to 20 A, female	**CUC-DSC-C1MAU-S/DSLS:100**	1426073	100			
Power contact, for D-SUB combination inserts, with angled solder pins for PCB mounting, gold-plated surface						
Up to 40 A, male	**VS-ST-LH-3,6/18/3,8**	1655467	100			
Up to 40 A, female	**VS-BU-LH-3,6/18/3,8**	1655454	100			
Power contact, for D-SUB combination inserts, with straight screw connection, gold-plated surface						
Up to 40 A, male				**VS-ST-SC-2,6**	1655483	30
Up to 40 A, female				**VS-BU-SC-2,6**	1655470	30
	Accessories			**Accessories**		
Removal tool	**HC-M4-KOAX-EWZ**	1676747	1	**HC-M4-KOAX-EWZ**	1676747	1

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Sleeve housings and contact inserts with IP20 degree of protection

Type				Order No.	Signal					
					Solder connection					
					Solder cups					
					VS-...-ST-DSUB-EG VS-...-BU-DSUB-EG			VS-...-ST-DSUB-HD-EG VS-...-BU-DSUB-HD-EG		
					D-SUB contact insert Fixing: 3 mm drill hole			D-SUB contact insert, high-position Fixing: 3 mm drill hole		
					Number of positions	Male	Female	Number of positions	Male	Female
IP20, all metal	Screw locking	Straight		CUC-DST-GZNI-S/DSSC9	1419722	9	1688793	1688803	15	1655111	1655108
				CUC-DST-GZNI-S/DSSC15	1419724	15	1688874	1688887	26	1655179	1655166
				CUC-DST-GZNI-S/DSSC25	1419727	25	1689899	1689909	44	1655234	1655221
				CUC-DST-GZNI-S/DSSC25	1419727						
				CUC-DST-GZNI-S/DSSC15	1419724						
				CUC-DST-GZNI-S/DSSC25	1419727						
				CUC-DST-GZNI-S/DSSC25	1419727						
		Angled		CUC-DST-GZNI-A/DSSC9	1419723	9	1688793	1688803	15	1655111	1655108
				CUC-DST-GZNI-A/DSSC15	1419725	15	1688874	1688887	26	1655179	1655166
				CUC-DST-GZNI-A/DSSC25	1419728	25	1689899	1689909	44	1655234	1655221
				CUC-DST-GZNI-A/DSSC25	1419728						
				CUC-DST-GZNI-A/DSSC15	1419725						
				CUC-DST-GZNI-A/DSSC25	1419728						
				CUC-DST-GZNI-A/DSSC25	1419728						
	Snap-in locking	Straight		CUC-DST-GZNI-S/DSFL9	1419746	9	1688793	1688803	15	1655111	1655108
				CUC-DST-GZNI-S/DSFL15	1419756	15	1688874	1688887	26	1655179	1655166
				CUC-DST-GZNI-S/DSFL25	1419758	25	1689899	1689909	44	1655234	1655221
				CUC-DST-GZNI-S/DSFL25	1419758						
				CUC-DST-GZNI-S/DSFL15	1419756						
				CUC-DST-GZNI-S/DSFL25	1419758						
				CUC-DST-GZNI-S/DSFL25	1419758						
		Angled		CUC-DST-GZNI-A/DSFL9	1419754	9	1688793	1688803	15	1655111	1655108
				CUC-DST-GZNI-A/DSFL15	1419757	15	1688874	1688887	26	1655179	1655166
				CUC-DST-GZNI-A/DSFL25	1419759	25	1689899	1689909	44	1655234	1655221
				CUC-DST-GZNI-A/DSFL25	1419759						
				CUC-DST-GZNI-A/DSFL15	1419757						
				CUC-DST-GZNI-A/DSFL25	1419759						
				CUC-DST-GZNI-A/DSFL25	1419759						
IP20, metal-plated	Screw locking	Straight		CUC-DST-GPME-S/DSSC9	1419705	9	1688793	1688803	15	1655111	1655108
				CUC-DST-GPME-S/DSSC15	1419710	15	1688874	1688887	26	1655179	1655166
				CUC-DST-GPME-S/DSSC25	1419719	25	1689899	1689909	44	1655234	1655221
				CUC-DST-GPME-S/DSSC25	1419719						
				CUC-DST-GPME-S/DSSC15	1419710						
				CUC-DST-GPME-S/DSSC25	1419719						
				CUC-DST-GPME-S/DSSC25	1419719						
		Angled		CUC-DST-GPME-A/DSSC9	1419706	9	1688793	1688803	15	1655111	1655108
				CUC-DST-GPME-A/DSSC15	1419718	15	1688874	1688887	26	1655179	1655166
				CUC-DST-GPME-A/DSSC25	1419721	25	1689899	1689909	44	1655234	1655221
				CUC-DST-GPME-A/DSSC25	1419721						
				CUC-DST-GPME-A/DSSC15	1419718						
				CUC-DST-GPME-A/DSSC25	1419721						
				CUC-DST-GPME-A/DSSC25	1419721						
	Snap-in locking	Straight		CUC-DST-GPME-S/DSFL9	1419729	9	1688793	1688803	15	1655111	1655108
				CUC-DST-GPME-S/DSFL15	1419731	15	1688874	1688887	26	1655179	1655166
				CUC-DST-GPME-S/DSFL25	1419736	25	1689899	1689909	44	1655234	1655221
				CUC-DST-GPME-S/DSFL25	1419736						
				CUC-DST-GPME-S/DSFL15	1419731						
				CUC-DST-GPME-S/DSFL25	1419736						
				CUC-DST-GPME-S/DSFL25	1419736						
		Angled		-	-	-	-	-	-	-	-
				CUC-DST-GPME-A/DSFL15	1419757	15	1688874	1688887	26	1655179	1655166
				CUC-DST-GPME-A/DSFL25	1419741	25	1689899	1689909	44	1655234	1655221
				CUC-DST-GPME-A/DSFL25	1419741						
				CUC-DST-GPME-A/DSFL15	1419757						
				CUC-DST-GPME-A/DSFL25	1419741						
				CUC-DST-GPME-A/DSFL25	1419741						

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Signal						Hybrid			Power				
Crimp connection						Solder connection						Screw connection	
Contact carriers for crimp contacts						Solder cups						AWG 28 ... 16	
VS-...-ST-DSUB-CD-... VS-...-BU-DSUB-CD-...			VS-...-ST-DSUB-HD-CD-B VS-...-BU-DSUB-HD-CD-B			VS-...-ST-DSUB-...P-...S VS-...-BU-DSUB-...P-...S			VS-...-ST-DSUB-...P VS-...-BU-DSUB-...P			PSC 1,5/...-F	
D-SUB contact carrier Fixing: 3 mm drill hole			D-SUB contact carrier, high-position Fixing: 3 mm drill hole			D-SUB contact insert Fixing: 3 mm drill hole			D-SUB contact carrier Fixing: 3 mm drill hole			D-SUB contact insert Fixing: 3 mm drill hole	
Number of positions	Male	Female	Number of positions	Male	Female	Number of positions	Male	Female	Number of positions	Male	Female	Number of positions	Female
9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
						4PK-5S	1655386	1655373					
						1PK-10S	1418755	1418759					
						2PK-15S	1418757	1418760					
						1PK-20S	1418758	1418761					
9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
						4PK-5S	1655386	1655373					
						1PK-10S	1418755	1418759					
						2PK-15S	1418757	1418760					
						1PK-20S	1418758	1418761					
9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
						4PK-5S	1655386	1655373					
						1PK-10S	1418755	1418759					
						2PK-15S	1418757	1418760					
						1PK-20S	1418758	1418761					
9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
						4PK-5S	1655386	1655373					
						1PK-10S	1418755	1418759					
						2PK-15S	1418757	1418760					
						1PK-20S	1418758	1418761					
9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
						4PK-5S	1655386	1655373					
						1PK-10S	1418755	1418759					
						2PK-15S	1418757	1418760					
						1PK-20S	1418758	1418761					
9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
						4PK-5S	1655386	1655373					
						1PK-10S	1418755	1418759					
						2PK-15S	1418757	1418760					
						1PK-20S	1418758	1418761					
9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
						4PK-5S	1655386	1655373					
						1PK-10S	1418755	1418759					
						2PK-15S	1418757	1418760					
						1PK-20S	1418758	1418761					
-	-	-	-	-	-	-	-	-	-	-	-		
15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
						4PK-5S	1655386	1655373					
						1PK-10S	1418755	1418759					
						2PK-15S	1418757	1418760					
						1PK-20S	1418758	1418761					

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Panel mounting frames, sleeve housings, and contact inserts with IP67 degree of protection

Housing size 1 to 3

	Type	Order No.		Signal								
				Screw connection			Solder connection					
				AWG 26 ... 20			Solder cups					
				VS-...-ST-DSUB/...-MPT-0,5 VS-...-BU-DSUB/...-MPT-0,5			VS-...-ST-DSUB-EG VS-...-BU-DSUB-EG			VS-...-ST-DSUB-HD-EG VS-...-BU-DSUB-HD-EG		
				D-SUB contact insert Fixing: 2.5 mm drill hole			D-SUB contact insert Fixing: 3 mm drill hole			D-SUB contact insert, high-position Fixing: 3 mm drill hole		
				Number of positions	Male	Female	Number of positions	Male	Female	Number of positions	Male	Female
	IP67 panel mounting frame											
	VS-09-A	1688366		9	1688379	1688395	9	1688793	1688803	15	1655111	1655108
	VS-15-A	1688036		15	1688078	1688094	15	1688874	1688887	26	1655179	1655166
	VS-25-A	1689750		25	1689789	1689776	25	1689899	1689909	44	1655234	1655221
	VS-25-A	1689750										
	VS-15-A	1688036										
	VS-25-A	1689750										
	VS-25-A	1689750										
	IP67 sleeve housing											
	VS-09-T-2M16	1688353		9	1688379	1688395	9	1688793	1688803	15	1655111	1655108
	VS-15-T-2PG11	1688052		15	1688078	1688094	15	1688874	1688887	26	1655179	1655166
	VS-25-T-2M20	1689792		25	1689789	1689776	25	1689899	1689909	44	1655234	1655221
	VS-25-T-2M20	1689792										
	VS-15-T-2PG11	1688052										
	VS-25-T-2M20	1689792										
	VS-25-T-2M20	1689792										
	VS-09-SET-STD	1689145	Panel mounting frame	9	1688379	1688395	9	1688793	1688803	15	1655111	1655108
			Sleeve housing	9	1688379	1688395	9	1688793	1688803	15	1655111	1655108
	VS-15-SET-STD	1689129	Panel mounting frame	15	1688078	1688094	15	1688874	1688887	26	1655179	1655166
			Sleeve housing	15	1688078	1688094	15	1688874	1688887	26	1655179	1655166
	VS-25-SET-STD	1652198	Panel mounting frame	25	1689789	1689776	25	1689899	1689909	44	1655234	1655221
			Sleeve housing	25	1689789	1689776	25	1689899	1689909	44	1655234	1655221
	VS-25-SET-STD	1652198	Panel mounting frame									
			Sleeve housing									
	VS-15-SET-STD	1689129	Panel mounting frame									
			Sleeve housing									
	VS-25-SET-STD	1652198	Panel mounting frame									
			Sleeve housing									
	VS-25-SET-STD	1652198	Panel mounting frame									
			Sleeve housing									
	VS-09-SET-EMV	1689158	Panel mounting frame	9	1688379	1688395	9	1688793	1688803	15	1655111	1655108
			Sleeve housing	9	1688379	1688395	9	1688793	1688803	15	1655111	1655108
	VS-15-SET-EMV	1689132	Panel mounting frame	15	1688078	1688094	15	1688874	1688887	26	1655179	1655166
			Sleeve housing	15	1688078	1688094	15	1688874	1688887	26	1655179	1655166
	VS-25-SET-EMV	1652208	Panel mounting frame	25	1689789	1689776	25	1689899	1689909	44	1655234	1655221
			Sleeve housing	25	1689789	1689776	25	1689899	1689909	44	1655234	1655221
	VS-25-SET-EMV	1652208	Panel mounting frame									
			Sleeve housing									
	VS-15-SET-EMV	1689132	Panel mounting frame									
			Sleeve housing									
	VS-25-SET-EMV	1652208	Panel mounting frame									
			Sleeve housing									
	VS-25-SET-EMV	1652208	Panel mounting frame									
			Sleeve housing									

Note:
Do not use the EMC inner sleeve of the IP67 sleeve housing on the panel mounting side.

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Signal									Hybrid			Power				
Solder connection			Crimp connection						Solder connection						Screw connection	
Angled solder pins			Contact carriers for crimp contacts						Solder cups						AWG 28 ... 16	
VS-...-ST-DSUB-LH-B VS-...-BU-DSUB-LH-B			VS-...-ST-DSUB-CD-... VS-...-BU-DSUB-CD-...			VS-...-ST-DSUB-HD-CD-B VS-...-BU-DSUB-HD-CD-B			VS-...-ST-DSUB-...P-...S VS-...-BU-DSUB-...P-...S			VS-...-ST-DSUB-...P VS-...-BU-DSUB-...P			PSC 1,5/...-F	
D-SUB contact insert Fixing: 2.5 mm drill hole and solder plate			D-SUB contact carrier Fixing: 3 mm drill hole			D-SUB contact carrier, high-position Fixing: 3 mm drill hole			D-SUB contact insert Fixing: 3 mm drill hole			D-SUB contact carrier Fixing: 3 mm drill hole			D-SUB contact insert Fixing: 3 mm drill hole	
Number of positions	Male	Female	Number of positions	Male	Female	Number of positions	Male	Female	Number of positions	Male	Female	Number of positions	Male	Female	Number of positions	Female
9	1654785	1654798	9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421		
15	1654808	1654811	15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214		
25	1654824	1654837	25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
									4PK-5S	1655386	1655373					
									1PK-10S	1418755	1418759					
									2PK-15S	1418757	1418760					
									1PK-20S	1418758	1418761					
9	1654785	1654798	9	1688858	1688861	15	1655137	1655124	1PK-4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1654808	1654811	15	1688939	1688942	26	1655195	1655182	2PK-5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1654824	1654837	25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
									4PK-5S	1655386	1655373					
									1PK-10S	1418755	1418759					
									2PK-15S	1418757	1418760					
									1PK-20S	1418758	1418761					
9	1654785	1654798	9	1688858	1688861	15	1655137	1655124	1PK - 4S	1689006	1689019	2PK	1688418	1688421		
9	1654785	1654798	9	1688858	1688861	15	1655137	1655124	1PK - 4S	1689006	1689019	2PK	1688418	1688421	3	1841909
15	1654808	1654811	15	1688939	1688942	26	1655195	1655182	2PK - 5S	1688227	1688230	3PK	1688201	1688214		
15	1654808	1654811	15	1688939	1688942	26	1655195	1655182	2PK - 5S	1688227	1688230	3PK	1688201	1688214	5	1841912
25	1654824	1654837	25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
25	1654824	1654837	25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
									4PK - 5S	1655386	1655373					
									4PK - 5S	1655386	1655373					
									1PK-10S	1418755	1418759					
									1PK-10S	1418755	1418759					
									2PK-15S	1418757	1418760					
									2PK-15S	1418757	1418760					
									1PK-20S	1418758	1418761					
									1PK-20S	1418758	1418761					
9	1654785	1654798	9	1688858	1688861	15	1655137	1655124	1PK - 4S	1689006	1689019	2PK	1688418	1688421		
9	1654785	1654798	9	1688858	1688861	15	1655137	1655124							3	1841909
15	1654808	1654811	15	1688939	1688942	26	1655195	1655182	2PK - 5S	1688227	1688230	3PK	1688201	1688214		
15	1654808	1654811	15	1688939	1688942	26	1655195	1655182							5	1841912
25	1654824	1654837	25	1689954	1689967	44	1655250	1655247	3PK-10S	1689996	1690008	5PK	1689970	1689983		
25	1654824	1654837	25	1689954	1689967	44	1655250	1655247								
									4PK - 5S	1655386	1655373					
									1PK-10S	1418755	1418759					
									2PK-15S	1418757	1418760					
									1PK-20S	1418758	1418761					

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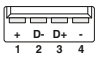
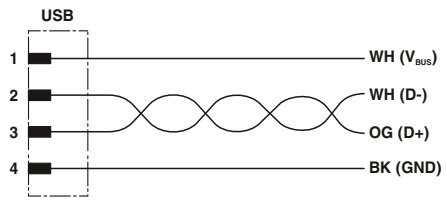
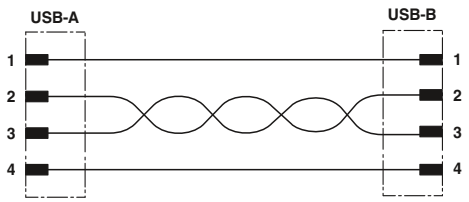
Assembled cables, IP20/IP67

	USB type A plug, IP20	USB type A plug, IP67
		
	Ordering data	Ordering data
Free end	Order No.	Order No.
	1.00 m 1655771 2.00 m 1655784 5.00 m 1655797	1.00 m 1655742 2.00 m 1655755 5.00 m 1655768
USB type B plug, IP20		
	1.00 m 1654853 2.00 m 1653935 5.00 m 1653948	2.00 m 1653896 5.00 m 1653906
USB type B plug, IP67		
	2.00 m 1653919 5.00 m 1653922	2.00 m 1653870 5.00 m 1653883
M12 Mini USB, SPEEDCON		
	1 m 1420168 2 m 1420171 5 m 1420184	



USB cable with free end



USB connector pin assignment

		Technical data	Technical data
		IP20	IP67
Transmission characteristics (category)		USB 2.0	USB 2.0
Cable diameter	[mm]	6.7	6.7
Housing material		PA	PA
Handle color		black	gray
Number of positions		4	4
Degree of protection		IP20	IP67
Temperature data			
Cable, fixed installation	[°C]	-20 ... 60	-20 ... 60
Cable, flexible installation	[°C]	0 ... 50	0 ... 50

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Panel feed-throughs, memory sticks, protective cover

Panel feed-throughs are implemented with the IP67 panel mounting frame and USB female inserts. The USB memory sticks with IP67 protection enable wireless data transmission in harsh industrial environments.

USB panel mounting frame

EAC

Technical data	
	VS-04-BUA-BUB-F/IP67
Electrical data	
Rated voltage	30 V
Transmission speed	480 Mbps
Material data	
Housing material	PC
Flammability rating in accordance with UL 94	V0
Mechanical data	
Number of positions	4
Degree of protection	IP67
Insertion/withdrawal cycles	≥ 1000
Temperature data	
Ambient temperature (operation)	-15°C ... 65°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Version 6, panel mounting frame with USB coupling:			
Slot V6 with USB-B	**CUC-V06-F1PGY-UBB/UBAB**	1411905	1
Slot V6 with USB-A	**CUC-V06-F1PGY-UBA/UBBB**	1411904	1
USB female insert, 4-pos., female USB to flat-ribbon cable terminal strip, 2.54 pitch, female, type A			
	VS-04-BUA-FK-F/IP67	1653854	1
	VS-04-BUB-FK-F/IP67	1653867	1
USB cable, assembled on one side with USB connector			
Connector type: A, length:0.3 m	**VS-04-C-SDA/PH/0,3**	1405552	1
Connector type: B, length:0.3 m	**VS-04-C-SDB/PH/0,3**	1405565	1
Connector type: A on B, length:1.8 m	**VS-04-C-SDA/SDB/1,8**	1405578	1
Freenet panel mounting frame, Version 6, for round mounting cutout, with seal, without mounting screws			
Military gray RAL 7042	**VS-A-F-IP67**	1653744	5
Protective cover for Version 6 panel mounting frame			
Military gray RAL 7042	**VS-08-SD-F**	1652606	5

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Symbol key

With UL style

Suitable for drag chain applications

Resistant to welding sparks

UV-resistant

Extremely flame-retardant

High temperature resistance

Good oil resistance

Good resistance to chemicals

Suitable for torsional stress

Halogen-free

Transmission properties

Suitable for railway applications

INTERBUS cable, type 900

The INTERBUS type 900 cable is designed for highly flexible use in dry and humid rooms and in harsh industrial environments. The remote bus cable is certified in accordance with the requirements of the INTERBUS Club under No. 117.

The cable is halogen-free and flame-retardant in accordance with VDE 0482, Part 265-2-1/ IEC 332-1. The wire insulation of the inner conductor is made from polyethylene.

Outer sheath material **PVC**

Minimum bending radius **7.5 x D**
Tested at **20°C ... 25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
900 **PVC** Green	6-pos.	M12	3 x 2 x 0.25 mm² 32 x 0.1 mm		Yellow, green, white, brown, pink, gray	PE	-30°C ... 70°C	425 428

PROFIBUS cable, type 910

The PROFIBUS type 910 cable is suitable for drag chain applications and for use in harsh industrial environments, and is oil resistant.

Outer sheath material **PUR**

Number of bending cycles **5 million**
Minimum bending radius **10 x D**
Traverse path **10 m**
Acceleration **7 m/s²**
Speed **3 m/s**
Tested at **20°C ... 25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
910 **PUR** Violet	2-pos.	M12	1 x 2 x AWG 24 19 x 0.15 mm		Green, red	PE	-40°C ... 80°C	426 429

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DeviceNet™/CANopen® cable, type 920

The DeviceNet™/CANopen® type 920 cable is designed for flexible installation. It is suitable for drag chain applications and use in harsh industrial environments. The cable is also oil resistant.

Outer sheath material	**PUR**
Number of bending cycles	**5 million**
Minimum bending radius	**10 x D**
Traverse path	**4.5 m**
Acceleration	**3 m/s²**
Speed	**3 m/s**
Tested at	**20°C ... 25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
920 **PUR** Violet	4-pos.	M12, M8	1 x 2 x AWG 22 19 x 0.15 mm + 1 x 2 x AWG 24 19 x 0.15 mm		Red, black, blue, white	PO, PE	-40°C ... 80°C	427 432 433 434

DeviceNet™/CANopen® cable, type 923

The DeviceNet™/CANopen® type 923 cable is designed for flexible installation. It is suitable for drag chain applications and use in harsh industrial environments. The cable is also oil resistant.

Outer sheath material	**PUR**
Number of bending cycles	**5 million**
Minimum bending radius	**10 x D**
Traverse path	**4.5 m**
Acceleration	**3 m/s²**
Speed	**3 m/s**
Tested at	**20°C ... 25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
923 **PUR** Gray	4-pos.	M12, 7/8"	1 x 2 x AWG 22 19 x 0.15 mm + 1 x 2 x AWG 24 19 x 0.15 mm		Red, black, blue, white	PO, PE	-40°C ... 80°C	431

DeviceNet™ cable, type 928

The DeviceNet™/CANopen® type 928 cable is designed for fixed installation. It is suitable for use in harsh industrial environments and is oil resistant.

Outer sheath material	**PVC**
Minimum bending radius	**10 x D**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
928 **PVC** Gray	4-pos.	7/8"	1 x 2 x AWG18 19 x 0.26 mm + 1 x 2 x AWG15 19 x 0.34 mm		Red, black, blue, white	PVC	Fixed: -40°C ... 80°C	See: phoenix contact.net/ products

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FOUNDATION Fieldbus cable, type 960
FOUNDATION Fieldbus/PROFIBUS PA cable, type 961

The FOUNDATION Fieldbus type 960 cable is designed for fixed installation. It is UV-resistant and flame-retardant in accordance with UL 1685, which means that it is suitable for both indoor and outdoor use.

Cable type 961 is available in a blue version designed specifically for use in the hazardous area.

Outer sheath material **PVC**

Minimum bending radius **10 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
960 **PVC** Orange	2-pos.	7/8", M12	2 x AWG 20 7 x 0.3 mm		Blue, orange	PO	-30°C ... 105°C	See: phoenix contact.net/ products
961 **PVC** Blue	2-pos.	7/8", M12	2 x AWG 20 7 x 0.3 mm		Blue, orange	PO	-30°C ... 105°C	430

CC-Link cable, type 990

The CC-Link type 990 cable is designed for fixed indoor installation. The cable is flame-retardant in accordance with UL 1685.

Outer sheath material **PVC**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
990 **PVC** Red	3-pos.	M12	3 x AWG 22 7 x 0.28 mm		White, blue, yellow	Foam PE	-30°C ... 60°C	See: phoenix contact.net/ products

PROFINET cable, type 93A

The PROFINET type 93A cable is designed for fixed installation. It is flame-retardant and its transmission properties meet CAT5.

Outer sheath material **PVC**

Minimum bending radius **7.5 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
93A **PVC** Green	4-pos.	M12, RJ45	4 x AWG 22 single-strand		White, yellow, blue, orange	PE	-25°C ... 80°C	392

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PROFINET cable, type 93B

The PROFINET type 93B cable is designed for flexible installation and is oil resistant up to a degree. It is suitable for outdoor use, as it is UV-resistant for 1200 seconds in accordance with UL 1581. Its transmission properties meet CAT5.

Outer sheath material	**PVC**
Minimum bending radius	**7 x D**
Tested at	**20°C ... 25°C**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
93B **PVC** Green	4-pos.	M12, RJ45	4 x AWG 22 7 x 0.25 mm		White, yellow, blue, orange	PE	-40°C…70°C	394 392 396

PROFINET cable, type 93C

The PROFINET type 93C cable is designed for use in drag chains and is halogen-free and oil resistant. It is UV-resistant and therefore suitable for outdoor use. Its transmission properties meet CAT5.

Outer sheath material	**PUR**
Number of bending cycles	**3 million**
Minimum bending radius	**7.5 x D**
Traverse path	**10 m**
Acceleration	**4 m/s²**
Speed	**4 m/s**
Tested at	**20°C ... 25°C**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
93C **PUR** Green	4-pos.	M12, RJ45	4 x AWG 22 7 x 0.25 mm		White, yellow, blue, orange	PE	-40°C ... 70°C	392 396

PROFINET cable, type 93R

The PROFINET type 93R cable is designed for robot applications. The cable is oil resistant up to a degree. It is suitable for outdoor use, as it is UV-resistant for 1200 seconds in accordance with UL 1581. Its transmission properties meet CAT5.

Outer sheath material	**PUR**
Torsion angle	**±180°**
Torsion cycles	**1 million**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
93R **PUR** Green	4-pos.	M12, RJ45	4 x AWG 22 19 x 0.15 mm		White, yellow, blue, orange	PE	-40°C ... 80°C	392 396

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PROFINET cable, type 937

The PROFINET type 937 cable is designed for railway applications. The cable is oil resistant. It meets the requirements of fire protection standards BS 6853, GM/RT 2130, EN 45545, DIN 5510, NF F16-101, NFPA 130, UNI CEI 11170 and its transmission properties meet CAT5.

Outer sheath material **PE-X**

Minimum bending radius **6 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
937 **PE-X** Black	4-pos.	M12, RJ45	4 x AWG 22 7 x 0.25 mm		White, yellow, blue, orange	PE-X	-40°C ... 90°C	392 396

PROFINET cable, type 93X

This robust PROFINET cable for outdoor use has good oil and fuel resistance. The black outer sheath and the electron beam cross-linked design provide good protection against the influence of UV radiation. The cable meets the requirements of flame resistance standard ISO 6722-1, which is referred to by the European ECE-R 118 regulation. This means that the cable can also be used in buses and trams.

Outer sheath material **PE-X**

Minimum bending radius **6 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
93X **PE-X** Black	4-pos.	M12	4 x AWG 22 7 x 0.25 mm Twisted pair		White, yellow, blue, orange	PE-X	Mobile: -40°C ... 90°C Fixed: -50°C ... 90°C	See: phoenix contact.net/ products

EtherCAT® cable, type 93G

The EtherCAT® type 93G cable is designed for flexible installation. The cable is oil resistant up to a degree. It is suitable for use in harsh industrial environments, as it is UV-resistant for 1200 seconds in accordance with UL 1581. Its transmission properties meet CAT5.

Outer sheath material **PVC**

Minimum bending radius **7 x D**
Tested at **20°C ... 25°C**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
93G **PVC** Green	4-pos.	M12, PP, RJ45	4 x AWG 22 7 x 0.25 mm		White, yellow, blue, orange	PE	-40°C ... 70°C	See: phoenix contact.net/ products

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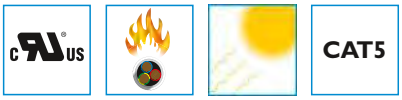
Sercos® cable, type 93K



The Sercos® cable is designed for flexible installation. The cable is oil resistant up to a degree. It is suitable for use in harsh industrial environments, as it is UV-resistant for 1200 seconds in accordance with UL 1581. Its transmission properties meet CAT5.

Outer sheath material **PVC**

Minimum bending radius **7 x D**
Tested at **20°C ... 25°C**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
93K **PVC** Red	4-pos.	M12, PP, RJ45	4 x AWG 22 7 x 0.25 mm		White, yellow, blue, orange	PE	-40°C ... 70°C	See: phoenix contact.net/ products

Ethernet cable, type 93E

The Ethernet type 93E cable is designed for flexible use. The cable is halogen-free and oil resistant. Its transmission properties meet CAT5.

Outer sheath material **PUR**

Minimum bending radius **5 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
93E **PUR** Blue	4-pos.	M12, RJ45	2 x 2 x AWG 26 7 x 0.25 mm		White/orange-orange, white/green-green	PE	-20°C ... 80°C	393 398

Ethernet cable, type 94A

The Ethernet type 94A cable is designed for fixed installation. Its transmission properties meet CAT5.

Outer sheath material **PUR**

Minimum bending radius **7 x D**
Tested at **20°C ... 25°C**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94A **PUR** Blue	8-pos.	M12, PP, RJ45	4 x 2 x AWG 24 single-strand Twisted pair		White/blue-blue, white/orange-orange, white/green-green, white/brown-brown	PE	-20°C ... 70°C	393

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Ethernet cable, type 94B

The Ethernet type 94B cable is designed for flexible installation. The cable is resistant to oil and chemicals and is flame-retardant. Its transmission properties meet CAT5.

Outer sheath material **PUR**

Minimum bending radius **5 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94B **PUR** Blue	8-pos.	M12, RJ45	4 x 2 x AWG 26 7 x 0.25 mm		White/blue-blue, white/orange-orange, white/green-green, white/brown-brown	PE	-40°C ... 80°C	393 400

Ethernet cable, type 94C

The Ethernet cable type 94C is designed for universal use in drag chains. The cable is resistant to oil and chemicals and is flame-retardant. Its transmission properties meet CAT5.

Outer sheath material **PUR**

Minimum bending radius **5 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94C **PUR** Blue	8-pos.	M12, RJ45	4 x 2 x AWG 26 19 x 0.10 mm		White-blue, blue, white-orange, orange, white-green, green, white-brown, brown	PP	-20°C ... 80°C	393 400

Ethernet cable, type 94D

The Ethernet cable type 94D is designed for flexible installation. The cable is oil resistant up to a degree. It is suitable for outdoor use, as it is UV-resistant for 1200 seconds in accordance with UL 1581. Its transmission properties meet CAT5.

Outer sheath material **PVC**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94D **PVC** Black	8-pos.	M12, PP, RJ45	4 x 2 x AWG 26 7 x 0.16 mm Twisted pair		White-blue, blue, white-orange, orange, white-green, green, white-brown, brown	PP	-40°C ... 80°C	393

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Ethernet cable, type 94E

The Ethernet cable type 94E is designed for fixed installation. The cable is resistant to oil and chemicals and is flame-retardant. It is also halogen-free and its transmission properties meet CAT7.

Outer sheath material **FRNC**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94E **FRNC** Blue	8-pos.	M12, PP, RJ45	4 x 2 x AWG 23 single-strand Twisted pair		White-blue, blue, white-orange, orange, white-green, green, white-brown, brown	PE	-20°C ... 80°C	393

Ethernet cable, type 94F

The Ethernet type 94F cable is designed for flexible installation. The cable is resistant to oil and chemicals and is flame-retardant. It is also halogen-free and its transmission properties meet CAT6$_A$.

Outer sheath material **PUR**

Minimum bending radius **10 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94F **PUR** Blue	8-pos.	M12, PP, RJ45	4 x 2 x AWG 26 7 x 0.16 mm Twisted pair		White-blue, blue, white-orange, orange, white-green, green, white-brown, brown	PE	-20°C ... 80°C	402

Ethernet cable, type 94S

The 94S Ethernet cable is designed for use in the railway industry. The cable is halogen-free and resistant to fuels and ozone. Thanks to its high flame resistance and low smoke density, the cable meets the requirements of the following standards for safety in rail vehicles: BS 6853, DIN 5510-2, EN 45545-2, EN 50306-4, NF F16-101, NFPA 130, PN-K-02511, and UIC 564-2. Its transmission properties meet CAT7.

Outer sheath material **PE-X**

Minimum bending radius **6 x D**

Type	Number of positions	Use	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94S **PE-X** Black	8-pos.	M12	4 x 2 x AWG 26 7 x 0.16 mm Twisted pair		White, blue, white, orange, white, green, white, brown	PE-X	-40°C ... 80°C	404

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Ethernet hybrid cable, type 94H

The Ethernet type 94H hybrid cable is designed for drag chain applications. It has four wires for data transmission and four wires for power supply. The cable is oil resistant and flame-retardant. It is also halogen-free and its transmission properties are in accordance with CAT5.

Outer sheath material	**PUR**
Number of bending cycles	**2 million**
Minimum bending radius	**10 x D**
Traverse path	**4.5 m**
Acceleration	**3 m/s²**
Speed	**3 m/s**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94H **PUR** Black	8-pos.	M12	1 x 4 x AWG 26 19 x 0.15 mm 1 x 4 x AWG 20 19 x 0.6 mm		White-orange, orange, white-green, green, white, blue, brown, black	PP	-40°C ... 90°C	405

Ethernet cable, type 94Z

The type 94Z Ethernet cable is designed for flexible installation. The cable is resistant to oil and chemicals and is flame-retardant. Its transmission properties are in accordance with CAT5.

Outer sheath material	**PUR**
Minimum bending radius	**51.2 mm**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
94Z **PUR** Blue	8-pos.	RJ45	4 x 2 x AWG 26 7 x 0.16 mm		White-blue, blue, white-orange, orange, white-green, green, white-brown, brown	PE	-20°C ... 80°C	405

VARAN cable, type 970

The VARAN type 970 cable is designed for flexible installation. The cable is resistant to oil and chemicals and is flame-retardant. Its transmission properties are in accordance with CAT5.

Outer sheath material	**Santoprene**
Minimum bending radius	**7.5 x D**
Tested at	**20°C ... 25°C**

Type	Number of positions	Application	Structure	Cross section	Wire colors	Wire insulation	Temperature range	Page
970 **Santoprene** Black	6-pos.	M12, PP, RJ45	1 x 2 x AWG 22 19 x 0.1 mm + 2 x 2 x AWG 26 19 x 0.1 mm		Brown, blue White-orange, orange, white-green, green	PE	-40°C ... 80°C	See: phoenix contact.net/ products

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Installation systems

Connect cables quickly and easily without special tools: with the IPD and QPD installation systems from Phoenix Contact.

Depending on the application, choose between simple cable connections, power distributions or device connections. Save up to 80% in cabling time, thanks to the convenient Push-in and QUICKON IDC displacement connection.

IPD installation system

Simply plug in once for a secure connection: Experience simple power distribution in the field with the IPD installation system.

The IPD system is fully plug-in, thanks to the Push-in connection and field-side fast locking system. The IPD system enables the time-saving installation of connectors, panel feed-throughs and distributors up to 5 x 2.5 mm². The convenient handling ensures that this is possible even in difficult installation situation.

QPD installation system

Industrial power distribution does not have to be time-consuming or complicated. The robust QPD installation system is proof of this.

Thanks to the proven QUICKON IDC fast connection, cables up to 5 x 6.0 mm² can be connected quickly and easily, without the need for stripping or special tools.

Your web code: #0541

IPD installation system

IPD installation system overview **466**

IPD installation system 2.5 mm²

Panel feed-throughs **468**

QPD installation system

QPD installation system overview **470**

QPD installation system 1.5 mm²

H-distributors **472**

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QPD installation system 2.5 mm²

H-distributors **481**

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QPD installation system 6.0 mm²

H-distributors **489**

T-distributors **490**

Cable connectors **491**

Panel feed-throughs **492**

Connectors **493**

Accessories **494**

QPD special solutions **495**

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Easy distribution of power

Widely branched buildings or infrastructures place stringent demands on power distribution. The IPD installation system is fully plug-in and enables the tool-free assembly of 3- and 5-pos. cables with a conductor cross section of up to 2.5 mm².

Time-saving wiring in the field

Field-side cabling does not have to be complicated: As a tool-free connection technology, Push-in enables time-saving assembly through the direct plugging of pre-treated and rigid conductors. Simply open the terminal point to connect fine-flexible litz wires and to release a connected conductor.

Reliable installation

Long-term stable cabling in outdoor and industrial environments: Thanks to IP67 throughout the entire system, your installation is protected against splash water and dust, for particularly reliable installations in harsh environments.

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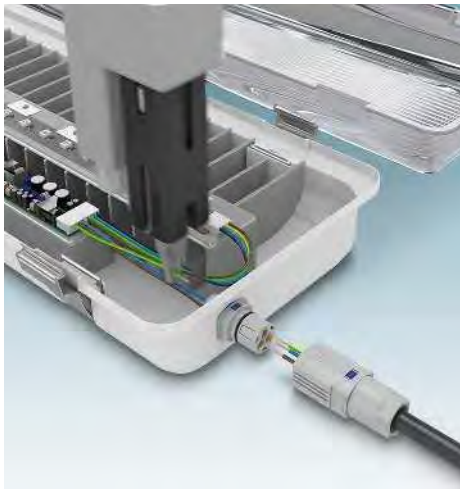
Simple locking

Installation can be so easy, especially in difficult installation situations. To enable you to work conveniently, even under adverse conditions, the IPD connectors are equipped with a fast locking system.
The plug-in position engages clearly and securely, with polarization against incorrect plugging and touch protection in accordance with DIN EN 0105.

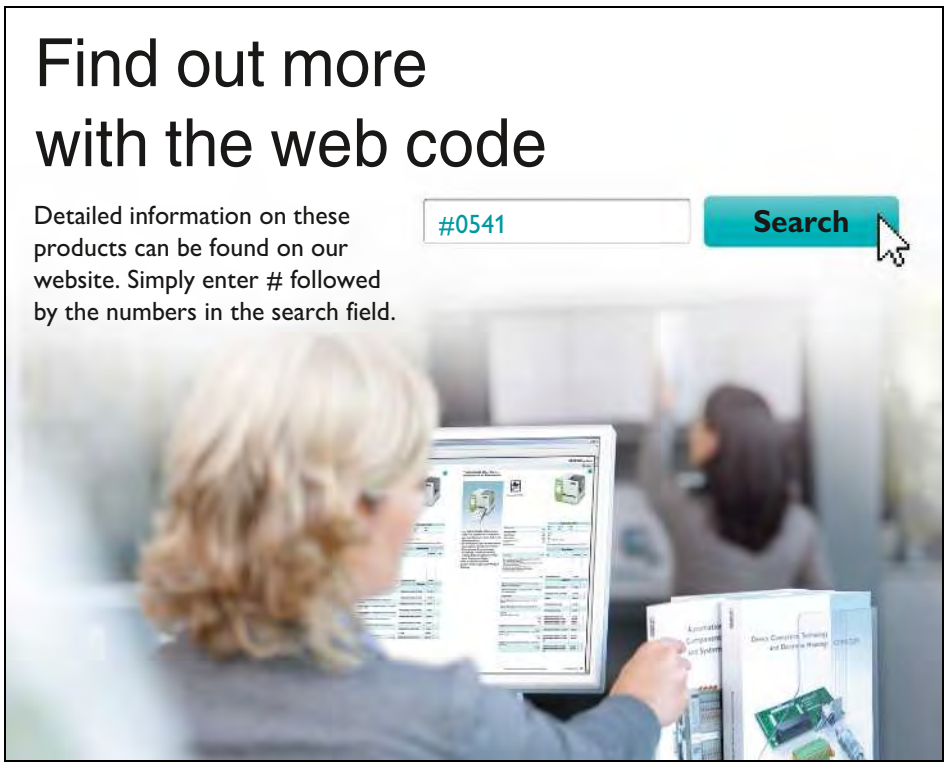
Flexible installation on site

The connectors for assembly facilitate especially great cabling projects considerably. Order connectors that are suitable for your project and adjust the cable length flexibly on site.



Automated wiring

Thanks to the Push-in connection on the device side, wiring robots can wire the components in the device automatically. The IPD panel feed-throughs are therefore ideal for lighting applications.



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Panel feed-throughs, 2.5 mm², with Push-in connection on both sides

- Devices no longer need to be opened in order to connect the cables
- User-friendly connection, even on devices that are difficult to access
- For internal Push-in connection, rigid conductors are simply stripped and inserted in the connection
- Touch-proof in accordance with DIN EN 50274
- Also available in black

new

2-pos. + PE

new

4-pos. + PE

	Technical data	Technical data
	3+PE-pos.	4+PE-pos.
General data		
Degree of protection	IP66 / IP68	IP66 / IP68
Electrical data		
Rated voltage (III/3)	690 V	690 V
Rated surge voltage	6 kV	6 kV
Rated current	20 A	20 A
Overvoltage category / Degree of pollution	III / 3	III / 3
Material data		
Housing material	PA	PA
Contact material	Cu	Cu
Mechanical data		
Impact category	IK07	IK07
Color	light gray	light gray
Connection frequency	max. 10	max. 10
Conductor cross section [mm²] rigid/flexible	0.5 mm² ... 2.5 mm² / 0.5 mm² ... 2.5 mm²	0.5 mm² ... 2.5 mm² / 0.5 mm² ... 2.5 mm²
Temperature data		
Ambient temperature (operation)	-40°C ... 100°C	-40°C ... 100°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Panel feed-through, with M20x1.5 mounting flange	**IPD WD 3P2,5 M20 GY**	1047319	1			
Panel feed-through, with M25x1.5 mounting flange	**IPD WD 3P2,5 M25 GY**	1047322	1	**IPD WD 5P2,5 M25 GY**	1047344	1

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Panel feed-throughs, 2.5 mm², with litz wires and Push-in connection on one side

- Devices no longer need to be opened in order to connect the cables
- User-friendly connection, even on devices that are difficult to access
- Touch-proof in accordance with DIN EN 50274
- Also available in black

new

2-pos. + PE

new

4-pos. + PE

	Technical data	Technical data
	2+PE-pos.	4+PE-pos.
General data		
Degree of protection	IP66 / IP68	IP66 / IP68
Electrical data		
Rated voltage (III/3)	690 V	690 V
Rated surge voltage	6 kV	6 kV
Rated current	20 A	20 A
Overvoltage category / Degree of pollution	III / 3	III / 3
Material data		
Housing material	PA	PA
Contact material	Cu	Cu
Mechanical data		
Impact category	IK07	IK07
Color	light gray	light gray
Connection frequency	max. 10	max. 10
Conductor cross section [mm²] rigid/flexible	0.5 mm² ... 2.5 mm² / 0.5 mm² ... 2.5 mm²	0.5 mm² ... 2.5 mm² / 0.5 mm² ... 2.5 mm²
Temperature data		
Ambient temperature (operation)	-40°C ... 100°C	-40°C ... 100°C

		Ordering data			Ordering data		
Description	Cable length	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Panel feed-through, with M20x1.5 mounting flange							
	0.5 m	**IPD WD 3P2,5 0,5 M20 GY**	1047347	1			
	1 m	**IPD WD 3P2,5 1,0 M20 GY**	1047350	1			
Panel feed-through, with M25x1.5 mounting flange							
	0.5 m	**IPD WD 3P2,5 0,5 M25 GY**	1047354	1	**IPD WD 5P2,5 0,5 M25 GY**	1047360	1
	1 m	**IPD WD 3P2,5 1,0 M25 GY**	1047356	1	**IPD WD 5P2,5 1,0 M25 GY**	1047364	1

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QPD installation system overview

Easy distribution of power

With the QPD system you can choose either fixed or plug-in connections to construct flexible distribution solutions. Thanks to the proven QUICKON IDC displacement connection, you can connect cables of up to 5 x 6.0 mm² quickly and easily, without the need for stripping or special tools.

Panel feed-throughs for devices

Convenient installation of a connector begins during the device manufacturer's design-in process. Install the QPD panel feed-throughs directly in the device. The connection can be made on site without having to open the device. The electronics remain continuously protected and the protection class of the device is retained

Reliable installation

The IP66/IP68/IP69K degrees of protection and robust design make the QPD ideal for use outside and in wet areas.

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Secure connection in just a few steps

With insulation displacement technology, the cable is connected without stripping the insulation. Simply remove the sheath and prepare the PE conductor. Insert the wires into the nut and snap into the marked wire guides.

Easy assembly without special tools

Cut the ends of the litz wires flush. Then place the union nut onto the contact carrier and tighten.

Fast connection with QUICKON

The fast connection technology automatically establishes the contact and strain relief when tightened. The end position is reached when the connection snaps audibly into place. The connection can be disconnected at any time, which means that components can be reused.

Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # followed by the numbers in the search field.

#0541 Search

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H-distributors, 1.5 mm²

- Can be used as a H-distributor with continuous master cable
- Can be used a star distributor
- Can be used as a Y-distributor with a test connection
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions

with four QUICKON nuts

without QUICKON nut

	Technical data			Technical data		
	2+PE-pos.	3+PE-pos.	4+PE-pos.	2+PE-pos.	3+PE-pos.	4+PE-pos.
General data						
Degree of protection	IP66 / IP68 / IP69K			IP66 / IP68 / IP69K		
Electrical data						
Rated voltage (III/3)	690 V			690 V		
Rated surge voltage	6 kV			6 kV		
Rated current	17.5 A			17.5 A		
Overvoltage category / Degree of pollution	III / 3			III / 3		
Material data						
Housing material	PA			PA		
Contact material	Cu			Cu		
Flammability rating in accordance with UL 94	V0			V0		
Mechanical data						
Impact category	IK07			IK07		
Color	black			black		
Connector data QUICKON connection						
Core insulation	PVC/PE/TPE/rubber			PVC/PE/TPE/rubber		
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm			VDE 0295 class 1 to 6/min. 0.15 mm		
Connection frequency	max. 10			max. 10		
Conductor cross section [mm²] rigid/flexible	0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²			0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²		
Conductor cross section [AWG]	20 ... 16			20 ... 16		
Temperature data						
Ambient temperature (operation)	-40°C ... 100°C			-40°C ... 100°C		
Temperature when conductor connected	-5°C ... 50°C			-5°C ... 50°C		

	Ordering data						Ordering data					
Description	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	2+PE-pos.		3+PE-pos.		4+PE-pos.		2+PE-pos.		3+PE-pos.		4+PE-pos.	
H-distributor, with **four** QUICKON nuts and one sealing bolt, for cable diameters:												
4 mm ... 9 mm	1414719	1	1414715	1								
8 mm ... 13 mm	1414720	1	1414716	1								
5 mm ... 10 mm					1414755	1						
9 mm ... 14 mm					1414756	1						
H-distributor, without QUICKON nuts							1414721	1	1414717	1	1414757	1
QUICKON nut, for connections up to 1.5 mm², for cable diameter:												
4 mm ... 9 mm							1415099	1	1415097	1		
8 mm ... 13 mm							1415100	1	1415098	1		
5 mm ... 10 mm											1415101	1
9 mm ... 14 mm											1415104	1

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T-distributors, 1.5 mm²

– Can be used as a T-distributor with continuous master cable
– Touch-proof in accordance with DIN EN 50274
– Also available in gray color versions

with three QUICKON nuts

with two QUICKON nuts

	Technical data			Technical data		
	2+PE-pos.	3+PE-pos.	4+PE-pos.	2+PE-pos.	3+PE-pos.	4+PE-pos.
General data						
Degree of protection	IP66 / IP68 / IP69K			IP66 / IP68 / IP69K		
Electrical data						
Rated voltage (III/3)	690 V			690 V		
Rated surge voltage	6 kV			6 kV		
Rated current	17.5 A			17.5 A		
Overvoltage category / Degree of pollution	III / 3			III / 3		
Material data						
Housing material	PA			PA		
Contact material	Cu			Cu		
Flammability rating in accordance with UL 94	V0			V0		
Mechanical data						
Impact category	IK07			IK07		
Color	black			black		
Connector data QUICKON connection						
Core insulation	PVC/PE/TPE/rubber			PVC/PE/TPE/rubber		
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm			VDE 0295 class 1 to 6/min. 0.15 mm		
Connection frequency	max. 10			max. 10		
Conductor cross section [mm²] rigid/flexible	0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²			0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²		
Conductor cross section [AWG]	20 ... 16			20 ... 16		
Temperature data						
Ambient temperature (operation)	-40°C ... 100°C			-40°C ... 100°C		
Temperature when conductor connected	-5°C ... 50°C			-5°C ... 50°C		

	Ordering data						Ordering data					
Description	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	2+PE-pos.		3+PE-pos.		4+PE-pos.		2+PE-pos.		3+PE-pos.		4+PE-pos.	
T-distributor, for cable diameter:												
4 mm ... 9 mm	1414712	1	1414708	1			1414711	1	1414707	1		
8 mm ... 13 mm	1414714	1	1414710	1			1414713	1	1414709	1		
5 mm ... 10 mm					1414753	1					1414751	1
9 mm ... 14 mm					1414754	1					1414752	1
QUICKON nut, for connections up to 1.5 mm², for cable diameter:												
4 mm ... 9 mm							1415099	1	1415097	1		
8 mm ... 13 mm							1415100	1	1415098	1		
5 mm ... 10 mm											1415101	1
9 mm ... 14 mm											1415104	1

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Cable connectors, 0.14 mm² ... 1.5 mm²

- Easy cable extension or cable repairs
- The QUICKON connections feature different position markings and mechanical coding
- Touch-proof in accordance with DIN EN 50274

with two QUICKON nuts

with two QUICKON nuts

	Technical data		Technical data	
	4-pos.	4-pos.	4-pos.	3+PE-pos.
General data				
Degree of protection	IP65 / IP67		IP65 / IP67	
Electrical data				
Rated voltage (III/3)	125 V	250 V	500 V	
Rated surge voltage	2.5 kV	4 kV	6 kV	
Rated current	5 A	9 A	15 A	
Overvoltage category / Degree of pollution	III / 3		III / 3	
Material data				
Housing material	PA		PA	
Contact material	Steel		CuZn	
Contact surface material	Tin-plated		Tin-plated	
Flammability rating in accordance with UL 94	V0		V0	
Impact category	IK06		IK06	
Connector data QUICKON connection				
Core insulation	PVC / PE / PP / rubber		PVC / PE	
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.10 mm	VDE 0295 class 1 to 6/ min. 0.15 mm	VDE 0295 class 1 to 6/ min. 0.15 mm	
Connection frequency	10		10	
Conductor cross section [mm²] rigid/flexible	0.14 mm² ... 0.25 mm² / 0.14 mm² ... 0.34 mm²	0.34 mm² ... 0.5 mm² / 0.34 mm² ... 0.75 mm²	0.75 mm² ... 1 mm² / 0.75 mm² ... 1.5 mm²	
Conductor cross section [AWG]	26 ... 22	22 ... 18	18 ... 16	
Temperature data				
Ambient temperature (operation)	-40°C ... 80°C		-40°C ... 80°C	
Temperature when conductor connected	-5°C ... 50°C		-5°C ... 50°C	

	Ordering data			Ordering data		
Description	Order No.	Pcs./Pkt.		Order No.	Pcs./Pkt.	
	4-pos.			4-pos.		
	Order No.	Pcs./Pkt.		Order No.	Pcs./Pkt.	
	4-pos.			3+PE-pos.		
Cable connector, for connecting round cables, for cable diameters:						
3.5 mm ... 6 mm, 4-pos.	1641879	1				
4.0 mm ... 8 mm, 4-pos.			1642140	1		
6 mm ... 12 mm, 4-pos.					1642153	1
6 mm ... 12 mm, 3+PE-pos.						1642182	1

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Cable connectors, 1.5 mm²

– Easy cable extension or cable repairs
– The QUICKON connections at opposite ends feature different position markings and mechanical coding
– The 1.5 mm² connector can be used here instead of the QUICKON nut
– Also available in gray color versions

with two QUICKON nuts

with one QUICKON nut

	Technical data			Technical data		
	2+PE-pos.	3+PE-pos.	4+PE-pos.	2+PE-pos.	3+PE-pos.	4+PE-pos.
General data						
Degree of protection	IP66 / IP68 / IP69K			IP66 / IP68 / IP69K		
Electrical data						
Rated voltage (III/3)	690 V			690 V		
Rated surge voltage	6 kV			6 kV		
Rated current	17.5 A			17.5 A		
Overvoltage category / Degree of pollution	III / 3			III / 3		
Material data						
Housing material	PA			PA		
Contact material	Cu			Cu		
Contact surface material	silver-plated			silver-plated		
Flammability rating in accordance with UL 94	V0			V0		
Impact category	IK07			IK07		
Color	black			black		
Connector data QUICKON connection						
Core insulation	PVC/PE/TPE/rubber			PVC/PE/TPE/rubber		
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm			VDE 0295 class 1 to 6/min. 0.15 mm		
Connection frequency	10			10		
Conductor cross section [mm²] rigid/flexible	0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²			0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²		
Conductor cross section [AWG]	20 ... 16			20 ... 16		
Temperature data						
Ambient temperature (operation)	-40°C ... 100°C			-40°C ... 100°C		
Temperature when conductor connected	-5°C ... 50°C			-5°C ... 50°C		

	Ordering data						Ordering data					
Description	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	2+PE-pos.		3+PE-pos.		4+PE-pos.		2+PE-pos.		3+PE-pos.		4+PE-pos.	
Cable connector, for cable diameter:												
4 mm ... 9 mm	1414700	1	1414696	1			1414699	1	1414694	1		
8 mm ... 13 mm	1414702	1	1414698	1			1414701	1	1414697	1		
5 mm ... 10 mm					1414740	1					1414739	1
9 mm ... 14 mm					1414742	1					1414741	1
QUICKON nut, for connections up to 1.5 mm², for cable diameter:												
4 mm ... 9 mm							1415099	1	1415097	1		
8 mm ... 13 mm							1415100	1	1415098	1		
5 mm ... 10 mm											1415101	1
9 mm ... 14 mm											1415104	1

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Panel feed-throughs, 1.5 mm²

- Devices no longer need to be opened in order to connect the cables
- User-friendly connection, even on devices that are difficult to access
- Touch-proof in accordance with DIN EN 50274

with litz wires

with manual solder or spade connector connection

	Technical data		Technical data	
	3+PE-pos.	4-pos.	3-pos.	4-pos.
General data				
Degree of protection	IP65 / IP67		IP65 / IP67	
Electrical data				
Rated voltage (III/3)	500 V		500 V	
Rated surge voltage	6 kV		6 kV	
Rated current	15 A		15 A	
Overvoltage category / Degree of pollution	III / 3		III / 3	
Material data				
Housing material	PA		PA	
Contact material	CuZn		CuZn	
Contact surface material	Tin-plated		Tin-plated	
Flammability rating in accordance with UL 94	V0		V0	
Impact category	IK07		IK07	
Color	black		black	
Connector data QUICKON connection				
Core insulation	PVC / PE		PVC / PE	
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm		VDE 0295 Cl.2-5, min. wire diameter 0.2 mm	VDE 0295 class 1 to 6/ min. 0.15 mm
Connection frequency	10		10	
Conductor cross section [mm²] rigid/flexible	0.75 mm² ... 1 mm² / 0.75 mm² ... 1.5 mm²		0.75 mm² ... 1 mm² / 0.75 mm² ... 1.5 mm²	
Conductor cross section [AWG]	18 ... 16		18 ... 16	
Temperature data				
Ambient temperature (operation)	-40°C ... 80°C		-25°C ... 80°C	-40°C ... 80°C
Temperature when conductor connected	-5°C ... 50°C		-5°C ... 50°C	

		Ordering data				Ordering data			
Description	Cable length	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		3+PE-pos.		4-pos.		3-pos.		4-pos.	
Panel feed-through, with 1.5 mm² litz wire, connecting thread: M20 x 1.5	0.1 m	1584787	10						
	0.5 m			1585045	10				
Panel feed-through, with 4.8 mm x 0.8 mm manual solder/ spade connection, connection thread: M20 x 1.5, color: black, terminal marking: L1, N, PE						1641594	10		
Panel feed-through, with 4.8 mm x 0.8 mm manual solder/ slip-on connection, connecting thread: M20 x 1.5, color: black						1641659	10	1643000	10

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Panel feed-throughs, 1.5 mm², with litz wires

- Devices no longer need to be opened in order to connect the cables
- User-friendly connection, even on devices that are difficult to access
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions

with QUICKON nut

without QUICKON nut

	Technical data			Technical data		
	2+PE-pos.	3+PE-pos.	4+PE-pos.	2+PE-pos.	3+PE-pos.	4+PE-pos.
General data						
Degree of protection	IP66 / IP68 / IP69K			IP66 / IP68 / IP69K		
Electrical data						
Rated voltage (III/3)	690 V			690 V		
Rated surge voltage	6 kV			6 kV		
Rated current	17.5 A			17.5 A		
Overvoltage category / Degree of pollution	III / 3			III / 3		
Material data						
Housing material	PA			PA		
Contact material	Cu			Cu		
Flammability rating in accordance with UL 94	V0			V0		
Mechanical data						
Impact category	IK07			IK07		
Color	black			black		
Connector data QUICKON connection						
Core insulation	PVC/PE/TPE/rubber			PVC/PE/TPE/rubber		
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm			VDE 0295 class 1 to 6/min. 0.15 mm		
Connection frequency	max. 10			max. 10		
Conductor cross section [mm²] rigid/flexible	0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²			0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²		
Conductor cross section [AWG]	20 ... 16			20 ... 16		
Temperature data						
Ambient temperature (operation)	-40°C ... 100°C			-40°C ... 100°C		
Temperature when conductor connected	-5°C ... 50°C			-5°C ... 50°C		

		Ordering data						Ordering data					
Description	Cable length	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
		2+PE-pos.		3+PE-pos.		4+PE-pos.		2+PE-pos.		3+PE-pos.		4+PE-pos.	
Panel feed-through, with M20 x 1.5 mounting flange, **with** QUICKON nut, for cable diameter:													
4 mm ... 9 mm	0.5 m	1414684	1	1414675	1								
4 mm ... 9 mm	1 m	1414685	1	1414676	1								
8 mm ... 13 mm	0.5 m	1414687	1	1414678	1								
8 mm ... 13 mm	1 m	1414688	1	1414679	1								
Panel feed-through, with M25 x 1.5 mounting flange, **with** QUICKON nut, for cable diameters:													
5 mm ... 10 mm	0.5 m					1414730	1						
5 mm ... 10 mm	1 m					1414731	1						
9 mm ... 14 mm	0.5 m					1414733	1						
9 mm ... 14 mm	1 m					1414734	1						
Panel feed-through, with M20 x 1.5 mounting flange, **without** QUICKON nut													
	0.5 m							1414690	1	1414681	1		
	1 m							1414691	1	1414682	1		
Panel feed-through, with M25 x 1.5 mounting flange, **without** QUICKON nut													
	0.5 m											1414736	1
	1 m											1414737	1
QUICKON nut, for connections up to 1.5 mm², for cable diameter:													
4 mm ... 9 mm								1415099	1	1415097	1		
8 mm ... 13 mm								1415100	1	1415098	1		
5 mm ... 10 mm												1415101	1
9 mm ... 14 mm												1415104	1

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Panel feed-throughs, 1.5 mm², with manual solder or spade connector connection

- Devices no longer need to be opened in order to connect the cables
- User-friendly connection, even on devices that are difficult to access
- Also available in gray color versions
- Touch-proof in accordance with DIN EN 50274

with QUICKON nut

without QUICKON nut

	Technical data			Technical data		
	2+PE-pos.	3+PE-pos.	4+PE-pos.	2+PE-pos.	3+PE-pos.	4+PE-pos.
General data						
Degree of protection	IP66 / IP68 / IP69K			IP66 / IP68 / IP69K		
Electrical data						
Rated voltage (III/3)	690 V			690 V		
Rated surge voltage	6 kV			6 kV		
Rated current	17.5 A			17.5 A		
Overvoltage category / Degree of pollution	III / 3			III / 3		
Material data						
Housing material	PA			PA		
Contact material	Cu			Cu		
Flammability rating in accordance with UL 94	V0			V0		
Mechanical data						
Impact category	IK07			IK07		
Color	black			black		
Connector data QUICKON connection						
Core insulation	PVC/PE/TPE/rubber			PVC/PE/TPE/rubber		
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm			VDE 0295 class 1 to 6/min. 0.15 mm		
Connection frequency	max. 10			max. 10		
Conductor cross section [mm²] rigid/flexible	0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²			0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²		
Conductor cross section [AWG]	20 ... 16			20 ... 16		
Temperature data						
Ambient temperature (operation)	-40°C ... 100°C			-40°C ... 100°C		
Temperature when conductor connected	-5°C ... 50°C			-5°C ... 50°C		

	Ordering data						Ordering data					
Description	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
	2+PE-pos.		3+PE-pos.		4+PE-pos.		2+PE-pos.		3+PE-pos.		4+PE-pos.	
Panel feed-through, with M20 x 1.5 mounting flange, **with** QUICKON nut, for cable diameter:												
4 mm ... 9 mm	1414686	1	1414677	1								
8 mm ... 13 mm	1414689	1	1414680	1								
Panel feed-through, with M25 x 1.5 mounting flange, **with** QUICKON nut, for cable diameters:												
5 mm ... 10 mm					1414732	1						
9 mm ... 14 mm					1414735	1						
Panel feed-through, with M20 x 1.5 mounting flange, **without** QUICKON nut							1414692	1	1414683	1		
Panel feed-through, with M25 x 1.5 mounting flange, **without** QUICKON nut											1414738	1
QUICKON nut, for connections up to 1.5 mm², for cable diameter:												
4 mm ... 9 mm							1415099	1	1415097	1		
8 mm ... 13 mm							1415100	1	1415098	1		
5 mm ... 10 mm											1415101	1
9 mm ... 14 mm											1415104	1

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Connectors, 1.5 mm²

- With capacitive PE contact
- Compatible with QUICKON connection
- Can be coded using the two red coding profiles to prevent mismatching of similar connectors
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions
- With SPEEDCON fast locking system

with gray screw locking

	Technical data		
	2+PE-pos.	**3+PE-pos.**	**4+PE-pos.**
General data			
Degree of protection		IP66 / IP68 / IP69K	
Electrical data			
Rated voltage (III/3)		690 V	
Rated surge voltage		6 kV	
Rated current		17.5 A	
Overvoltage category / Degree of pollution		III / 3	
Material data			
Housing material		PA	
Contact material		Cu	
Contact surface material		silver-plated	
Flammability rating in accordance with UL 94		V0	
Impact category		IK07	
Color		black	
Connector data QUICKON connection			
Core insulation		PVC/PE/TPE/rubber	
Structure of individual litz wire/smallest wire diameter		VDE 0295 class 1 to 6/min. 0.15 mm	
Connection frequency		10	
Conductor cross section [mm²] rigid/flexible		0.5 mm² ... 1.5 mm² / 0.5 mm² ... 1.5 mm²	
Conductor cross section [AWG]		20 ... 16	
Temperature data			
Ambient temperature (operation)		-40°C ... 100°C	
Temperature when conductor connected		-5°C ... 50°C	

	Ordering data					
Description	**Order No.**	Pcs./ Pkt.	**Order No.**	Pcs./ Pkt.	**Order No.**	Pcs./ Pkt.
	2+PE-pos.		**3+PE-pos.**		**4+PE-pos.**	
Connectors, for cable diameters:						
4 mm ... 9 mm	**1414705**	1	**1414703**	1		
8 mm ... 13 mm	**1414706**	1	**1414704**	1		
5 mm ... 10 mm					**1414749**	1
9 mm ... 14 mm					**1414750**	1

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Accessories

- Marker labels ① can be stuck onto the middle of the H- and T-distributor
- Red sealing plugs ② can be stuck into the QUICKON nuts easily and create a seal when screwed tight
- Protective caps with retaining cords ③ for closing open QUICKON domes which, for example, are going to be fitted with a connector later
- Locking nuts ④ for fixing the panel feed-throughs to panels that are too thin to have a thread cut in
- Insulating sleeve ⑤ for 4.8 mm spade connections
- Protective caps ⑥ for attaching to the open QUICKON dome
- Protective caps ⑦ at front for attaching to the connector
- Slotted socket wrenches ⑧ enable you to tighten the QUICKON nuts easily and securely
- Red coding profiles ⑨ for preventing QPD connector mix-ups. Simply insert them into the QUICKON dome and connector on the front side. They are marked with an arrow and their symmetrical form enables them to be mounted in four different positions
- Aluminum shielding tape ⑩ prevents the splicing of the braided shield and enables a clean shield connection

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
Marker labels, for H- and T-distributors	①			
For plotting and engraving		**GPE 13X 9 WH**	0806932	10
Can be printed using thermal transfer printer		**EMLP (13X9)R**	0819453	1
Closing cap, for closing unused bore holes in multiple seals and cable glands	②			
Ø 7 mm		**SEALING PLUG 7X16 RD**	1400255	10
Ø 10 mm		**SEALING PLUG 10X16 RD**	1400284	10
Ø 14 mm		**SEALING PLUG 14X22 RD**	1400270	10
Protective cap, for panel feed-throughs, captive, IP68	③			
1.5 mm², 3-, 4-pos. / black		**QPD QSK BK 3/4X1,5 FS**	1414722	1
1.5 mm², 5-pos. / 2.5 mm², 4-pos. / black		**QPD QSK BK 5X1,5 FS**	1414728	1
Counter nut, (plastic), to lock the contact carrier from the inside of the device	④			
M20 / wrench size 26 / black		**Q-MU-M20 BK**	1586099	25
M25 / wrench size 32 / black		**Q-MU M25**	1640715	25
Insulating sleeve, as shock protection for 4.8 mm slip-on sleeves; first slide over the conductor	⑤			
		PT/FS 4,8	1670497	25
Protective cap, for QUICKON connection, IP50	⑥			
1.5 mm², 3-, 4-pos.		**QPD QSK 3/4X1,5**	1414723	10
1.5 mm², 5-pos. / 2.5 mm², 4-pos.		**QPD QSK 5X1,5**	1414758	10
Protective cap, for connectors, IP50	⑦			
1.5 mm², 3-, 4-pos.		**QPD PSK 3/4X1,5**	1414724	10
1.5 mm², 5-pos. / 2.5 mm², 4-pos.		**QPD PSK 5X1,5**	1414759	10
Slotted socket wrench for QUICKON nuts and panel feed-throughs	⑧			
1.5 mm², 5-pos. / 2.5 mm², 4-pos. / wrench size 22 mm		**QSS 22**	1670206	1
Coding profile, for insertion into the connector and QUICKON dome	⑨			
		CP-QPD 3/4X1,5	1414729	10
		CP-QPD 5X1,5	1414760	10
Shielding tape, for shielded QPD versions	⑩			
		ALU-SB	1404531	100

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H-distributors, 2.5 mm²

- Can be used as a H-distributor with continuous master cable
- Can be used a star distributor
- Can be used as a Y-distributor with a test connection
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions

with four QUICKON nuts

without QUICKON nut

	Technical data		Technical data	
	3+PE-pos.	4+PE-pos.	3+PE-pos.	4+PE-pos.
General data				
Degree of protection	IP66 / IP68 / IP69K		IP66 / IP68 / IP69K	
Electrical data				
Rated voltage (III/3)	690 V		690 V	
Rated surge voltage	6 kV		6 kV	
Rated current	20 A		20 A	
Overvoltage category / Degree of pollution	III / 3		III / 3	
Material data				
Housing material	PA		PA	
Contact material	Cu		Cu	
Flammability rating in accordance with UL 94	V0		V0	
Mechanical data				
Impact category	IK07		IK07	
Color	black		black	
Connector data QUICKON connection				
Core insulation	PVC/PE/TPE/rubber		PVC/PE/TPE/rubber	
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm		VDE 0295 class 1 to 6/min. 0.15 mm	
Connection frequency	max. 10		max. 10	
Conductor cross section [mm²] rigid/flexible	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²		1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²	
Conductor cross section [AWG]	16 ... 14		16 ... 14	
Temperature data				
Ambient temperature (operation)	-40°C ... 100°C		-40°C ... 100°C	
Temperature when conductor connected	-5°C ... 50°C		-5°C ... 50°C	

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3+PE-pos.		4+PE-pos.		3+PE-pos.		4+PE-pos.	
H-distributor, with **four** QUICKON nuts, for cable diameters:								
6 mm ... 10 mm	1423971	1						
9 mm ... 14 mm	1423972	1						
6 mm ... 11 mm			1406368	1				
9 mm ... 16 mm			1406369	1				
H-distributor, without QUICKON nuts					1423973	1	1406370	1
QUICKON nut, for connections up to 2.5 mm², for cable diameters:								
6 mm ... 10 mm					1423993	1		
9 mm ... 14 mm					1423994	1		
6 mm ... 11 mm							1459663	1
9 mm ... 16 mm							1459647	1

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T-distributors, 2.5 mm²

– Can be used as a T-distributor with continuous master cable
– Touch-proof in accordance with DIN EN 50274
– Also available in gray color versions

with three QUICKON nuts

with two QUICKON nuts

	Technical data		Technical data	
	3+PE-pos.	4+PE-pos.	3+PE-pos.	4+PE-pos.
General data				
Degree of protection	IP66 / IP68 / IP69K	IP68 / IP69K	IP66 / IP68 / IP69K	IP68 / IP69K
Electrical data				
Rated voltage (III/3)	690 V	690 V	690 V	690 V
Rated surge voltage	6 kV	6 kV	6 kV	6 kV
Rated current	20 A	20 A	20 A	20 A
Overvoltage category / Degree of pollution	III / 3	III / 3	III / 3	III / 3
Material data				
Housing material	PA	PA	PA	PA
Contact material	Cu	Cu	Cu	Cu
Flammability rating in accordance with UL 94	V0	V0	V0	V0
Mechanical data				
Impact category	IK07	IK07	IK07	IK07
Color	black	black	black	black
Connector data QUICKON connection				
Core insulation	PVC/PE/TPE/rubber	PVC/PE/TPE/rubber	PVC/PE/TPE/rubber	PVC/PE/TPE/rubber
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/ min. 0.15 mm	VDE 0295 class 1 to 6/ min. 0.15 mm	VDE 0295 class 1 to 6/ min. 0.15 mm	VDE 0295 class 1 to 6/ min. 0.15 mm
Connection frequency	max. 10	max. 10	max. 10	max. 10
Conductor cross section [mm²] rigid/flexible	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²
Conductor cross section [AWG]	16 ... 14	16 ... 14	16 ... 14	16 ... 14
Temperature data				
Ambient temperature (operation)	-40°C ... 100°C	-40°C ... 100°C	-40°C ... 100°C	-40°C ... 100°C
Temperature when conductor connected	-5°C ... 50°C	-5°C ... 50°C	-5°C ... 50°C	-5°C ... 50°C

	Ordering data			Ordering data		
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3+PE-pos.		4+PE-pos.		3+PE-pos.		4+PE-pos.	
T-distributor, for cable diameter:								
6 mm ... 10 mm	1424045	1			1424047	1		
9 mm ... 14 mm	1424046	1			1424048	1		
6 mm ... 11 mm			1405401	1			1405403	1
9 mm ... 16 mm			1405402	1			1405404	1
QUICKON nut, for connections up to 2.5 mm², for cable diameters:								
6 mm ... 10 mm					1423993	1		
9 mm ... 14 mm					1423994	1		
6 mm ... 11 mm							1459663	1
9 mm ... 16 mm							1459647	1

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Cable connectors, 2.5 mm²

- Easy cable extension or cable repairs
- The QUICKON connections at opposite ends feature different position markings and mechanical coding
- The 2.5 mm² connector can be used here instead of the QUICKON nut
- Also available in gray color versions

with two QUICKON nuts

with one QUICKON nut

EAC

Technical data				
	3+PE-pos.	4+PE-pos.	3+PE-pos.	4+PE-pos.
General data				
Degree of protection	IP66 / IP68 / IP69K		IP66 / IP68 / IP69K	
Electrical data				
Rated voltage (III/3)	690 V		690 V	
Rated surge voltage	6 kV		6 kV	
Rated current	20 A		20 A	
Overvoltage category / Degree of pollution	III / 3		III / 3	
Material data				
Housing material	PA		PA	
Contact material	Cu		Cu	
Contact surface material	silver-plated		silver-plated	
Flammability rating in accordance with UL 94	V0		V0	
Impact category	IK07		IK07	
Color	black		black	
Connector data QUICKON connection				
Core insulation	PVC/PE/TPE/rubber		PVC/PE/TPE/rubber	
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm		VDE 0295 class 1 to 6/min. 0.15 mm	
Connection frequency	10		10	
Conductor cross section [mm²] rigid/flexible	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²		1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²	
Conductor cross section [AWG]	16 ... 14		16 ... 14	
Temperature data				
Ambient temperature (operation)	-40°C ... 100°C		-40°C ... 100°C	
Temperature when conductor connected	-5°C ... 50°C		-5°C ... 50°C	

Ordering data								
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3+PE-pos.		4+PE-pos.		3+PE-pos.		4+PE-pos.	
Cable connector, for cable diameter:								
6 mm ... 10 mm	1423989	1			1423991	1		
9 mm ... 14 mm	1423990	1			1423992	1		
6 mm ... 11 mm			1403838	1			1403834	1
9 mm ... 16 mm			1403836	1			1403831	1
QUICKON nut, for connections up to 2.5 mm², for cable diameters:								
6 mm ... 10 mm					1423993	1		
9 mm ... 14 mm					1423994	1		
6 mm ... 11 mm							1459663	1
9 mm ... 16 mm							1459647	1

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Panel feed-throughs, 2.5 mm², with litz wires

- Devices no longer need to be opened in order to connect the cables
- User-friendly connection, even on devices that are difficult to access
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions

with QUICKON nut

without QUICKON nut

	Technical data		Technical data	
	3+PE-pos.	4+PE-pos.	3+PE-pos.	4+PE-pos.
General data				
Degree of protection	IP66 / IP68 / IP69K		IP66 / IP68 / IP69K	
Electrical data				
Rated voltage (III/3)	690 V		690 V	
Rated surge voltage	6 kV		6 kV	
Rated current	20 A		20 A	
Overvoltage category / Degree of pollution	III / 3		III / 3	
Material data				
Housing material	PA		PA	
Contact material	Cu		Cu	
Flammability rating in accordance with UL 94	V0		V0	
Mechanical data				
Impact category	IK07		IK07	
Color	black		black	
Connector data QUICKON connection				
Core insulation	PVC/PE/TPE/rubber		PVC/PE/TPE/rubber	
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm		VDE 0295 class 1 to 6/min. 0.15 mm	
Connection frequency	max. 10		max. 10	
Conductor cross section [mm²] rigid/flexible	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²		1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²	
Conductor cross section [AWG]	16 ... 14		16 ... 14	
Temperature data				
Ambient temperature (operation)	-40°C ... 100°C		-40°C ... 100°C	
Temperature when conductor connected	-5°C ... 50°C		-5°C ... 50°C	

		Ordering data				Ordering data			
Description	Cable length	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
		3+PE-pos.		4+PE-pos.		3+PE-pos.		4+PE-pos.	
Panel feed-through, I_N=15 A, with M20 x 1.5 mounting flange, **with** QUICKON nut, for cable diameters:									
6 mm ... 11 mm	0.5 m			1403725	1				
6 mm ... 11 mm	1 m			1403727	1				
9 mm ... 16 mm	0.5 m			1403731	1				
9 mm ... 16 mm	1 m			1403733	1				
Panel feed-through, with M25 x 1.5 mounting flange, **with** QUICKON nut, for cable diameters:									
6 mm ... 10 mm	0.5 m	1423975	1						
6 mm ... 10 mm	1 m	1423974	1						
9 mm ... 14 mm	0.5 m	1423980	1						
9 mm ... 14 mm	1 m	1423979	1						
6 mm ... 11 mm	0.5 m			1582557	1				
6 mm ... 11 mm	1 m			1582558	1				
9 mm ... 16 mm	0.5 m			1582561	1				
9 mm ... 16 mm	1 m			1582562	1				
Panel feed-through, with M20 x 1.5 mounting flange, **without** QUICKON nut									
	0.5 m							1403737	1
	1 m							1403739	1
Panel feed-through, with M25 x 1.5 mounting flange, **without** QUICKON nut									
	0.5 m					1423983	1	1582565	1
	1 m					1423984	1	1582566	1
QUICKON nut, for connections up to 2.5 mm², for cable diameters:									
6 mm ... 10 mm						1423993	1		
9 mm ... 14 mm						1423994	1		
6 mm ... 11 mm								1459663	1
9 mm ... 16 mm								1459647	1

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Panel feed-throughs, 2.5 mm², with manual solder or spade connector connection

- Devices no longer need to be opened in order to connect the cables
- User-friendly connection, even on devices that are difficult to access
- Also available in gray color versions

with QUICKON nut

without QUICKON nut

	Technical data		Technical data	
	3+PE-pos.	4+PE-pos.	3+PE-pos.	4+PE-pos.
General data				
Degree of protection	IP66 / IP68 / IP69K		IP66 / IP68 / IP69K	
Electrical data				
Rated voltage (III/3)	690 V		690 V	
Rated surge voltage	6 kV		6 kV	
Rated current	20 A	15 A	20 A	15 A
Overvoltage category / Degree of pollution	III / 3		III / 3	
Material data				
Housing material	PA		PA	
Contact material	Cu		Cu	
Flammability rating in accordance with UL 94	V0		V0	
Mechanical data				
Impact category	IK07		IK07	
Color	black		black	
Connector data QUICKON connection				
Core insulation	PVC/PE/TPE/rubber		PVC/PE/TPE/rubber	
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm		VDE 0295 class 1 to 6/min. 0.15 mm	
Connection frequency	max. 10		max. 10	
Conductor cross section [mm²] rigid/flexible	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²		1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²	
Conductor cross section [AWG]	16 ... 14		16 ... 14	
Temperature data				
Ambient temperature (operation)	-40°C ... 100°C		-40°C ... 100°C	
Temperature when conductor connected	-5°C ... 50°C		-5°C ... 50°C	

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3+PE-pos.		4+PE-pos.		3+PE-pos.		4+PE-pos.	
Panel feed-through, I_N=15 A, with M20 x 1.5 mounting flange, **with** QUICKON nut, for cable diameters:								
6 mm ... 11 mm			1403729	1				
9 mm ... 16 mm			1403735	1				
Panel feed-through, with M25 x 1.5 mounting flange, **with** QUICKON nut, for cable diameters:								
6 mm ... 10 mm	1423976	1						
9 mm ... 14 mm	1423981	1						
6 mm ... 11 mm			1582559	1				
9 mm ... 16 mm			1582563	1				
Panel feed-through, with mounting flange, **without** QUICKON nut, connecting thread:								
M20, I_N=15 A							1403741	1
Panel feed-through, with M25 x 1.5 mounting flange, **without** QUICKON nut								
M25, I_N=20 A					1423986	1	1582567	1
QUICKON nut, for connections up to 2.5 mm², for cable diameters:								
6 mm ... 10 mm					1423993	1		
9 mm ... 14 mm					1423994	1		
6 mm ... 11 mm							1459663	1
9 mm ... 16 mm							1459647	1

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Panel feed-throughs, 2.5 mm², with Push-in connection

- Devices no longer need to be opened in order to connect the cables
- User-friendly connection, even on devices that are difficult to access
- For internal Push-in connection, rigid conductors are simply stripped and inserted in the connection
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions

with QUICKON nut

without QUICKON nut

	Technical data		Technical data	
	3+PE-pos.	4+PE-pos.	3+PE-pos.	
General data				
Degree of protection	IP66 / IP68 / IP69K		IP66 / IP68 / IP69K	
Electrical data				
Rated voltage (III/3)	690 V		690 V	
Rated surge voltage	6 kV		6 kV	
Rated current	20 A		20 A	
Overvoltage category / Degree of pollution	III / 3		III / 3	
Material data				
Housing material	PA		PA	
Contact material	Cu		Cu	
Flammability rating in accordance with UL 94	V0		V0	
Mechanical data				
Impact category	IK07		IK07	
Color	black		black	
Connector data QUICKON connection				
Core insulation	PVC/PE/TPE/rubber	PVC/PE/Rubber/TPE	PVC/PE/TPE/rubber	
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm		VDE 0295 class 1 to 6/ min. 0.15 mm	
Connection frequency	max. 10		max. 10	
Conductor cross section [mm²] rigid/flexible	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²		1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²	
Conductor cross section [AWG]	16 ... 14		16 ... 14	
Temperature data				
Ambient temperature (operation)	-40°C ... 100°C		-40°C ... 100°C	
Temperature when conductor connected	-5°C ... 50°C		-5°C ... 50°C	

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	3+PE-pos.		4+PE-pos.		3+PE-pos.			
Panel feed-through, with M25 x 1.5 mounting flange, **with** QUICKON nut, for cable diameters:								
6 mm ... 10 mm	1423977	1						
9 mm ... 14 mm	1423982	1						
6 mm ... 11 mm			1411432	1				
9 mm ... 16 mm			1411433	1				
Panel feed-through, with M25 x 1.5 mounting flange, **without** QUICKON nut					1423985	1		
QUICKON nut, for connections up to 2.5 mm², for cable diameters:								
6 mm ... 10 mm					1423993	1		
9 mm ... 14 mm					1423994	1		

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Connectors, 2.5 mm²

- With capacitive PE contact
- Compatible with QUICKON connection
- Can be coded using the two red coding profiles to prevent mismatching of similar connectors
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions
- With SPEEDCON fast locking system

with gray screw locking

Technical data

	4+PE-pos.
General data	
Degree of protection	IP66 / IP68 / IP69K
Electrical data	
Rated voltage (III/3)	690 V
Rated surge voltage	6 kV
Rated current	20 A
Overvoltage category / Degree of pollution	III / 3
Material data	
Housing material	PA
Contact material	Cu
Contact surface material	silver-plated
Flammability rating in accordance with UL 94	V0
Impact category	IK07
Color	black
Connector data QUICKON connection	
Core insulation	PVC/PE/TPE/rubber
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm
Connection frequency	10
Conductor cross section [mm²] rigid/flexible	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²
Conductor cross section [AWG]	16 ... 14
Temperature data	
Ambient temperature (operation)	-40°C ... 100°C
Temperature when conductor connected	-5°C ... 50°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Connectors, for cable diameters:			
6 mm ... 11 mm	**QPD P 4PE2,5 6-11 TL BK**	1039563	1
9 mm ... 16 mm	**QPD P 4PE2,5 9-16 TL BK**	1039561	1

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Accessories

- Marker labels ① can be stuck onto the middle of the H- and T-distributor
- Red sealing plugs ② can be stuck into the QUICKON nuts easily and create a seal when screwed tight
- Protective caps with retaining cords ③ for closing open QUICKON domes which, for example, are going to be fitted with a connector later
- Locking nuts ④ for fixing the panel feed-throughs to panels that are too thin to have a thread cut in
- Insulating sleeve ⑤ for 4.8 mm spade connections
- Protective caps ⑥ for attaching to the open QUICKON dome
- Protective caps ⑦ at front for attaching to the connector
- Slotted socket wrenches ⑧ enable you to tighten the QUICKON nuts easily and securely
- Red coding profiles ⑨ for preventing QPD connector mix-ups. Simply insert them into the QUICKON dome and connector on the front side. They are marked with an arrow and their symmetrical form enables them to be mounted in four different positions
- AS-i seals ⑩ for connecting 1 or 2 AS-i cables
- Aluminum shielding tape ⑪ prevents the splicing of the braided shield and enables a clean shield connection

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
Marker labels, for H- and T-distributors	①			
For plotting and engraving		**GPE 13X 9 WH**	0806932	10
Can be printed using thermal transfer printer		**EMLP (13X9)R**	0819453	1
Closing cap, for closing unused bore holes in multiple seals and cable glands	②			
Ø 10 mm		**SEALING PLUG 10X16 RD**	1400284	10
Ø 14 mm		**SEALING PLUG 14X22 RD**	1400270	10
Protective cap, for panel feed-throughs, captive, IP68	③			
1.5 mm², 5-pos. / 2.5 mm², 4-pos. / black		**QPD QSK BK 5X1,5 FS**	1414728	1
2.5 mm², 5-pos. / gray		**QPD QSK GY 5X2,5 FS**	1404526	1
2.5 mm², 5-pos. / black		**QPD QSK BK 5X2,5 FS**	1404525	1
Counter nut, (plastic), to lock the contact carrier from the inside of the device	④			
M20 / wrench size 26 / black		**Q-MU-M20 BK**	1586099	25
M25 / wrench size 32 / black		**Q-MU M25**	1640715	25
Insulating sleeve, as shock protection for 4.8 mm slip-on sleeves; first slide over the conductor	⑤			
		PT/FS 4,8	1670497	25
Protective cap, for QUICKON connection, IP50	⑥			
1.5 mm², 5-pos. / 2.5 mm², 4-pos.		**QPD QSK 5X1,5**	1414758	10
2.5 mm², 5-pos.		**QPD QSK 5X2,5**	1404528	10
Protective cap, for connectors, IP50	⑦			
1.5 mm², 5-pos. / 2.5 mm², 4-pos.		**QPD PSK 5X1,5**	1414759	10
2.5 mm², 5-pos.		**QPD PSK 5X2,5**	1404529	10
Slotted socket wrench for QUICKON nuts and panel feed-throughs	⑧			
1.5 mm², 5-pos. / 2.5 mm², 4-pos. / wrench size 22 mm		**QSS 22**	1670206	1
2.5 mm², 5-pos. / wrench size 27 mm		**QSS 27**	1670646	1
Coding profile, for insertion into the connector and QUICKON dome	⑨			
		CP QPD 4X2,5	1425950	10
		CP-QPD 5X2,5	1404530	10
Insert seal for:	⑩			
One AS-i cable		**KV-DI-PG16-1XASI**	1582462	10
Two AS-i cables		**KV-DI-PG16-2XASI**	1582464	10
Shielding tape, for shielded QPD versions	⑪			
		ALU-SB	1404531	100

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H-distributors, 6.0 mm²

- Can be used as a H-distributor with continuous master cable
- Can be used a star distributor
- Can be used as a Y-distributor with a test connection
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions

with four QUICKON nuts

without QUICKON nut

	Technical data	Technical data
	4+PE-pos.	4+PE-pos.
General data		
Degree of protection	IP66 / IP68 / IP69K	IP66 / IP68 / IP69K
Electrical data		
Rated voltage (III/3)	690 V	690 V
Rated surge voltage	6 kV	6 kV
Rated current	40 A	40 A
Overvoltage category / Degree of pollution	III / 3	III / 3
Material data		
Housing material	PA	PA
Contact material	Cu	Cu
Flammability rating in accordance with UL 94	V0	V0
Mechanical data		
Impact category	IK07	IK07
Color	black	black
Connector data QUICKON connection		
Core insulation	PVC/PE/TPE/rubber	PVC/PE/TPE/rubber
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm	VDE 0295 class 1 to 6/min. 0.15 mm
Connection frequency	max. 10	max. 10
Conductor cross section [mm²] rigid/flexible	2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²	2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²
Conductor cross section [AWG]	14 ... 10	14 ... 10
Temperature data		
Ambient temperature (operation)	-40°C ... 100°C	-40°C ... 100°C
Temperature when conductor connected	-5°C ... 50°C	-5°C ... 50°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
H-distributor, with **four** QUICKON nuts and one sealing bolt, for cable diameters:						
9 mm ... 14 mm	**QPD H 4PE6,0 4X9-14 BK**	1411422	1			
12 mm ... 20 mm	**QPD H 4PE6,0 4X12-20 BK**	1411425	1			
H-distributor, without QUICKON nuts				**QPD H 4PE6,0 BK**	1411426	1
QUICKON nut, for connections up to 6.0 mm², for cable diameter:						
9 mm ... 14 mm				**QPD N 4PE6,0 9-14 BK**	1410409	1
12 mm ... 20 mm				**QPD N 4PE6,0 12-20 BK**	1410406	1

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T-distributors, 6.0 mm²

- Can be used as a T-distributor with continuous master cable
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions

with three QUICKON nuts

with two QUICKON nuts

Technical data	4+PE-pos.	Technical data	4+PE-pos.
General data			
Degree of protection	IP66 / IP68 / IP69K		IP66 / IP68 / IP69K
Electrical data			
Rated voltage (III/3)	690 V		690 V
Rated surge voltage	6 kV		6 kV
Rated current	40 A		40 A
Overvoltage category / Degree of pollution	III / 3		III / 3
Material data			
Housing material	PA		PA
Contact material	Cu		Cu
Flammability rating in accordance with UL 94	V0		V0
Mechanical data			
Impact category	IK07		IK07
Color	black		black
Connector data QUICKON connection			
Core insulation	PVC/PE/TPE/rubber		PVC/PE/TPE/rubber
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm		VDE 0295 class 1 to 6/min. 0.15 mm
Connection frequency	max. 10		max. 10
Conductor cross section [mm²] rigid/flexible	2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²		2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²
Conductor cross section [AWG]	14 ... 10		14 ... 10
Temperature data			
Ambient temperature (operation)	-40°C ... 100°C		-40°C ... 100°C
Temperature when conductor connected	-5°C ... 50°C		-5°C ... 50°C

Ordering data				Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
T-distributor, with **three** QUICKON nuts, for cable diameter:						
9 mm ... 14 mm	**QPD T 4PE6,0 3X9-14 BK**	1411414	1			
12 mm ... 20 mm	**QPD T 4PE6,0 3X12-20 BK**	1411415	1			
T-distributor, with **two** QUICKON nuts, for cable diameter:						
9 mm ... 14 mm				**QPD T 4PE6,0 2X9-14 BK**	1411416	1
12 mm ... 20 mm				**QPD T 4PE6,0 2X12-20 BK**	1411417	1
QUICKON nut, for connections up to 6.0 mm², for cable diameter:						
9 mm ... 14 mm				**QPD N 4PE6,0 9-14 BK**	1410409	1
12 mm ... 20 mm				**QPD N 4PE6,0 12-20 BK**	1410406	1

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Cable connectors, 6.0 mm²

- Easy cable extension or cable repairs
- The QUICKON connections at opposite ends feature different position markings and mechanical coding
- The 6.0 mm² connector can be used here instead of the QUICKON nut
- Also available in gray color versions

with two QUICKON nuts

with one QUICKON nut

	Technical data	Technical data
	4+PE-pos.	4+PE-pos.
General data		
Degree of protection	IP66 / IP68 / IP69K	IP66 / IP68 / IP69K
Electrical data		
Rated voltage (III/3)	690 V	690 V
Rated surge voltage	6 kV	6 kV
Rated current	40 A	40 A
Overvoltage category / Degree of pollution	III / 3	III / 3
Material data		
Housing material	PA	PA
Contact material	Cu	Cu
Flammability rating in accordance with UL 94	V0	V0
Mechanical data		
Impact category	IK07	IK07
Color	black	black
Connector data QUICKON connection		
Core insulation	PVC/PE/TPE/rubber	PVC/PE/TPE/rubber
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm	VDE 0295 class 1 to 6/min. 0.15 mm
Connection frequency	max. 10	max. 10
Conductor cross section [mm²] rigid/flexible	2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²	2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²
Conductor cross section [AWG]	14 ... 10	14 ... 10
Temperature data		
Ambient temperature (operation)	-40°C ... 100°C	-40°C ... 100°C
Temperature when conductor connected	-5°C ... 50°C	-5°C ... 50°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cable connector, with **two** QUICKON nuts, for cable diameters:						
9 mm ... 14 mm	**QPD C 4PE6,0 2X9-14 BK**	1410410	1			
12 mm ... 20 mm	**QPD C 4PE6,0 2X12-20 BK**	1410412	1			
Cable connector, with **one** QUICKON nut, for cable diameters:						
9 mm ... 14 mm				**QPD C 4PE6,0 1X9-14 BK**	1410415	1
12 mm ... 20 mm				**QPD C 4PE6,0 1X12-20 BK**	1410416	1
QUICKON nut, for connections up to 6.0 mm², for cable diameter:						
9 mm ... 14 mm				**QPD N 4PE6,0 9-14 BK**	1410409	1
12 mm ... 20 mm				**QPD N 4PE6,0 12-20 BK**	1410406	1

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Panel feed-throughs, 6.0 mm²

– Devices no longer need to be opened in order to connect the cables
– User-friendly connection, even on devices that are difficult to access
– Touch-proof in accordance with DIN EN 50274
– Also available in gray color versions

with one QUICKON nut

without QUICKON nut

	Technical data	Technical data
	4+PE-pos.	4+PE-pos.
General data		
Degree of protection	IP66 / IP68 / IP69K	IP66 / IP68 / IP69K
Electrical data		
Rated voltage (III/3)	690 V	690 V
Rated surge voltage	6 kV	6 kV
Rated current	40 A	40 A
Overvoltage category / Degree of pollution	III / 3	III / 3
Material data		
Housing material	PA	PA
Contact material	Cu	Cu
Flammability rating in accordance with UL 94	V0	V0
Mechanical data		
Impact category	IK07	IK07
Color	black	black
Connector data QUICKON connection		
Core insulation	PVC/PE/TPE/rubber	PVC/PE/TPE/rubber
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm	VDE 0295 class 1 to 6/min. 0.15 mm
Connection frequency	max. 10	max. 10
Conductor cross section [mm²] rigid/flexible	2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²	2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²
Conductor cross section [AWG]	14 ... 10	14 ... 10
Temperature data		
Ambient temperature (operation)	-40°C ... 100°C	-40°C ... 100°C
Temperature when conductor connected	-5°C ... 50°C	-5°C ... 50°C

		Ordering data			Ordering data		
Description	Cable length	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Panel feed-through, with M25 x 1.5 mounting flange, with **one** QUICKON nut, for cable diameter:							
9 mm ... 14 mm	0.5 m	**QPD W 4PE6,0 9-14 M25 0,5 BK**	1410392	1			
9 mm ... 14 mm	1 m	**QPD W 4PE6,0 9-14 M25 1,0 BK**	1410393	1			
12 mm ... 20 mm	0.5 m	**QPD W 4PE6,0 12-20 M25 0,5 BK**	1410394	1			
12 mm ... 20 mm	1 m	**QPD W 4PE6,0 12-20 M25 1,0 BK**	1410395	1			
Panel feed-through, with M25 x 1.5 mounting flange, **without** QUICKON nut							
	0.5 m				**QPD W 4PE6,0 M25 0,5 BK**	1410396	1
	1 m				**QPD W 4PE6,0 M25 1,0 BK**	1410397	1
QUICKON nut, for connections up to 6.0 mm², for cable diameter:							
9 mm ... 14 mm					**QPD N 4PE6,0 9-14 BK**	1410409	1
12 mm ... 20 mm					**QPD N 4PE6,0 12-20 BK**	1410406	1

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Connectors 6.0 mm²

- With capacitive PE contact
- Compatible with QUICKON connection
- Can be coded using the two red coding profiles to prevent mismatching of similar connectors
- Touch-proof in accordance with DIN EN 50274
- Also available in gray color versions
- With SPEEDCON fast locking system

with gray screw locking

Technical data

	4+PE-pos.
General data	
Degree of protection	IP66 / IP68 / IP69K
Electrical data	
Rated voltage (III/3)	690 V
Rated surge voltage	6 kV
Rated current	40 A
Overvoltage category / Degree of pollution	III / 3
Material data	
Housing material	PA
Contact material	Cu
Contact surface material	silver-plated
Flammability rating in accordance with UL 94	V0
Impact category	IK07
Color	black
Connector data QUICKON connection	
Core insulation	PVC/PE/TPE/rubber
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm
Connection frequency	10
Conductor cross section [mm²] rigid/flexible	2.5 mm² ... 6 mm² / 2.5 mm² ... 6 mm²
Conductor cross section [AWG]	14 ... 10
Temperature data	
Ambient temperature (operation)	-40°C ... 100°C
Temperature when conductor connected	-5°C ... 50°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Connectors, for cable diameters:			
9 mm ... 14 mm	**QPD P 4PE6,0 9-14 TL BK**	1039564	1
12 mm ... 20 mm	**QPD P 4PE6,0 12-20 TL BK**	1039565	1

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Accessories

- Marker labels ① can be stuck onto the middle of the H- and T-distributor
- Red sealing plugs ② can be stuck into the QUICKON nuts easily and create a seal when screwed tight
- Protective caps with retaining cords ③ for closing open QUICKON domes which, for example, are going to be fitted with a connector later
- Locking nuts ④ for fixing the panel feed-throughs to panels that are too thin to have a thread cut in
- Insulating sleeve ⑤ for 4.8 mm spade connections
- Protective caps ⑥ for attaching to the open QUICKON dome
- Protective caps ⑦ at front for attaching to the connector
- Red coding profiles ⑧ for preventing QPD connector mix-ups. Simply insert them into the QUICKON dome and connector on the front side. They are marked with an arrow and their symmetrical form enables them to be mounted in four different positions
- Aluminum shielding tape ⑨ prevents the splicing of the braided shield and enables a clean shield connection

Description		Ordering data		
		Type	Order No.	Pcs./Pkt.
Marker labels, for H- and T-distributors	①			
For plotting and engraving		**GPE 13X 9 WH**	0806932	10
Can be printed using thermal transfer printer		**EMLP (13X9)R**	0819453	1
Closing cap, for closing unused bore holes in multiple seals and cable glands	②			
Ø 10 mm		**SEALING PLUG 10X16 RD**	1400284	10
Ø 14 mm		**SEALING PLUG 14X22 RD**	1400270	10
Protective cap, captive, IP68	③			
6 mm², 5-pos. / gray		**QPD QSK GY 5X6,0 FS**	1411401	1
6 mm², 5-pos. / black		**QPD QSK BK 5X6,0 FS**	1411400	1
Counter nut, (plastic), to lock the contact carrier from the inside of the device	④			
M25 / wrench size 32 / black		**Q-MU M25**	1640715	25
Insulating sleeve, as shock protection for 4.8 mm slip-on sleeves; first slide over the conductor	⑤			
		PT/FS 4,8	1670497	25
Protective cap, for QUICKON connection, IP50	⑥			
6 mm², 5-pos.		**QPD QSK 5X6,0**	1411403	10
Protective cap, for connectors, IP50	⑦			
6 mm², 5-pos.		**QPD PSK 5X6,0**	1411404	10
Coding profile, for insertion into the connector and QUICKON dome	⑧			
		CP-QPD 5X6,0	1411402	10
Shielding tape, for shielded QPD versions	⑨			
		ALU-SB	1404531	100

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Assembled cables, 2.5 mm²

- Connecting cable between two QUICKON connections
- User-friendly connection, even on devices that are difficult to access
- Touch-proof in accordance with DIN EN 50274
- Other versions available on request
- With SPEEDCON fast locking system

4+PE-pos.

EAC UL

Technical data

General data	
Degree of protection	IP66 / IP68 / IP69K
Electrical data	
Rated voltage (III/3)	690 V
Rated surge voltage	6 kV
Rated current	20 A
Overvoltage category / Degree of pollution	III / 3
Material data	
Housing material	PA
Contact material	Cu
Flammability rating in accordance with UL 94	V0
Mechanical data	
Impact category	IK07
Color	black
Connector data QUICKON connection	
Core insulation	PVC/PE/TPE/rubber
Structure of individual litz wire/smallest wire diameter	VDE 0295 class 1 to 6/min. 0.15 mm
Connection frequency	max. 10
Conductor cross section [mm²] rigid/flexible	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²
Conductor cross section [AWG]	16 ... 14
Temperature data	
Ambient temperature (operation)	-40°C ... 100°C
Temperature when conductor connected	-5°C ... 50°C

Ordering data

Description	Cable length	Type	Order No.	Pcs./Pkt.
Assembled cable				
	1 m	**QPD 5P/ 1,0-PVC/5P 5X2,5 BK**	1408720	1
	3 m	**QPD 5P/ 3,0-PVC/5P 5X2,5 BK**	1408721	1
	5 m	**QPD 5P/ 5,0-PVC/5P 5X2,5 BK**	1408722	1
	10 m	**QPD 5P/10,0-PVC/5P 5X2,5 BK**	1408723	1

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Heavy-duty connectors

The right connector for every application

Heavy-duty connectors from the HEAVYCON complete series protect your interfaces and ensure the reliable transmission of power, data, and signals, even under the harshest conditions. They are resistant to dirt, water, vibrations, and high mechanical strain and remain sealed up to IP69K protection. Due to conductive surfaces and seals, all HEAVYCON metal housings are "EMC-ready".

You can always create the right plug-in connection for your requirements with housings from our series types and matching contact inserts which can be combined.

Compatible insertion, flexible combination

All housing series fit on standard panel cutouts. ADVANCE housings can be mounted directly onto the wall using the panel mounting flange. STANDARD and EVO housings are mounting- and plug-in-compatible with aluminum housings from well-known manufacturers. This allows all components to be individually combined and flexibly modified, extended or exchanged. Our fixed position and modular contact inserts naturally fit into all housing series.

The right connection technology for every application

We offer contact inserts with a wide range of connection technologies. You'll find the right contact insert for every connector housing with intuitive Push-in connection technology.

Your web code: #0002

HEAVYCON product range overview

HEAVYCON system cross-reference list	**502**
Contact inserts and housings	
Series D7	
Contact inserts	**504**
Housings	**514**
Series D	
Contact inserts	**518**
Housings	**524**
Series B	
Contact inserts	**534**
Housings	**596**
Connector sets	**646**
Compact series	
Contact inserts	**648**
Housings	**650**
Accessories	**654**
DUPLICON stackable power distribution system	**672**

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HEAVYCON product range overview

STANDARD connectors

The robust metal housings of the connectors are resistant to dirt, water, vibration, and high mechanical loads. STANDARD housings have a single or double locking latch. Various supporting base elements such as panel mounting bases, box mounting bases or coupling housings are available as required.

EVO connectors

The EVO connectors are characterized by the patented EVO-Lock system. It allows the cable outlet direction to be freely selected during assembly. It reduces the amount of housing variants required by up to 75%. The EVO housings are plug-in-compatible with aluminum housings from well-known manufacturers. They fit on standard panel cutouts.

ADVANCE connectors

By eliminating the typical panel mounting base, you save on assembly and material costs. The ADVANCE housings with screw locking are suitable for the most stringent requirements, such as particularly aggressive atmospheres and sensitive interfaces.

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Contact inserts with a fixed number of positions

The fixed-position inserts are available in a variety of performance classes and with a range of connection technologies. Fast connection technologies, such as Push-in or QUICKON (IDC) connection, enable cable connection within seconds.

Modular contact inserts

Combine the appropriate modules for your application from our wide range of products: HEAVYCON modular includes over 50 contact inserts for signal, power, and data transmission and for pneumatic applications. The innovative module carrier frame with sturdy catch springs enables quick mounting.

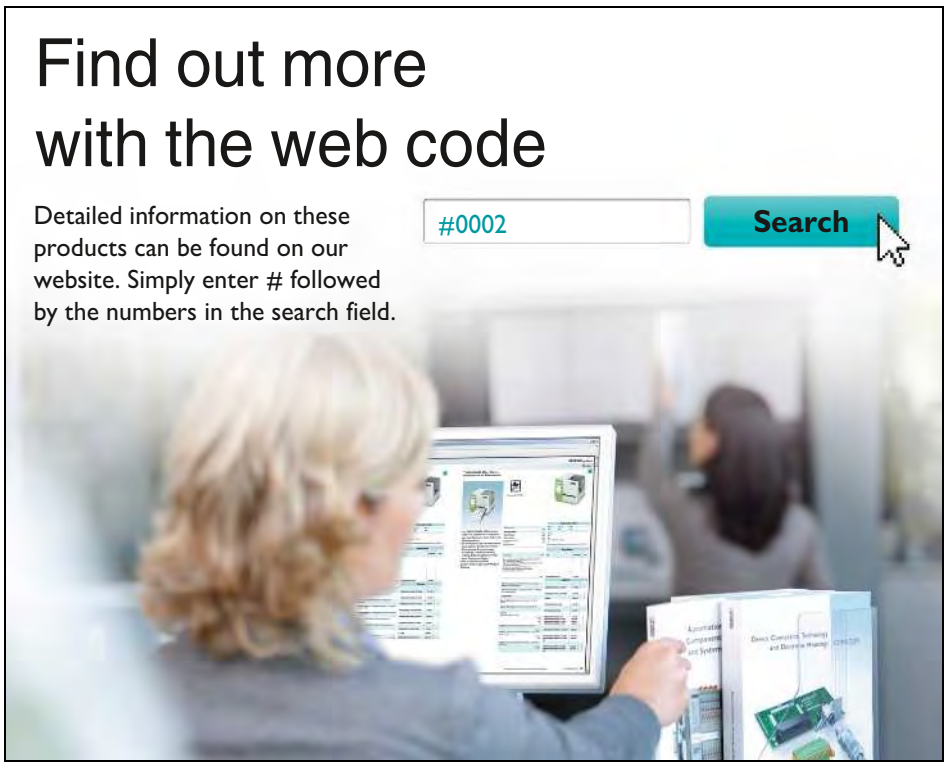
Online product configurator

Use our online configurator to quickly and easily configure your connectors. A 3D preview and drag & drop simplify the selection process. The product list can be exported, e-mailed or ordered directly.

Your web code: #0003

COM connectors

Thanks to their compact design, COM connectors are particularly space saving and are suitable for the cabling of decentral structures in automation technology. The comprehensive product range provides a high level of safety and protection against electromagnetic interferences.



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HEAVYCON HPR is intended for use in transport and transportation technology.
The sleeve housing, panel mounting base, and surface mounting housing meet the increased requirements of the railway industry and are characterized by high vibration resistance. The conductive housing surface provides all-round protection in electromagnetic interference fields. They therefore guarantee the reliable transmission of data, signals, and power, e.g., at carriage transitions. Thanks to their IP68/IP69K degree of protection, the HPR housings can also be used safely outside on the carriage body. Corresponding contact inserts of the B, BB, BBB, DD, HV, and HS range and modular inserts, as well as the square A series extend the portfolio.

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Square B series

The HEAVYCON HPR housings in the B series can be securely locked using the robust screw locking mechanism. They are resistant to vibrations and shocks in accordance with IEC 61373 / EN 50155.

Compact D7 series

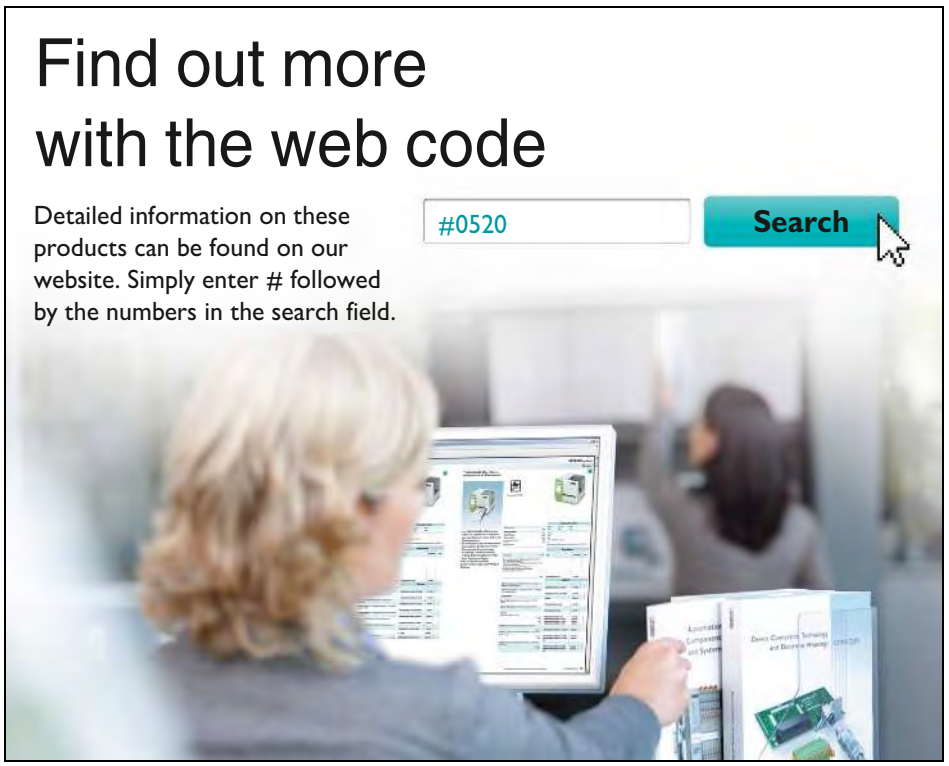
HEAVYCON D7 housings enable signal and power transmission in a compact design. The new D7 size HPR housings are optimized for railway applications.

Vibration-proof crimp connection

Robust and vibration-proof contact inserts with crimp connection ensure the reliable transmission of signal and power circuits to rail vehicles. You can connect the wire/crimp contact quickly and easily using crimping pliers or a crimping machine.

User-friendly Push-in connection

Contact inserts with Push-in connection technology ensure quick and easy conductor connection: simply insert the conductor directly into the connection without tools, and the gas-tight, vibration- and shock-proof connection is complete.



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HEAVYCON system cross-reference list – contact inserts and housings

The system cross-reference list illustrates which contact insert matches which housing type.

The upper rows describe the contact insert based on the number of positions, voltage, current, and connection method.

The entries in the columns denote the appropriate housing size.

Configure complete HEAVYCON connectors quickly and easily with our configurator:

Your web code: #0003

Series	A		D		Q						A			D			D			
Number of positions	3	4	7	8	2	3	4	5	7	12	10	16	2x16	15	25	2x25	40	64	2x40	2x64
Housing size	D7		D7		D7						D15	D25	D50	D15	D25	D50	B16	B24	B32	B48
Rated voltage IEC [V]	230/400		250	50	400	400	830	230/400	400	400	250			250			250			
Rated current IEC [A]	24		10		40	40	40	24	10	10	20			10			10			
Rated voltage UL [V]	600		600	30	600	600	600	600	600	600	600			600			600			
Rated current UL [A]	16 - 24		12		50	50	50	24	17.5	15	16 - 19			10			10			
Connection method																				
PT = Push-in	PT										PT									
UT = Screw	UT										UT									
CT = Crimp			CT		CT						CT			CT			CT			
Q = IDC / QUICKON	Q																			
A = Axial screw					A															
P = Pneumatic																				

HEAVYCON housings

Series	A		D		Q						A			D			D			
Number of positions	3	4	7	8	2	3	4	5	7	12	10	16	2x16	15	25	2x25	40	64	2x40	2x64
Page	504	504	506	506	510	510	510	508	506	506	518	520	520	522	522	522	534	534	534	534
D7 – From 514	•	•	•	•	•	•	•	•	•	•										
D15 – From 524											•			•						
D25 – From 528												•			•					
D50 – From 532													•			•				
M1 – From 595																				
B6 – From 596																				
B10 – From 602																				
B16 – From 616																	•			
B24 – From 630																		•		
B32 – From 644																			•	
B48 – From 645																				•

D7, D15 to D50, and EVO D housings

EVO M1 sleeve housings, panel mounting bases

STANDARD, EVO, and ADVANCE housings

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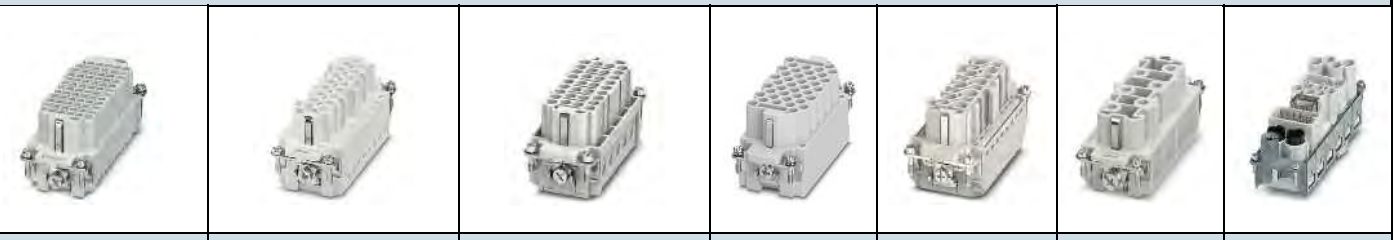
HEAVYCON contact inserts



	DD						B						BB						BBB				HV			HS		M
	24	42	72	108	2x72	2x108	6	10	16	24	2x16	2x24	10	18	32	46	2x32	2x46	40	64	2x40	2x64	3+2	6+2	10+2	6	12	Variable
	B6	B10	B16	B24	B32	B48	B6	B10	B16	B24	B32	B48	B6	B10	B16	B24	B32	B48	B16	B24	B32	B48	B10	B16	B24	B16	B32	B6 - B48
	250						500						500						500				830			400/690		50 - 5000
	10						16						16						16				16			41		5 - 200
	600						600						600						600				600			600		30 - 600
	10						10 - 16						16 - 20						16				16 - 21			35		5 - 146
							PT						PT										PT					PT
							UT																			UT		UT
	CT						CT						CT						CT				CT					CT
							Q																					
																												A
																												P
	DD						B						BB						BBB				HV			HS		M
	24	42	72	108	2x72	2x108	6	10	16	24	2x16	2x24	10	18	32	46	2x32	2x46	40		64		3+2	6+2	10+2	6	2x6	Variable
	538	538	538	538	538	538	540	542	544	546	544	546	554	554	554	554	554	554	556		556		558	558	558	562	562	570
																												•
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						•						•						•										•

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A3, A4 series

230 V / 400 V, 10 A ... 24 A

Connection technology:
– Push-in connection
– Screw connection
– Insulation displacement connection

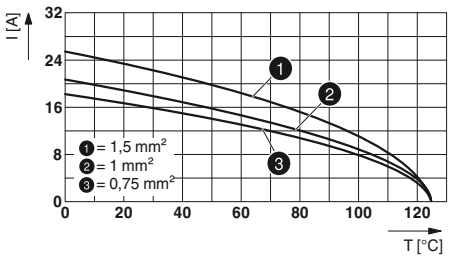
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Contact inserts already contain an IP67 sealing screw
Only operate connectors when there is no load/the power is switched off
1) For flexible wires with wire end protection

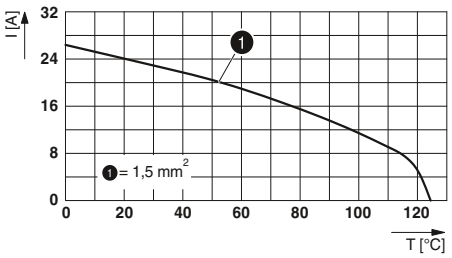
Technical data

Type		① HC-A03-I-PT-...	② HC-A03-I-UT-...	③ HC-A3-...Q1,5-TFL-G-PA Sleeve housing	④ HC-A3-...Q1,5-KML-G-PA Coupling housing	⑤ HC-A04-I-PT-...	⑥ HC-A04-I-UT-...
Approvals							
IEC data							
Rated current, contacts (at 40°C)	[A]	10	24	10	10	10	24
Overvoltage category		III	III	III	III	III	III
Degree of pollution		3	3	3	3	3	3
Rated voltage (III/3) contacts	[V]	230 / 400	230 / 400	230 / 400	230 / 400	230 / 400	230 / 400
Rated surge voltage, contacts	[kV]	4	4	4	4	4	4
Connection cross section	[mm²]	0.14 ... 1.5¹)	0.5 ... 2.5¹)	0.75 ... 1.5	0.75 ... 1.5	0.14 ... 1.5¹)	0.5 ... 2.5¹)
UL data							
Rated voltage	[V]	600	600	600	600	600	600
Rated current	[A]	17.5	24	10	10	16	24
Connection cross section	AWG	16	14	18-16	18-16	16	14
CSA / cUL data							
Rated voltage	[V]	600	600	600	600	600	600
Rated current	[A]	15	18	10	10	14	18
Connection cross section	AWG	16	14	18-16	18-16	16	14
Material data							
Contact carrier material		PC	PC	PA / PC	PA / PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0	V0
Contact material		-	Copper alloy	Copper alloy	Copper alloy	-	Copper alloy
Contact surface material		Ag	Ag	Ag	Ag	Ag	Ag
Ambient conditions							
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-25 ... 80	-25 ... 80	-40 ... 125	-40 ... 125
General data							
Connection method		Push-in connection	Screw connection	QUICKON connection	QUICKON connection	Push-in connection	Screw connection
Stripping length	[mm]	10	5	-	-	10	5
Number of positions		3	3	3	3	4	4
Contact numbering		1 - 3	1 - 3	1 - 3	1 - 3	1 - 4	1 - 4
Insertion/withdrawal cycles		≥ 500	≥ 500	>= 500	>= 500	≥ 500	≥ 500

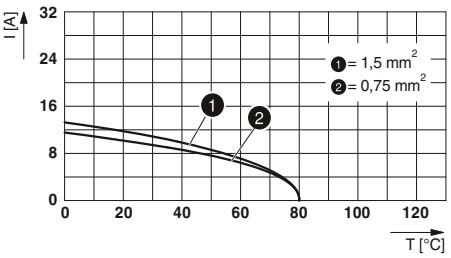
Derating curves



HC-A03-I-PT-...



HC-A03-I-UT... / HC-A04-I-UT...



HC-A 3...Q1,5...

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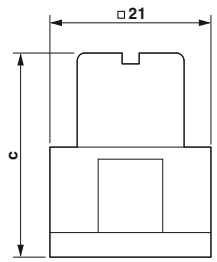
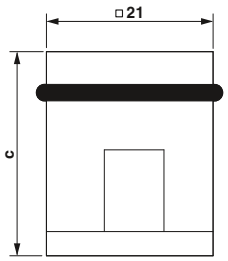
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection	3	1 - 3	D7	① **HC-A03-I-PT-...**	1585265	1585252	1
Screw connection	3	1 - 3	D7	② **HC-A03-I-UT-...**	1585223	1585210	1
Insulation displacement connection	3	1 - 3	D7	Sleeve housing ③ **HC-A3-...Q1,5-TFL-G-PA**	1641510	1641581	1
Insulation displacement connection	3	1 - 3	D7	Coupling housing ④ **HC-A3-...Q1,5-KML-G-PA**	1641617	1641604	1
Push-in connection	4	1 - 4	D7	⑤ **HC-A04-I-PT-...**	1585281	1585278	1
Screw connection	4	1 - 4	D7	⑥ **HC-A04-I-UT-...**	1585249	1585236	1

Dimensions (in mm)



Dimensional drawing: female connector



Dimensional drawing: male connector

		a	b	c	d
①	Female	21		28.5	
	Male				
②	Female	21		28	
	Male			28.5	
③	Female	26.5		66	
	Male				
④	Female	26.5		62.8	
	Male				
⑤	Female	21		33.5	
	Male			34	
⑥	Female	21		28.5	
	Male				

Accessories

Coding profiles
From page 656

Replacement sealing screws
From page 663

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D7, D8, Q7, Q12 series

50 V ... 400 V, 10 A

Connection technology:
– Crimp connection CK 1,6

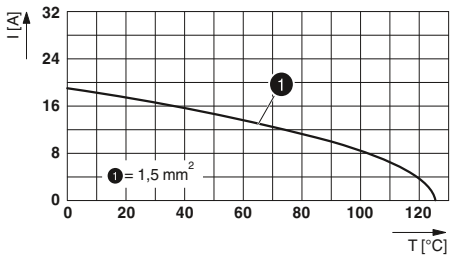
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
1) Only for plastic housings

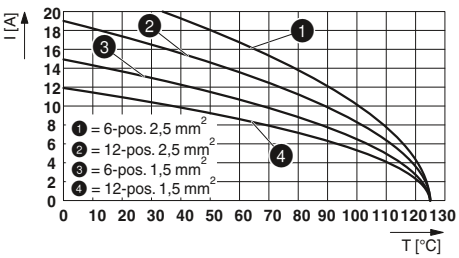
Technical data

Type		① HC-D 7-I-CT-...	② HC-D 8-I-CT-... without PE	③ HC-Q07-I-CT-...	④ HC-Q12-I-CT-...
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	10	10	10	10
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	250[1])	50	400	400
Rated surge voltage, contacts	[kV]	4	0.8	6	6
Connection cross section	[mm²]	0.14 ... 2.5	0.14 ... 2.5	0.14 ... 2.5	0.14 ... 2.5
UL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	12	12	17.5	15
Connection cross section	AWG	14	14	14	14
CSA / cUL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	10	10	13.5	12
Connection cross section	AWG	14	14	14	14
Material data					
Contact carrier material		PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Crimp connection	Crimp connection	Crimp connection	Crimp connection
Stripping length	[mm]	8	8	8	8
Number of positions		7	8	7	12
Contact numbering		1 - 7	1 - 8	1 - 7	1 - 12
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

Derating curves



HC-D 7-I-CT-...



HC-Q12-I-CT-...

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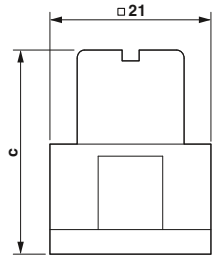
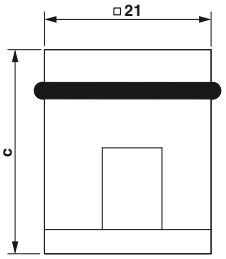
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection CK 1,6							
	7	1 - 7	D7	① **HC-D 7-I-CT-...**	1584347	1584334	1
Crimp connection CK 1,6				without PE			
	8	1 - 8	D7	② **HC-D 8-I-CT-...**	1584363	1584350	1
Crimp connection CK 1,6							
	7	1 - 7	D7	③ **HC-Q07-I-CT-...**	1418623	1418624	1
Crimp connection CK 1,6							
	12	1 - 12	D7	④ **HC-Q12-I-CT-...**	1418625	1418626	1
Turned crimp contacts CK 1,6 Silver-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 26 - 22		**CK1,6-ED-0,37... AG**	1663394	1663336	100
		0.5 - 0.5 / 20		**CK1,6-ED-0,50... AG**	1663404	1663349	100
		0.75 - 0.75 / 18		**CK1,6-ED-0,75... AG**	1663417	1663352	100
		0.75 - 1 / 18		**CK1,6-ED-1,00... AG**	1663420	1663365	100
		1.5 - 1.5 / 16		**CK1,6-ED-1,50... AG**	1663433	1663378	100
		2.5 - 2.5 / 14		**CK1,6-ED-2,50... AG**	1663446	1663381	100
Turned crimp contacts CK 1,6 Gold-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 24 - 22		**CK1,6-ED-0,37... AU**	1674969	1674901	100
		0.5 - 0.5 / 20		**CK1,6-ED-0,50... AU**	1674480	1672453	100
		0.75 - 0.75 / 18		**CK1,6-ED-0,75... AU**	1672440	1674914	100
		0.75 - 1 / 18		**CK1,6-ED-1,00... AU**	1674943	1674888	100
		1.5 - 1.5 / 16		**CK1,6-ED-1,50... AU**	1674930	1674875	100
		2.5 - 2.5 / 14		**CK1,6-ED-2,50... AU**	1674985	1674927	100

Dimensions (in mm)



Dimensional drawing: female connector



Dimensional drawing: male connector

		a	b	c	d
①	Female	21		32	
	Male				
②	Female	21		32	
	Male				
③	Female	21		40.1	
	Male			39.5	
④	Female	21		43.1	
	Male			40.8	

Accessories

Crimping tools
From page 670

Dummy sockets
phoenixcontact.net/products

Replacement sealing screws
From page 663

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Q5 series

230 V / 400 V, 24 A

Connection technology:
– Crimp connection CK 2,5

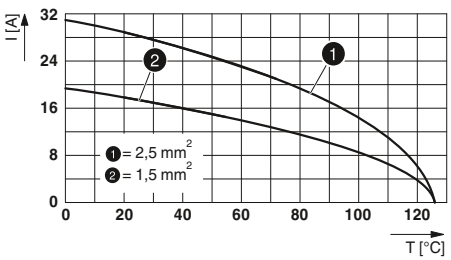
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

Technical data

Type		① HC-Q05-I-CT-...
Approvals		
IEC data		
Rated current, contacts (at 40°C)	[A]	24
Overvoltage category		III
Degree of pollution		3
Rated voltage (III/3) contacts	[V]	230 / 400
Rated surge voltage, contacts	[kV]	4
Connection cross section	[mm²]	0.5 ... 2.5
UL data		
Rated voltage	[V]	600
Rated current	[A]	24
Connection cross section	AWG	14
CSA / cUL data		
Rated voltage	[V]	600
Rated current	[A]	15
Connection cross section	AWG	14
Material data		
Contact carrier material		PC
Inflammability class in acc. with UL 94		V0
Contact material		Copper alloy
Contact surface material		Ag (alternatively Au)
Temperature data		
Ambient temperature range	[°C]	-40 ... 125
General data		
Connection method		Crimp connection
Hexagonal socket	[mm]	-
Stripping length	[mm]	7.5
Number of positions		5
Contact numbering		1 - 5
Insertion/withdrawal cycles		≥ 500

Derating curves



HC-Q05-I-CT-...

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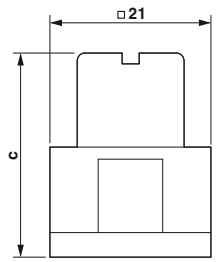
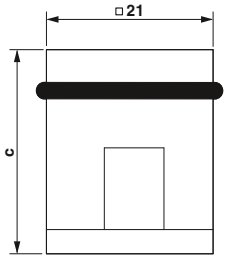
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection CK 2,5							
	5	1 - 5	D7	① **HC-Q05-I-CT-...**	1406537	1406538	1
Turned crimp contacts CK 2,5 Silver-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		**CK2,5-ED-0,50... AG**	1663640	1663572	100
		0.75 - 0.75 / 18		**CK2,5-ED-0,75... AG**	1663653	1663585	100
		0.75 - 1 / 18		**CK2,5-ED-1,00... AG**	1663666	1663598	100
		1.5 - 1.5 / 16		**CK2,5-ED-1,50... AG**	1663679	1663608	100
		2.5 - 2.5 / 14		**CK2,5-ED-2,50... AG**	1663682	1663611	100
		3 - 3 / 12		**CK2,5-ED-3,00... AG**	1663695	1663624	100
Turned crimp contacts CK 2,5 Gold-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		**CK2,5-ED-0,50... AU**	1674859	1674804	100
		0.75 - 1 / 18		**CK2,5-ED-1,00... AU**	1674833	1674781	100
		1.5 - 1.5 / 16		**CK2,5-ED-1,50... AU**	1674820	1674778	100
		2.5 - 2.5 / 14		**CK2,5-ED-2,50... AU**	1674862	1674817	100

Dimensions (in mm)



Dimensional drawing: female connector



Dimensional drawing: male connector

		a	b	c	d
①	Female	21		40.1	
	Male			39.5	

Accessories

Crimping tools
From page 670

Dummy sockets
From page 657

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Q2, Q3, Q4 series

400 V, 40 A

Connection technology:
– Axial screw connection
– Crimp connection CK 4,0

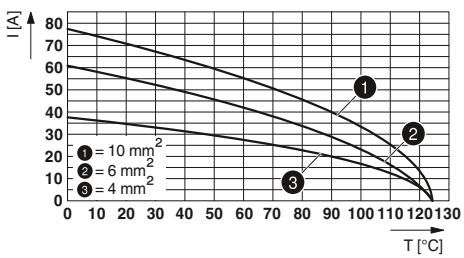
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
[1]) Only for plastic housings

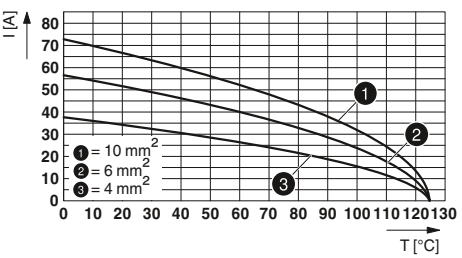
Technical data

Type		① HC-HS 2-D7-E...S	② HC-Q02-I-CT-...	③ HC-Q03-I-CT-...	④ HC-Q04-I-CT-... without PE
Approvals		EAC GL	EAC	EAC	EAC
IEC data					
Rated current, contacts (at 40°C)	[A]	40	40	40	40
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	400	400	400	830[1])
Rated surge voltage, contacts	[kV]	6	6	6	8
Connection cross section	[mm²]	4 ... 10	1.5 ... 6	1.5 ... 6	1.5 ... 6
UL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
CSA / cUL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
Material data					
Contact carrier material		PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Ag	Ag
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Axial screw connection	Crimp connection	Crimp connection	Crimp connection
Hexagonal socket	[mm]	2	-	-	-
Stripping length	[mm]	8	9	9	9
Number of positions		2	2	3	4
Contact numbering		1 - 2	1 - 2	1 - 2	1 - 4
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

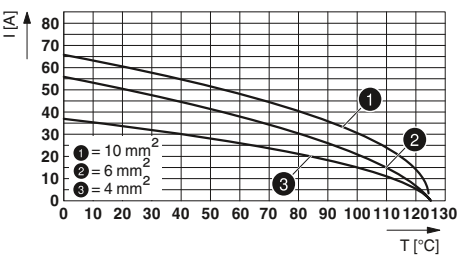
Derating curves



HC-Q02-I-CT-...



HC-Q03-I-CT-...



HC-Q04-I-CT-...

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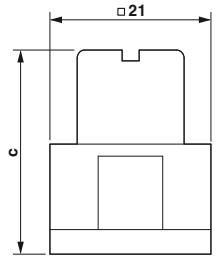
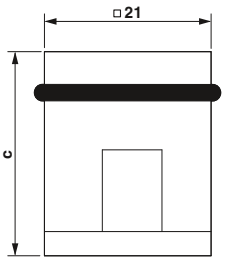
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Axial screw connection							
	2	1 - 2	D7	① **HC-HS 2-D7-E...S**	1586264	1586277	10
Crimp connection CK 4,0							
	2	1 - 2	D7	② **HC-Q02-I-CT-...**	1419895	1419893	1
Crimp connection CK 4,0							
	3	1 - 2	D7	③ **HC-Q03-I-CT-...**	1419897	1419896	1
Crimp connection CK 4,0							
	4	1 - 4	D7	without PE ④ **HC-Q04-I-CT-...**	1419899	1419898	1
Turned crimp contacts CK 4,0 Silver-plated		**Cross section mm² / AWG**					
		1.5 - 1.5 / 16		**CK4,0-ED-1,50... AG**	1663271	1663239	25
		2.5 - 2.5 / 14		**CK4,0-ED-2,50... AG**	1663284	1663242	25
		4 - 4 / 12		**CK4,0-ED-4,00... AG**	1663297	1663255	25
		6 - 6 / 10		**CK4,0-ED-6,00... AG**	1663307	1663268	25
		10 - 10 / 8		**CK4,0-ED-10,00... AG**	1586183	1586198	25

Dimensions (in mm)



Dimensional drawing: female connector



Dimensional drawing: male connector

		a	b	c	d
①	Female	21		34.8	
	Male			40	
②	Female	21		34.8	
	Male			40	
③	Female	21		34.8	
	Male			40	
④	Female	21		34.8	
	Male			40	

Accessories

Crimping tools
From page 670

HC-HS 2... coding profiles
From page 656

Coding profiles
From page 656

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Q series, RJ45 modules

Connection technology:
– RJ45 and RJI

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off

new

		Technical data			
Type		① **HC-Q-I-RJ45 GC-...** RJ45, CAT6	② **HC-Q-I-RJ45-08-...** RJ45, CAT6	③ **HC-Q-I-RJ45-AD-PC-...** for RJ45 patch cable	④ **HC-Q-I-RJ45I-AD-08-PC-...** for RJ industrial inserts
Approvals		-	-	-	-
IEC data					
Rated current, contacts (at 40°C)	[A]	-	1	1	1
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	-	50	50	50
Rated surge voltage, contacts	[kV]	-	0.8	0.8	0.8
Connection cross section	[mm²]	-	-	-	-
UL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
CSA / cUL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
Material data					
Contact carrier material		-	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		-	Au	Au	Au
Temperature data					
Ambient temperature range	[°C]	-40 ... 70	-25 ... 60	-25 ... 60	-40 ... 70
General data					
Connection method		-	-	-	-
Stripping length	[mm]	-	-	-	-
Number of positions		8	8	8	8
Contact numbering		-	-	-	-
Insulation resistance	[GΩ]	- 0.1	-	-	-
Contact resistance	[mΩ]	-	-	-	-
Insertion/withdrawal cycles		-	-	-	≥ 500

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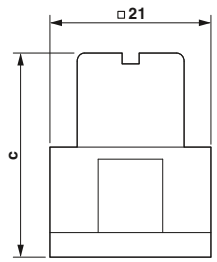
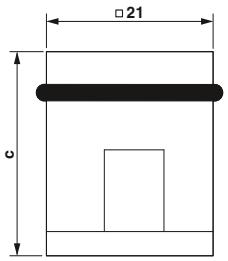
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
RJ45 gender changer				RJ45, CAT6			
	8		D7	① **HC-Q-I-RJ45 GC-...**	1422590		1
RJ45 pin insert				RJ45, CAT6			
	8		D7	② **HC-Q-I-RJ45-08-...**		1077117	1
RJ45 adapter				for RJ45 patch cable			
	8		D7	③ **HC-Q-I-RJ45-AD-PC-...**		1077120	1
RJ45 adapter				for RJ industrial inserts			
	8		D7	④ **HC-Q-I-RJ45I-AD-08-PC-...**		1077119	1
RJ45 patch cable							
Length: 1 m							
			CAT6$_A$	**NBC-R4AC1/1,0-94G/R4AC1-BU**		1413160	1
			CAT6	**FL CAT6 PATCH 1,0**		2891385	10
			CAT5e	**FL CAT5 PATCH 1,0**		2832276	10
RJ45 connector, IP20, CAT5e		**Cross section mm² / AWG**					
		0.14 - 0.25 / 26 - 24		**CUC-INI-C1ZNI-S/R4IE8**		1421608	1
		0.23 - 0.32 / 23 - 22		**CUC-INI-C1ZNI-S/R4IP8**		1421129	1

Dimensions (in mm)



Dimensional drawing: female connector



Dimensional drawing: male connector

		a	b	c	d
①	Female	21		39	
	Male				
②	Female				
	Male	21		22	
③	Female				
	Male	21		20.5	
④	Female				
	Male	21		35	

Accessories

RJ45 patch cables
From page 721

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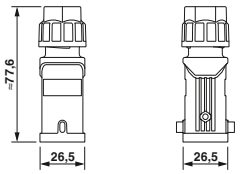
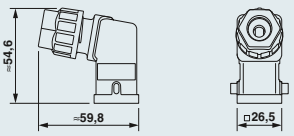
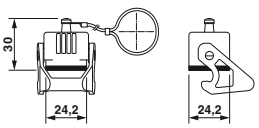
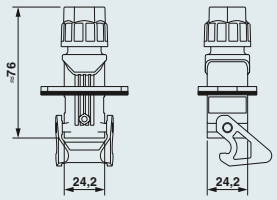
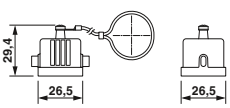
Size D7, plastic, sleeve housings for single locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Clamping area	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 77.6 mm**	4 mm ... 10 mm 10 mm ... 16 mm	**HC-STA-D07-HHFS-1TGM20-PL-BK** **HC-STA-D07-HHFS-1TGM25-PL-BK**	**1419255** **1419256**	1 1	
Sleeve housing **Height: 54.5 mm**	4 mm ... 10 mm 10 mm ... 16 mm	**HC-STA-D07-HHFS-1SGM20-PL-BK** **HC-STA-D07-HHFS-1SGM25-PL-BK**	**1419257** **1419258**	1 1	
Protective cover, for housing sizes: **Height: 30 mm**		D7, for female insert **HC-STA-D07-HCLWS-PLR-BK** D7, for male insert **HC-STA-D07-HCLWS-PL-BK**	 **1419274** **1419275**	 1 1	
Feed-through housing, with single locking latch **Height: 76 mm**	4 mm ... 10 mm	**HC-STA-D07-CHPWS-1TGM20-PL-BK**	**1419269**	1	
Protective cover, for coupling housings: **Height: 29.4 mm**		D7, for female insert **HC-STA-D07-BCLFS-PLR-BK** D7, for male insert **HC-STA-D07-BCLFS-PL-BK**	 **1419270** **1419271**	 1 1	

Accessories

Replacement sealing screws
From page 663

Replacement latches
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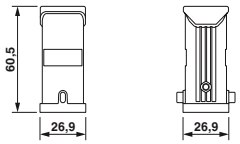
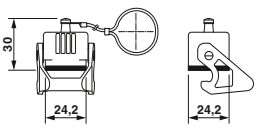
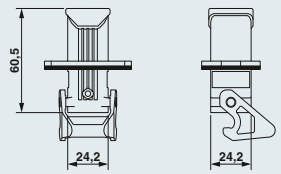
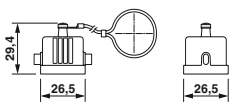
Size D7, metal, sleeve housings for single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 60.5 mm**	1x M20 1x M25 1x Pg11	**HC-STA-D07-HHFS-1TTM20-EL-AL** **HC-STA-D07-HHFS-1TTM25-EL-AL** **HC-STA-D07-HHFS-1TTP11-EL-AL**	1419229 1419231 1419232	1 1 1	
Sleeve housing **Height: 52.8 mm**	1x M20 1x M25 1x Pg11	**HC-STA-D07-HHFS-1STM20-EL-AL** **HC-STA-D07-HHFS-1STM25-EL-AL** **HC-STA-D07-HHFS-1STP11-EL-AL**	1419235 1419236 1419237	1 1 1	
Protective cover, for housing sizes: **Height: 30 mm**		D7, for female insert **HC-STA-D07-HCLWS-PLR-BK** D7, for male insert **HC-STA-D07-HCLWS-PL-BK**	 1419274 1419275	 1 1	
Feed-through housing, with single locking latch **Height: 60.5 mm**	1x M20	**HC-STA-D07-CHPWS-1TGM20-EL-AL**	1419242	1	
Protective cover, for coupling housings: **Height: 29.4 mm**		D7, for female insert **HC-STA-D07-BCLFS-PLR-BK** D7, for male insert **HC-STA-D07-BCLFS-PL-BK**	 1419270 1419271	 1 1	

Accessories

Cable glands
From page 686

Replacement sealing screws
From page 663

Replacement latches
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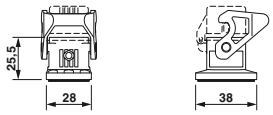
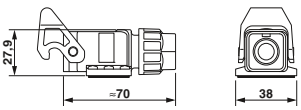
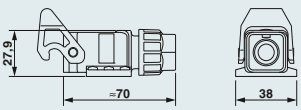
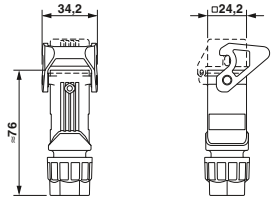
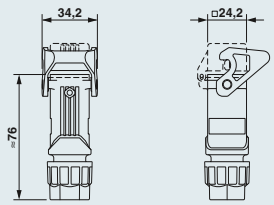
Size D7, plastic, supporting base elements with single locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Clamping area	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 25.5 mm**		Without cover **HC-STA-D07-BWS-PL-BK** With cover, for female inserts **HC-STA-D07-BWSCF-PL-BK** With cover, for male inserts **HC-STA-D07-BWSCM-PL-BK**	 1419265 1419277 1419278	 1 1 1	
Panel mounting base **Height: 27.9 mm**		Angled version **HC-STA-D07-BAWS-PL-BK**	 1419266	 1	
Box mounting base **Height: 27.9 mm**	4 mm ... 10 mm	open floor **HC-STA-D07-SHOWS-1SGM20-PL-BK**	 1419267	 1	
Box mounting base **Height: 28 mm**	4 mm ... 10 mm	enclosed floor **HC-STA-D07-SHCWS-1SGM20-PL-BK**	 1419268	 1	
Coupling housing **Height: 76 mm**	 4 mm ... 10 mm 10 mm ... 16 mm	Without cover **HC-STA-D07-CHWS-1TGM20-PL-BK** **HC-STA-D07-CHWS-1TGM25-PL-BK**	 1419259 1419260	 1 1	
Coupling housing **Height: 76 mm**	 4 mm ... 10 mm 10 mm ... 16 mm 4 mm ... 10 mm 10 mm ... 16 mm	With cover, for female inserts **HC-STA-D07-CHWSCF-1TGM20-PL-BK** **HC-STA-D07-CHWSCF-1TGM25-PL-BK** With cover, for male inserts **HC-STA-D07-CHWSCM-1TGM20-PL-BK** **HC-STA-D07-CHWSCM-1TGM25-PL-BK**	 1419261 1419262 1419263 1419264	 1 1 1 1	

Accessories

Protective covers
From page 654

Replacement sealing screws
From page 663

Replacement seals
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Replacement latches
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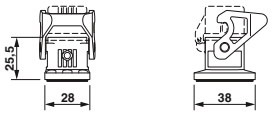
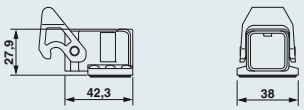
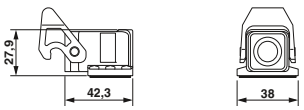
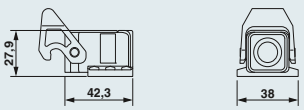
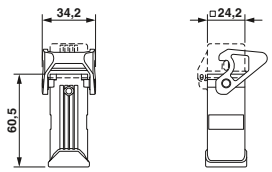
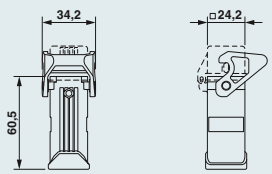
Size D7, metal, supporting base elements with single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66 / IP67
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 25.5 mm**		Without cover **HC-STA-D07-BWS-EL-AL** With cover, for female inserts **HC-STA-D07-BWSCF-EL-AL** With cover, for male inserts **HC-STA-D07-BWSCM-EL-AL**	 1419249 1419251 1419250	 1 1 1	
Panel mounting base **Height: 28.5 mm**		Angled version **HC-STA-D07-BAWS-EL-AL**	 1419252	 1	
Box mounting base **Height: 27.9 mm**	1x M20 1x Pg11	open floor **HC-STA-D07-SHOWS-1STM20-EL-AL** **HC-STA-D07-SHOWS-1STP11-EL-AL**	 1419253 1419233	 1 1	
Box mounting base **Height: 27.9 mm**	1x M20 1x Pg11	enclosed floor **HC-STA-D07-SHCWS-1STM20-EL-AL** **HC-STA-D07-SHCWS-1STP11-EL-AL**	 1419234 1419241	 1 1	
Coupling housing **Height: 60.5 mm**	1x M20 1x M25 1x Pg11	Without cover **HC-STA-D07-CHWS-1TTM20-EL-AL** **HC-STA-D07-CHWS-1TTM25-EL-AL** **HC-STA-D07-CHWS-1TTP11-EL-AL**	 1419238 1419239 1419240	 1 1 1	
Coupling housing **Height: 60.5 mm**	1x M20 1x M25 1x Pg11 1x M20 1x M25 1x Pg11	With cover, for female inserts **HC-STA-D07-CHWSCF-1TTM20-EL-AL** **HC-STA-D07-CHWSCF-1TTM25-EL-AL** **HC-STA-D07-CHWSCF-1TTP11-EL-AL** With cover, for male inserts **HC-STA-D07-CHWSCM-1TTM20-EL-AL** **HC-STA-D07-CHWSCM-1TTM25-EL-AL** **HC-STA-D07-CHWSCM-1TTP11-EL-AL**	 1419243 1419244 1419245 1419246 1419247 1419248	 1 1 1 1 1 1	

Accessories

Protective covers
From page 654

Cable glands
From page 686

Replacement seals
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Replacement latches
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A10 series

250 V, 16 A ... 20 A

Connection technology:
– Push-in connection
– Screw connection
– Crimp connection

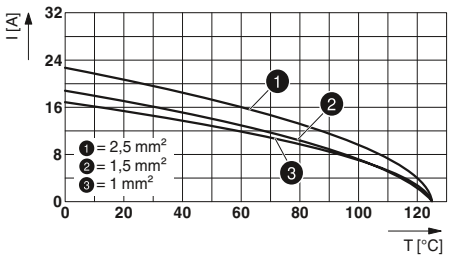
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
[1]) For flexible wires with wire end protection

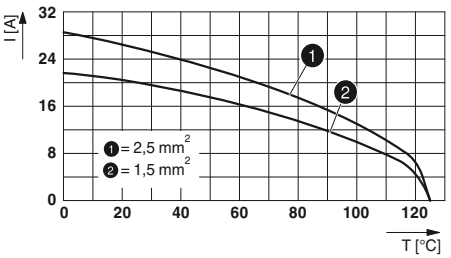
Technical data

Type		① HC-A 10-I-PT-...	② HC-A 10-I-UT-...	③ HC-A 10-E...C
Approvals				
IEC data				
Rated current, contacts (at 40°C)	[A]	16	20	16
Overvoltage category		III	III	III
Degree of pollution		3	3	3
Rated voltage (III/3) contacts	[V]	250	250	250
Rated surge voltage, contacts	[kV]	4	4	4
Connection cross section	[mm²]	0.14 ... 2.5[1])	0.5 ... 2.5	0.5 ... 4
UL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	17	19	-
Connection cross section	AWG	14	14	-
CSA / cUL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	14	15	10
Connection cross section	AWG	14	14	20-13
Material data				
Contact carrier material		PC	PC	PA
Inflammability class in acc. with UL 94		V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Ag (alternatively Au)
Temperature data				
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125
General data				
Connection method		Push-in connection	Screw connection	Crimp connection
Stripping length	[mm]	8	7	8
Number of positions		10	10	10
Contact numbering		1 - 10	1 - 10	1 - 10
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500

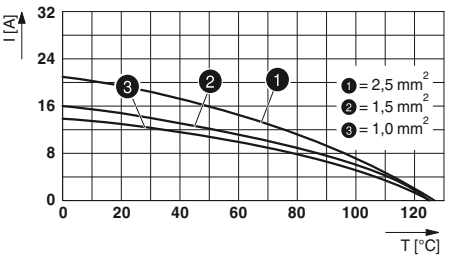
Derating curves



HC-A 10-I-PT-...



HC-A 10-I-UT-...



HC-A 10-E...C

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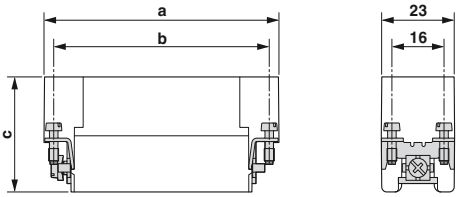
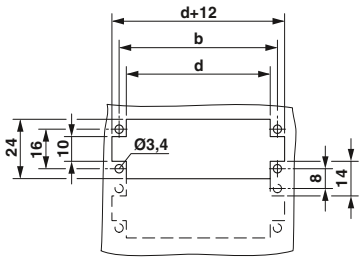
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	10	1 - 10	D15	① **HC-A 10-I-PT-...**	1585362	1585359	1
Screw connection							
	10	1 - 10	D15	② **HC-A 10-I-UT-...**	1585304	1585294	1
Crimp connection CK 2,5							
	10	1 - 10	D15	③ **HC-A 10-E...C**	1676983	1676996	10
Turned crimp contacts CK 2,5 Silver-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	**CK2,5-ED-0,50... AG**	1663640	1663572	100
			0.75 - 0.75 / 18	**CK2,5-ED-0,75... AG**	1663653	1663585	100
			0.75 - 1 / 18	**CK2,5-ED-1,00... AG**	1663666	1663598	100
			1.5 - 1.5 / 16	**CK2,5-ED-1,50... AG**	1663679	1663608	100
			2.5 - 2.5 / 14	**CK2,5-ED-2,50... AG**	1663682	1663611	100
			4 - 4 / 12	**CK2,5-ED-4,00... AG**	1663705	1663637	100
Turned crimp contacts CK 2,5 Gold-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	**CK2,5-ED-0,50... AU**	1674859	1674804	100
			0.75 - 1 / 18	**CK2,5-ED-1,00... AU**	1674833	1674781	100
			1.5 - 1.5 / 16	**CK2,5-ED-1,50... AU**	1674820	1674778	100
			2.5 - 2.5 / 14	**CK2,5-ED-2,50... AU**	1674862	1674817	100
			4 - 4 / 12	**CK2,5-ED-4,00... AU**	1674846	1674794	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	55.5	49.5	34.1	43.5
	Male				
②	Female	55.5	49.5	31.5	43.5
	Male			34.1	
③	Female	56.5	49.5	30	43.5
	Male			33	

Accessories

Crimping tools
From page 670

Coding profiles
From page 656

Coding elements
From page 657

Replacement PE screws
From page 662

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A16 series

250 V, 16 A ... 20 A

Connection technology:
– Push-in connection
– Screw connection
– Crimp connection

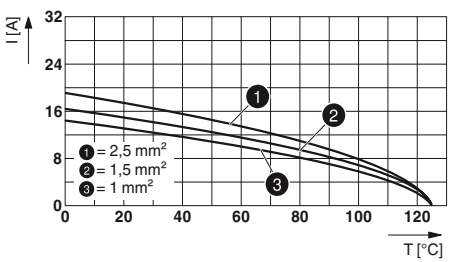
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
1) For flexible wires with wire end protection

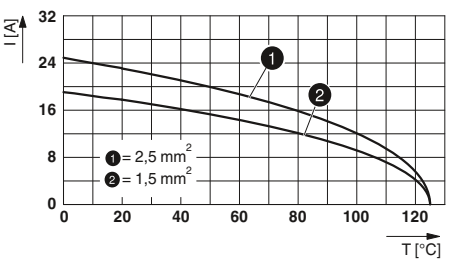
Technical data

Type		① ② HC-A 16-I-PT-...	③ ④ HC-A 16-I-UT-...	⑤ ⑥ HC-A 16-E...C
Approvals				
IEC data				
Rated current, contacts (at 40°C)	[A]	16	20	16
Overvoltage category		III	III	III
Degree of pollution		3	3	3
Rated voltage (III/3) contacts	[V]	250	250	250
Rated surge voltage, contacts	[kV]	4	4	4
Connection cross section	[mm²]	0.14 ... 2.5¹)	0.5 ... 2.5	0.5 ... 4
UL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	16	19	-
Connection cross section	AWG	14	14	-
CSA / cUL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	13	15	10
Connection cross section	AWG	14	14	20-13
Material data				
Contact carrier material		PC	PC	PA
Inflammability class in acc. with UL 94		V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Ag (alternatively Au)
Temperature data				
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125
General data				
Connection method		Push-in connection	Screw connection	Crimp connection
Stripping length	[mm]	8	7	8
Number of positions		16	16	16
Contact numbering		1 - 16	1 - 16	1 - 16
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500

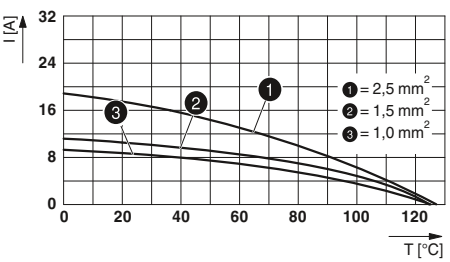
Derating curves



HC-A 16-I-PT-...



HC-A 16-I-UT-...



HC-A 16-E...C

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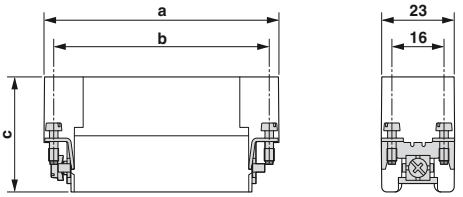
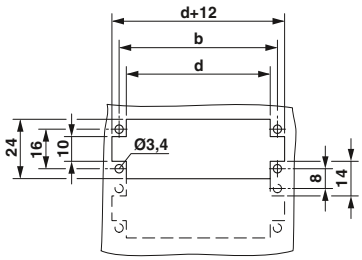
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	16	1 - 16	D25 / D50	① **HC-A 16-I-PT-...**	1585388	1585375	1
	16	17 - 32	D25 / D50	② **HC-A 16-I-PT-...-32**	1585401	1585391	1
Screw connection							
	16	1 - 16	D25 / D50	③ **HC-A 16-I-UT-...**	1585320	1585317	1
	16	17 - 32	D25 / D50	④ **HC-A 16-I-UT-...-32**	1585346	1585333	1
Crimp connection CK 2,5							
	16	1 - 16	D25 / D50	⑤ **HC-A 16-E...C**	1677018	1677034	10
	16	17 - 32	D25 / D50	⑥ **HC-A 16-E...C-32**	1677050	1677076	10
Turned crimp contacts CK 2,5 Silver-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	**CK2,5-ED-0,50... AG**	1663640	1663572	100
			0.75 - 0.75 / 18	**CK2,5-ED-0,75... AG**	1663653	1663585	100
			0.75 - 1 / 18	**CK2,5-ED-1,00... AG**	1663666	1663598	100
			1.5 - 1.5 / 16	**CK2,5-ED-1,50... AG**	1663679	1663608	100
			2.5 - 2.5 / 14	**CK2,5-ED-2,50... AG**	1663682	1663611	100
			4 - 4 / 12	**CK2,5-ED-4,00... AG**	1663705	1663637	100
Turned crimp contacts CK 2,5 Gold-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	**CK2,5-ED-0,50... AU**	1674859	1674804	100
			0.75 - 1 / 18	**CK2,5-ED-1,00... AU**	1674833	1674781	100
			1.5 - 1.5 / 16	**CK2,5-ED-1,50... AU**	1674820	1674778	100
			2.5 - 2.5 / 14	**CK2,5-ED-2,50... AU**	1674862	1674817	100
			4 - 4 / 12	**CK2,5-ED-4,00... AU**	1674846	1674794	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	72	66	31.5	60
	Male			34.1	
②	Female	72	66	31.5	60
	Male				
③	Female	72	66	31.5	60
	Male			34.1	
④	Female	72	66	31.5	60
	Male			34.1	
⑤	Female	72	66	31.7	60
	Male			31.8	
⑥	Female	72	66	31.7	60
	Male			31.8	

Accessories

Crimping tools
From page 670

Coding profiles
From page 656

Coding elements
From page 657

Replacement PE screws
From page 662

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D15, D25 series

250 V, 10 A

Connection technology:
– Crimp connection

Guide pins and sockets are mandatory for HC-D... and HC-DD series contact inserts; see page 657.

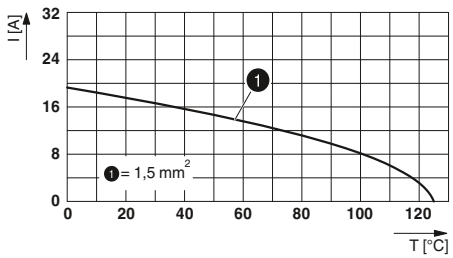
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

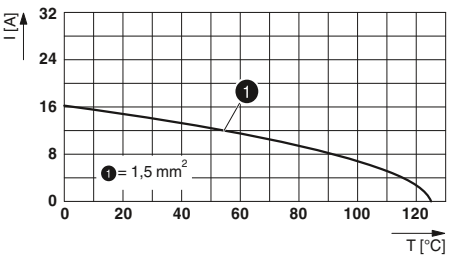
Technical data

Type		① HC-D 15-I-CT-...	②③ HC-D 25-I-CT-...	④ HC-D 25-I-CT-...-Z Euromap
Approvals				
IEC data				
Rated current, contacts (at 40°C)	[A]	10	10	10
Overvoltage category		III	III	III
Degree of pollution		3	3	3
Rated voltage (III/3) contacts	[V]	250	250	250
Rated surge voltage, contacts	[kV]	4	4	4
Connection cross section	[mm²]	0.14 ... 2.5	0.14 ... 2.5	0.14 ... 2.5
UL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	10	10	10
Connection cross section	AWG	14	14	14
CSA / cUL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	8	8	8
Connection cross section	AWG	14	14	14
Material data				
Contact carrier material		PC	PC	PA
Inflammability class in acc. with UL 94		V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)
Temperature data				
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125
General data				
Connection method		Crimp connection	Crimp connection	Crimp connection
Stripping length	[mm]	8	8	8
Number of positions		15	25	25
Contact numbering		-	-	-
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500

Derating curves



HC-D 15-I-CT-....



HC-D 25-I-CT-...

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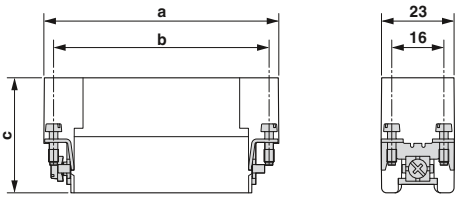
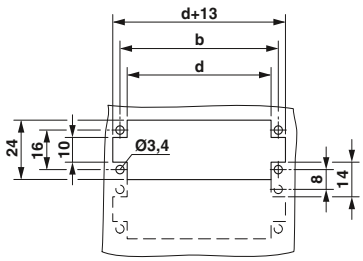
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection CK 1,6							
	15		D15	① **HC-D 15-I-CT-...**	1584389	1584376	1
Crimp connection CK 1,6							
	25		D25 / D50	② **HC-D 25-I-CT-...**	1584402	1584392	1
	25		D25 / D50	③ **HC-D 25-I-CT-...**	1584402	1584392	1
Crimp connection CK 1,6							
	25		D25 / D50	Euromap ④ **HC-D 25-I-CT-...-Z**	1411481	1411478	1
Turned crimp contacts CK 1,6 Silver-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 26 - 22		**CK1,6-ED-0,37... AG**	1663394	1663336	100
		0.5 - 0.5 / 20		**CK1,6-ED-0,50... AG**	1663404	1663349	100
		0.75 - 0.75 / 18		**CK1,6-ED-0,75... AG**	1663417	1663352	100
		0.75 - 1 / 18		**CK1,6-ED-1,00... AG**	1663420	1663365	100
		1.5 - 1.5 / 16		**CK1,6-ED-1,50... AG**	1663433	1663378	100
		2.5 - 2.5 / 14		**CK1,6-ED-2,50... AG**	1663446	1663381	100
Turned crimp contacts CK 1,6 Gold-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 24 - 22		**CK1,6-ED-0,37... AU**	1674969	1674901	100
		0.5 - 0.5 / 20		**CK1,6-ED-0,50... AU**	1674480	1672453	100
		0.75 - 0.75 / 18		**CK1,6-ED-0,75... AU**	1672440	1674914	100
		0.75 - 1 / 18		**CK1,6-ED-1,00... AU**	1674943	1674888	100
		1.5 - 1.5 / 16		**CK1,6-ED-1,50... AU**	1674930	1674875	100
		2.5 - 2.5 / 14		**CK1,6-ED-2,50... AU**	1674985	1674927	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	55.4	49.5	33.5	43.5
	Male			34.2	
②	Female	72	66	33.5	60
	Male			34.2	
③	Female	72	66	33.5	60
	Male			34.2	
④	Female	72	66	33.5	60
	Male			34.2	

Accessories

Crimping tools
From page 670

Guide elements
From page 657

Replacement PE screws
From page 662

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@stevenengineering.com - www.stevenengineering.com

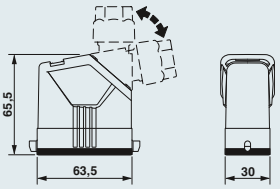
Size D15, plastic, EVO sleeve housings for single locking latch

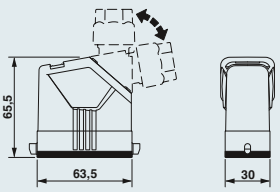
Technical data

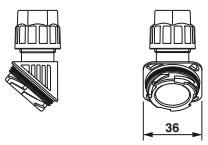
General data	
Housing material	PA
Locking latch material	-
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 65.5 mm**		**HC-EVO-D15-HHFS-PL-BK**	1411340	1	
Sleeve housing **Height: 65.5 mm**		**HC-EVO-D15-HHFS-PL-BK**	1411340	1	
Cable gland	**Clamping area**				
	7 mm ... 13 mm	**HC-D-G-M20-PLRBK**	1411350	1	
	9 mm ... 17 mm	**HC-D-G-M25-PLRBK**	1411351	1	
Connector set[1]) **Height: 100.5 mm**		Without cover, Push-in connection **HC-EVO-A10PT-BWS-HH-M20-PLRBK** Without cover, screw connection **HC-EVO-A10UT-BWS-HH-M20-PLRBK** With cover, Push-in connection **HC-EVO-A10PT-BWSC-HH-M20-PLRBK** With cover, screw connection **HC-EVO-A10UT-BWSC-HH-M20-PLRBK**	 1424453 1411356 1424454 1411357	 1 1 1 1	







Notes:

Marking label: US-EMP (20X9) Order No. 0829439

[1]) Connector sets: phoenixcontact.net/webcode/#0523

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 658

Module carrier frames
phoenixcontact.net/products

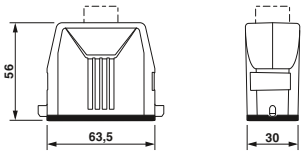
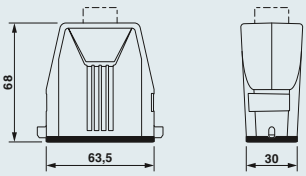
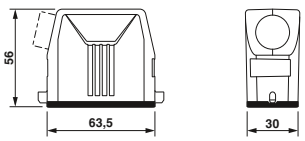
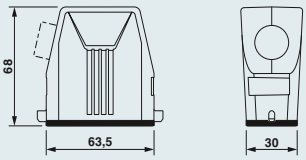
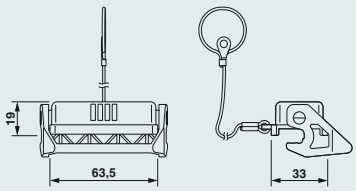
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size D15, metal, STANDARD sleeve housings for single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	-
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 56 mm**	1x M20	**HC-STA-D15-HLFS-1TTM20-ELC-AL**	1424350	1	
	1x Pg13.5	**HC-STA-D15-HLFS-1TTP13-ELC-AL**	1424352	1	
Sleeve housing **Height: 68 mm**	1x M25	**HC-STA-D15-HHFS-1TTM25-ELC-AL**	1424351	1	
	1x Pg16	**HC-STA-D15-HHFS-1TTP16-ELC-AL**	1424353	1	
	1x Pg21	**HC-STA-D15-HHFS-1TTP21-ELC-AL**	1424358	1	
Sleeve housing **Height: 56 mm**	1x M20	**HC-STA-D15-HLFS-1STM20-ELC-AL**	1424345	1	
	1x Pg16	**HC-STA-D15-HLFS-1STP16-ELC-AL**	1424347	1	
Sleeve housing **Height: 68 mm**	1x M25	**HC-STA-D15-HHFS-1STM25-ELC-AL**	1424346	1	
	1x Pg16	**HC-STA-D15-HHFS-1STP16-ELC-AL**	1424348	1	
	1x Pg21	**HC-STA-D15-HHFS-1STP21-ELC-AL**	1424349	1	
Protective cover **Height: 19 mm**		**HC-STA-D15-HCLWS-PL-BK**	1424375	1	

Notes:

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Cover plates
From page 664

D-SUB adapter plates
From page 665

Module carrier frames
phoenixcontact.net/products

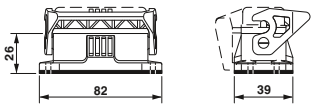
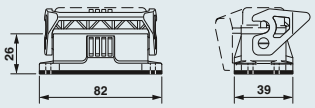
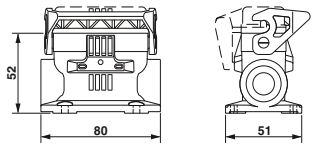
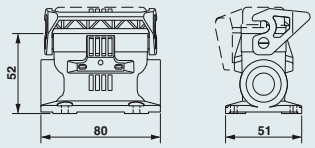
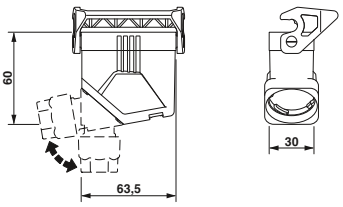
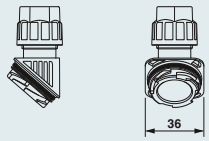
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size D15, plastic, EVO supporting base elements with single locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 26 mm** 		Without cover **HC-EVO-D15-BWS-PLR-BK**	1411336	1	
Panel mounting base **Height: 26 mm** 		With cover **HC-EVO-D15-BWSC-PLR-BK**	1411337	1	
Box mounting base[1]) **Height: 52 mm** 	2x M20 2x M25	Without cover **HC-EVO-D15-SLWS-2SSM20-PLR-BK** **HC-EVO-D15-SLWS-2SSM25-PLR-BK**	1421463 1411341	1 1	
Box mounting base[1]) **Height: 52 mm** 	2x M20 2x M25	With cover **HC-EVO-D15-SLWSC-2SSM20-PLR-BK** **HC-EVO-D15-SLWSC-2SSM25-PLR-BK**	1421465 1411343	1 1	
Coupling housing **Height: 60 mm** 		**HC-EVO-D15-CHWS-PL-BK**	1411338	1	
Cable gland	**Clamping area** 7 mm ... 13 mm 9 mm ... 17 mm	**HC-D-G-M20-PLRBK** **HC-D-G-M25-PLRBK**	1411350 1411351	1 1	

Notes:

[1]) One cable entry is sealed with a knockout cover

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 658

Replacement protective covers
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

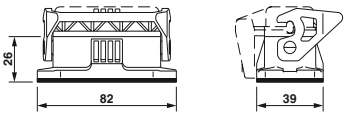
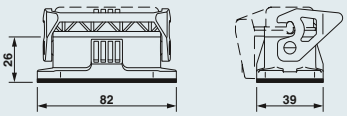
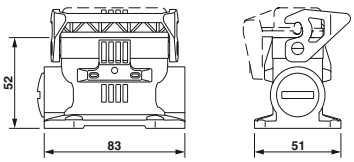
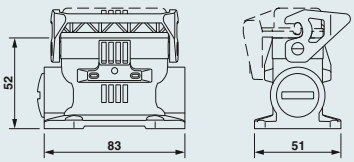
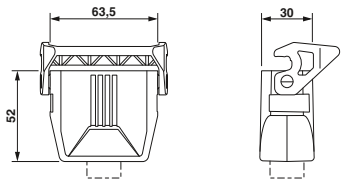
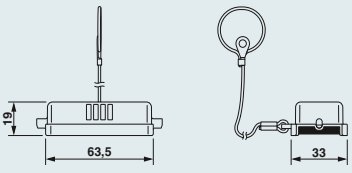
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size D15, metal, STANDARD supporting base elements with single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	-
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 26 mm**		Without cover **HC-STA-D15-BWS-EL-AL**	1424362	1	
Panel mounting base **Height: 26 mm**		With cover **HC-STA-D15-BWSC-EL-AL**	1424363	1	
Box mounting base[1]) **Height: 52 mm**	2x M20 2x M25 2x Pg16 2x Pg21	Without cover **HC-STA-D15-SLWS-2SSM20-EL-AL** **HC-STA-D15-SLWS-2SSM25-EL-AL** **HC-STA-D15-SLWS-2SSP16-EL-AL** **HC-STA-D15-SLWS-2SSP21-EL-AL**	1424364 1424365 1424366 1424367	1 1 1 1	
Box mounting base[1]) **Height: 52 mm**	2x M20 2x M25 2x Pg16 2x Pg21	With cover **HC-STA-D15-SLWSC-2SSM20-EL-AL** **HC-STA-D15-SLWSC-2SSM25-EL-AL** **HC-STA-D15-SLWSC-2SSP16-EL-AL** **HC-STA-D15-SLWSC-2SSP21-EL-AL**	1424369 1424371 1424372 1424373	1 1 1 1	
Coupling housing **Height: 52 mm**	1x M20 1x M25 1x Pg16	**HC-STA-D15-CLWS-1TTM20-EL-AL** **HC-STA-D15-CHWS-1TTM25-EL-AL** **HC-STA-D15-CHWS-1TTP16-EL-AL**	1424359 1424361 1424360	1 1 1	
Protective cover **Height: 19 mm**		**HC-STA-D15-BCSFS-PLR-BK**	1424374	1	

Notes:

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement latches
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Replacement seals
phoenixcontact.net/products

Module carrier frames
phoenixcontact.net/products

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

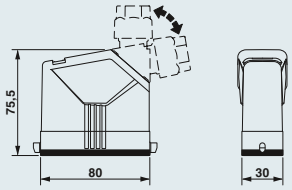
Size D25, plastic, EVO sleeve housings for single locking latch

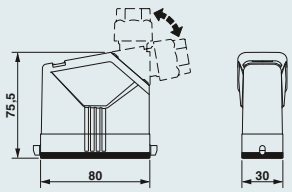
Technical data

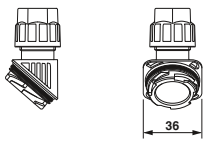
General data	
Housing material	PA
Locking latch material	-
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 75.5 mm**		**HC-EVO-D25-HHFS-PL-BK**	1411347	1	
Sleeve housing **Height: 75.5 mm**		**HC-EVO-D25-HHFS-PL-BK**	1411347	1	
Cable gland	**Clamping area**				
	7 mm ... 13 mm	**HC-D-G-M20-PLRBK**	1411350	1	
	9 mm ... 17 mm	**HC-D-G-M25-PLRBK**	1411351	1	
Connector set[1]) **Height: 114.5 mm**					
		Without cover, Push-in connection **HC-EVO-A16PT-BWS-HH-M25-PLRBK**	1424459	1	
		Without cover, screw connection **HC-EVO-A16UT-BWS-HH-M25-PLRBK**	1411358	1	
		With cover, Push-in connection **HC-EVO-A16PT-BWSC-HH-M25-PLRBK**	1424460	1	
		With cover, screw connection **HC-EVO-A16UT-BWSC-HH-M25-PLRBK**	1411359	1	







Notes:
Marking label: US-EMP (20X9) Order No. 0829439
[1]) Connector sets: phoenixcontact.net/webcode/#0523

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 658

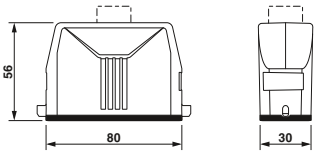
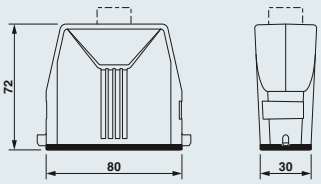
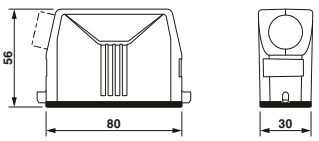
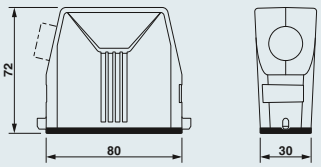
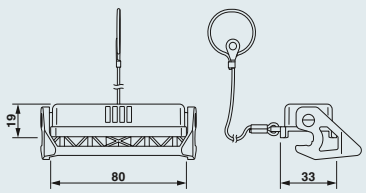
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size D25, metal, STANDARD sleeve housings for single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	-
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 56 mm**	1x M20	**HC-STA-D25-HLFS-1TTM20-ELC-AL**	1424381	1	
	1x Pg16	**HC-STA-D25-HLFS-1TTP16-ELC-AL**	1424383	1	
					
Sleeve housing **Height: 72 mm**	1x M25	**HC-STA-D25-HHFS-1TTM25-ELC-AL**	1424382	1	
	1x Pg16	**HC-STA-D25-HHFS-1TTP16-ELC-AL**	1424384	1	
	1x Pg21	**HC-STA-D25-HHFS-1TTP21-ELC-AL**	1424385	1	
					
Sleeve housing **Height: 56 mm**	1x M20	**HC-STA-D25-HLFS-1STM20-ELC-AL**	1424376	1	
	1x Pg16	**HC-STA-D25-HLFS-1STP16-ELC-AL**	1424378	1	
					
Sleeve housing **Height: 72 mm**	1x M25	**HC-STA-D25-HHFS-1STM25-ELC-AL**	1424377	1	
	1x Pg16	**HC-STA-D25-HHFS-1STP16-ELC-AL**	1424379	1	
	1x Pg21	**HC-STA-D25-HHFS-1STP21-ELC-AL**	1424380	1	
					
Protective cover **Height: 19 mm**		**HC-STA-D25-HCLWS-PL-BK**	1424400	1	
					

Notes:

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Cover plates
From page 664

D-SUB adapter plates
From page 665

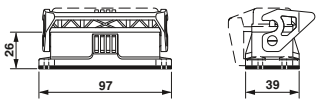
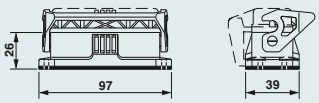
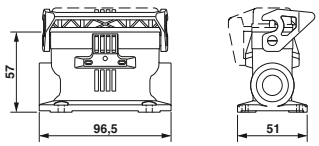
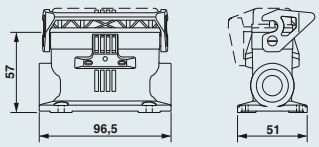
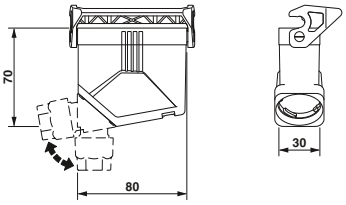
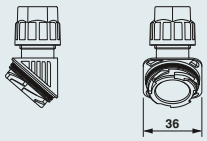
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size D25, plastic, EVO supporting base elements with single locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 26 mm** 		Without cover **HC-EVO-D25-BWS-PLR-BK**	1411344	1	
Panel mounting base **Height: 26 mm** 		With cover **HC-EVO-D25-BWSC-PLR-BK**	1411345	1	
Box mounting base[1]) **Height: 57 mm** 	2x M20 2x M25	Without cover **HC-EVO-D25-SLWS-2SSM20-PLR-BK** **HC-EVO-D25-SLWS-2SSM25-PLR-BK**	1421466 1411348	1 1	
Box mounting base[1]) **Height: 57 mm** 	2x M20 2x M25	With cover **HC-EVO-D25-SLWSC-2SSM20-PLR-BK** **HC-EVO-D25-SLWSC-2SSM25-PLR-BK**	1421467 1411349	1 1	
Coupling housing **Height: 70 mm** 		**HC-EVO-D25-CHWS-PLR-BK**	1411346	1	
Cable gland 	**Clamping area** 7 mm ... 13 mm 9 mm ... 17 mm	**HC-D-G-M20-PLRBK** **HC-D-G-M25-PLRBK**	1411350 1411351	1 1	

Notes:

[1]) One cable entry is sealed with a knockout cover

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 658

Replacement protective covers
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Replacement latches
phoenixcontact.net/products

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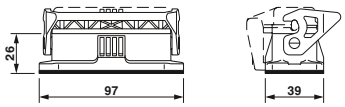
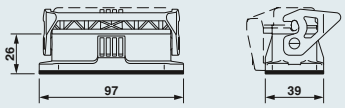
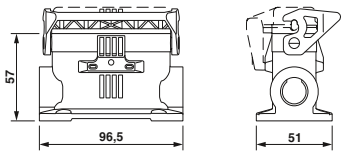
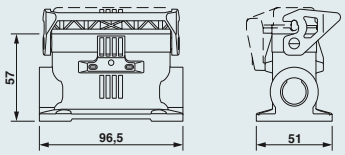
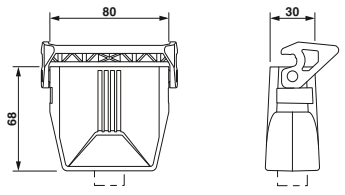
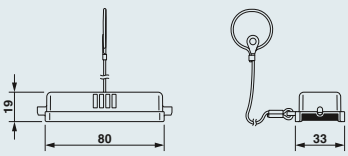
Size D25, metal, STANDARD supporting base elements with single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	-
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 26 mm**		Without cover **HC-STA-D25-BWS-EL-AL**	1424391	1	
Panel mounting base **Height: 26 mm**		With cover **HC-STA-D25-BWSC-EL-AL**	1424390	1	
Box mounting base[1]) **Height: 57 mm**	2x M20 2x M25 2x Pg16 2x Pg21	Without cover **HC-STA-D25-SLWS-2SSM20-EL-AL** **HC-STA-D25-SLWS-2SSM25-EL-AL** **HC-STA-D25-SLWS-2SSP16-EL-AL** **HC-STA-D25-SLWS-2SSP21-EL-AL**	1424392 1424393 1424394 1424395	1 1 1 1	
Box mounting base[1]) **Height: 57 mm**	2x M20 2x M25 2x Pg16 2x Pg21	With cover **HC-STA-D25-SLWSC-2SSM20-EL-AL** **HC-STA-D25-SLWSC-2SSM25-EL-AL** **HC-STA-D25-SLWSC-2SSP16-EL-AL** **HC-STA-D25-SLWSC-2SSP21-EL-AL**	1424396 1424397 1424398 1424399	1 1 1 1	
Coupling housing **Height: 68 mm**	1x M25 1x Pg16	**HC-STA-D25-CHWS-1TTM25-EL-AL** **HC-STA-D25-CHWS-1TTP16-EL-AL**	1424387 1424389	1 1	
Protective cover **Height: 19 mm**		**HC-STA-D25-BCSFS-PLR-BK**	1424401	1	

Notes:

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement latches
phoenixcontact.net/products

Replacement seals
phoenixcontact.net/products

D-SUB adapter plates
From page 665

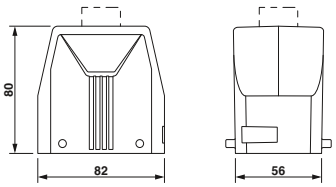
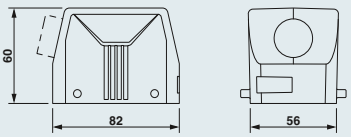
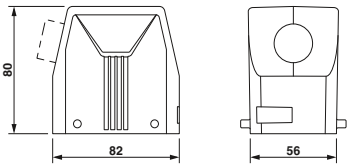
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size D50, metal, STANDARD sleeve housings for double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	-
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 80 mm**		Cable outlet: top			
	1x M25	**HC-STA-D50-HHFD-1TTM25-EL-AL**	1424408	1	
	1x M32	**HC-STA-D50-HHFD-1TTM32-EL-AL**	1424409	1	
	1x Pg21	**HC-STA-D50-HHFD-1TTP21-EL-AL**	1424410	1	
	1x Pg29	**HC-STA-D50-HHFD-1TTP29-EL-AL**	1424411	1	
Sleeve housing **Height: 60 mm**		Cable outlet: lateral			
	1x M25	**HC-STA-D50-HLFD-1STM25-EL-AL**	1424402	1	
	1x Pg21	**HC-STA-D50-HLFD-1STP21-EL-AL**	1424405	1	
Sleeve housing **Height: 80 mm**		Cable outlet: lateral			
	1x M25	**HC-STA-D50-HHFD-1STM25-EL-AL**	1424403	1	
	1x M32	**HC-STA-D50-HHFD-1STM32-EL-AL**	1424404	1	
	1x Pg21	**HC-STA-D50-HHFD-1STP21-EL-AL**	1424406	1	
	1x Pg29	**HC-STA-D50-HHFD-1STP29-EL-AL**	1424407	1	

Notes:

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

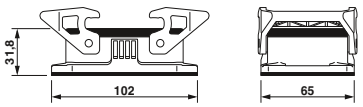
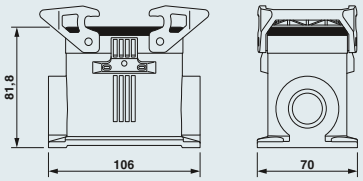
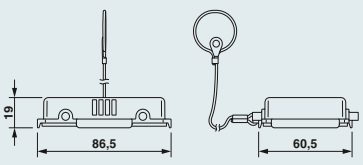
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size D50, metal, STANDARD supporting base elements with double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	-
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 32 mm**		Without cover **HC-STA-D50-BWD-ELC-AL**	1424412	1	
Box mounting base[1]) **Height: 82 mm**	2x M25 2x M32 2x Pg21 2x Pg29	Without cover **HC-STA-D50-SHWD-2SSM25-ELC-AL** **HC-STA-D50-SHWD-2SSM32-ELC-AL** **HC-STA-D50-SHWD-2SSP21-ELC-AL** **HC-STA-D50-SHWD-2SSP29-ELC-AL**	1424413 1424414 1424415 1424416	1 1 1 1	
Protective cover **Height: 19 mm**		**HC-STA-D50-BCSFD-PL-BK**	1424417	1	

Notes:

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

D40, D64 series

250 V, 10 A

Connection technology:
– Crimp connection

Guide pins and sockets are mandatory for HC-D... and HC-DD series contact inserts; see page 657.

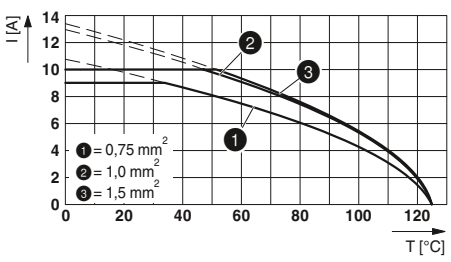
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

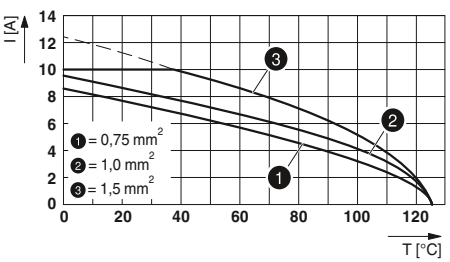
Technical data

Type		① HC-D 40-I-CT-...	② HC-D 64-I-CT-...
Approvals			
IEC data			
Rated current, contacts (at 40°C)	[A]	10	10
Overvoltage category		III	III
Degree of pollution		3	3
Rated voltage (III/3) contacts	[V]	250	250
Rated surge voltage, contacts	[kV]	4	4
Connection cross section	[mm²]	0.14 ... 2.5	0.14 ... 2.5
UL data			
Rated voltage	[V]	600	600
Rated current	[A]	10	10
Connection cross section	AWG	14	14
CSA / cUL data			
Rated voltage	[V]	600	600
Rated current	[A]	7	7
Connection cross section	AWG	14	14
Material data			
Contact carrier material		PC	PC
Inflammability class in acc. with UL 94		V0	V0
Contact material		Copper alloy	Copper alloy
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)
Temperature data			
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125
General data			
Connection method		Crimp connection	Crimp connection
Stripping length	[mm]	8	8
Number of positions		40	64
Contact numbering		-	-
Insertion/withdrawal cycles		≥ 500	≥ 500

Derating curves



HC-D 40-I-CT-...



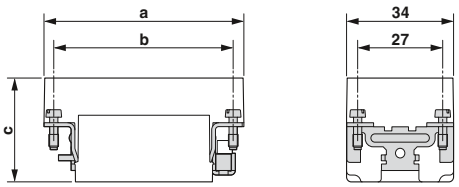
HC-D 64-I-CT-...

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

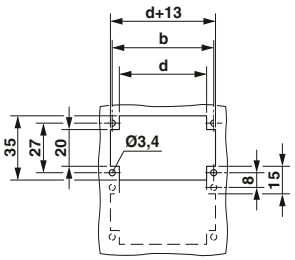
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection							
	40		B16 / B32	① **HC-D 40-I-CT-...**	1584428	1584415	1
Crimp connection							
	64		B24 / B48	② **HC-D 64-I-CT-...**	1584444	1584431	1
Turned crimp contacts CK 1,6 Silver-plated			**Cross section mm² / AWG**				
			0.14 - 0.37 / 26 - 22	**CK1,6-ED-0,37... AG**	1663394	1663336	100
			0.5 - 0.5 / 20	**CK1,6-ED-0,50... AG**	1663404	1663349	100
			0.75 - 0.75 / 18	**CK1,6-ED-0,75... AG**	1663417	1663352	100
			0.75 - 1 / 18	**CK1,6-ED-1,00... AG**	1663420	1663365	100
			1.5 - 1.5 / 16	**CK1,6-ED-1,50... AG**	1663433	1663378	100
			2.5 - 2.5 / 14	**CK1,6-ED-2,50... AG**	1663446	1663381	100
Turned crimp contacts CK 1,6 Gold-plated			**Cross section mm² / AWG**				
			0.14 - 0.37 / 24 - 22	**CK1,6-ED-0,37... AU**	1674969	1674901	100
			0.5 - 0.5 / 20	**CK1,6-ED-0,50... AU**	1674480	1672453	100
			0.75 - 0.75 / 18	**CK1,6-ED-0,75... AU**	1672440	1674914	100
			0.75 - 1 / 18	**CK1,6-ED-1,00... AU**	1674943	1674888	100
			1.5 - 1.5 / 16	**CK1,6-ED-1,50... AU**	1674930	1674875	100
			2.5 - 2.5 / 14	**CK1,6-ED-2,50... AU**	1674985	1674927	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	83	77.5	36	72
	Male	83.5		32.8	
②	Female	110.5	104.5	34.2	98
	Male			32.8	

Accessories

Crimping tools
From page 670

Guide elements
From page 657

Replacement PE screws
From page 662

Thermal crimp contacts
From page 668

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

D40, D64 series terminal adapters

250 V, 10 A

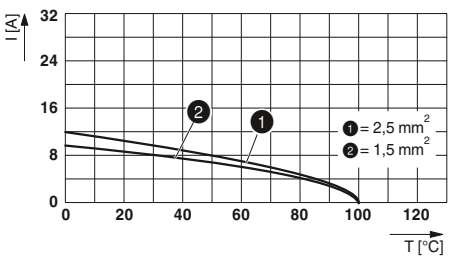
Connection technology:
– Push-in connection
– Screw connection

Notes:
For accessories, see from page 654
Not for HC-EVO panel mounting bases
Only operate connectors when there is no load/the power is switched off

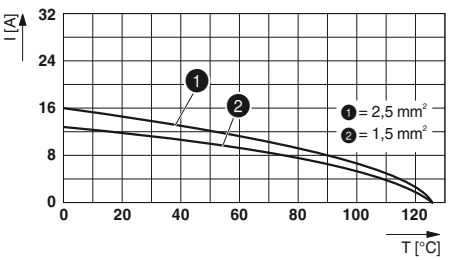
Technical data

Type		① ② HC-D 40-A-TWIN-PEL-...	③ ④ HC-D 40-A-UT-PEL-...	⑤ ⑥ HC-D 64-A-TWIN-PEL-...	⑦ ⑧ HC-D 64-A-UT-PEL-...
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	10	10	10	10
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	250	250	250	250
Rated surge voltage, contacts	[kV]	6	4	6	4
Connection cross section	[mm²]	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5	0.2 ... 2.5
UL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	7	7	7	7
Connection cross section	AWG	14	14	14	14
CSA / cUL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	7	7	7	7
Connection cross section	AWG	14	14	14	14
Material data					
Contact carrier material		PA	PA	PA	PA
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Ag	Ag
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Push-in connection	Screw connection	Push-in connection	Screw connection
Stripping length	[mm]	10	10	10	10
Number of positions		40	40	64	64
Contact numbering		-	-	-	-
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

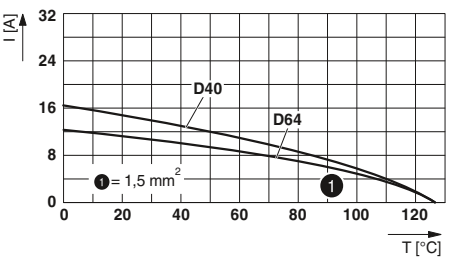
Derating curves



HC-D 40-A-TWIN-PER-...



HC-D 64-A-TWIN-PER-...



HC-D 40-A-UT-PER-... / HC-D 64-A-UT-PER-...

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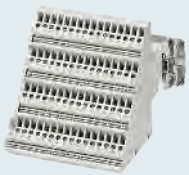
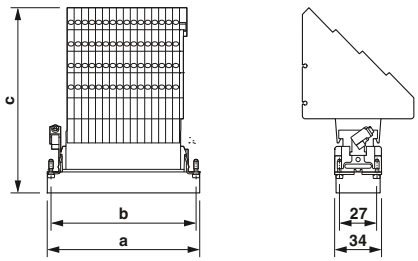
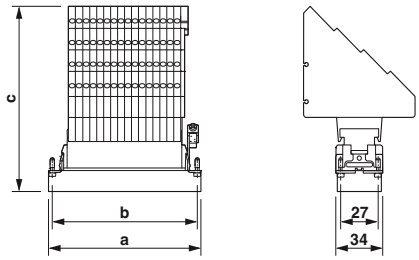
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
				PE left			
	40		B16	① **HC-D 40-A-TWIN-PEL-...**	1580147	1580150	4
				PE right			
	40		B16	② **HC-D 40-A-TWIN-PER-...**	1580163	1580176	4
Screw connection							
				PE left			
	40		B16	③ **HC-D 40-A-UT-PEL-...**	1584253	1584240	1
				PE right			
	40		B16	④ **HC-D 40-A-UT-PER-...**	1584279	1584266	1
Push-in connection							
				PE left			
	64		B24	⑤ **HC-D 64-A-TWIN-PEL-...**	1580189	1580192	4
				PE right			
	64		B24	⑥ **HC-D 64-A-TWIN-PER-...**	1580202	1580215	4
Screw connection							
				PE left			
	64		B24	⑦ **HC-D 64-A-UT-PEL-...**	1584295	1584282	1
				PE right			
	64		B24	⑧ **HC-D 64-A-UT-PER-...**	1584321	1584318	1
Foot element							
				HC-KA-FE	1775240		10
Locking screw barrel							
				HC-VSH	1660083		10

Dimensions (in mm)

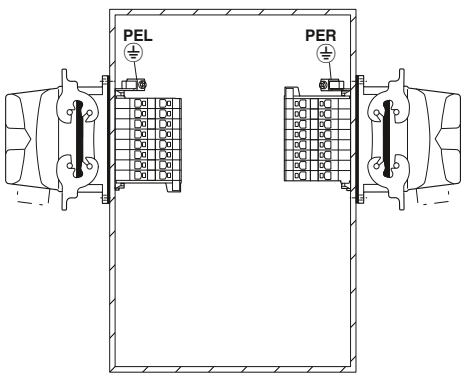


PEL



PER

		a	b	c	d
①	Female	83	77.5	141.1	
	Male			139.3	
②	Female	83	77.5	141.1	
	Male			139.3	
③	Female	83	77.5	129.9	
	Male				
④	Female	83	77.5	129.9	
	Male				
⑤	Female	110	104	141.1	
	Male			139.3	
⑥	Female	110	104	141.1	
	Male			139.3	
⑦	Female	110	104	132.6	
	Male				
⑧	Female	110	104	132.6	
	Male				



Mounting position PEL/PER

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DD24, DD42, DD72, DD108 series

250 V, 10 A

Connection technology:
– Crimp connection

Guide pins and sockets are mandatory for HC-D... and HC-DD series contact inserts; see page 657.

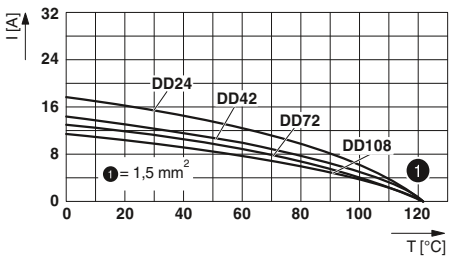
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

Technical data

Type		① HC-DD24-I-CT-...	② HC-DD42-I-CT-...	③ ④ HC-DD72-I-CT-...	⑤ ⑥ HC-DD108-I-CT-...
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	10	10	10	10
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	250	250	250	250
Rated surge voltage, contacts	[kV]	4	4	4	4
Connection cross section	[mm²]	0.14 ... 2.5	0.14 ... 2.5	0.14 ... 2.5	0.14 ... 2.5
UL data					
Rated voltage	[V]	250	250	250	250
Rated current	[A]	10	10	10	10
Connection cross section	AWG	14	14	14	14
CSA / cUL data					
Rated voltage	[V]	250	250	250	250
Rated current	[A]	7	7	7	7
Connection cross section	AWG	26-14	26-14	26-14	26-14
Material data					
Contact carrier material		PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Crimp connection	Crimp connection	Crimp connection	Crimp connection
Stripping length	[mm]	8	8	8	8
Number of positions		24	42	72	108
Contact numbering		1 - 24	1 - 42	1 - 72	1 - 108
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

Derating curves



HC-DD...

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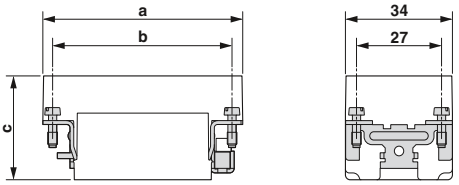
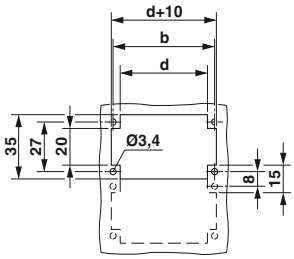
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection							
	24	1 - 24	B6	① **HC-DD24-I-CT-...**	1584046	1584033	1
Crimp connection							
	42	1 - 42	B10	② **HC-DD42-I-CT-...**	1584062	1584059	1
Crimp connection							
	72	1 - 72	B16 / B32	③ **HC-DD72-I-CT-...**	1584091	1584075	1
	72	73 - 144	B16 / B32	④ **HC-DD72-I-CT-...-144**	1584101	1584088	1
Crimp connection							
	108	1 - 108	B24 / B48	⑤ **HC-DD108-I-CT-...**	1584130	1584114	1
	108	109 - 216	B24 / B48	⑥ **HC-DD108-I-CT-...-216**	1584143	1584127	1
Turned crimp contacts CK 1,6 Silver-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 26 - 22		**CK1,6-ED-0,37... AG**	1663394	1663336	100
		0.5 - 0.5 / 20		**CK1,6-ED-0,50... AG**	1663404	1663349	100
		0.75 - 0.75 / 18		**CK1,6-ED-0,75... AG**	1663417	1663352	100
		0.75 - 1 / 18		**CK1,6-ED-1,00... AG**	1663420	1663365	100
		1.5 - 1.5 / 16		**CK1,6-ED-1,50... AG**	1663433	1663378	100
		2.5 - 2.5 / 14		**CK1,6-ED-2,50... AG**	1663446	1663381	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	50.5	44	34.5	36
	Male			32.5	
②	Female	64	57	34.5	49
	Male			32.5	
③	Female	84	77.5	34.5	72
	Male			32.5	
④	Female	84	77.5	34.5	72
	Male			32.5	
⑤	Female	111	104	34.5	98
	Male			32.5	
⑥	Female	111	104	34.5	98
	Male			32.5	

Accessories

Crimping tools
From page 670

Guide elements
From page 657

Crimp contacts, gold-plated
From page 666

Replacement PE screws
From page 662

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B6 series

500 V, 10 A ... 24 A

Connection technology:
– Push-in connection
– Push-in double connection
– Screw connection
– Insulation displacement connection
– Crimp connection

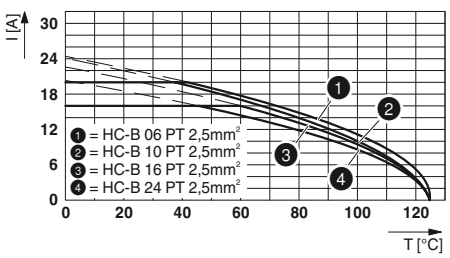
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
1) For flexible wires with wire end protection

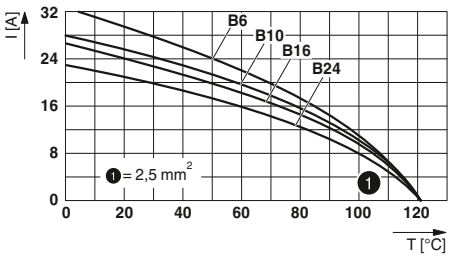
Technical data

Type		① HC-B 6-I-PT-...	② HC-B 6-I-TPT-...	③ HC-B 6-I-UT-...	④ HC-B 6-E...Q-2,5	⑤ HC-B 6-I-CT-...
Approvals						
IEC data						
Rated current, contacts (at 40°C)	[A]	16	10	24	16	16
Overvoltage category		III	III	III	III	III
Degree of pollution		3	3	3	3	3
Rated voltage (III/3) contacts	[V]	500	500	500	500	500
Rated surge voltage, contacts	[kV]	6	6	6	6	6
Connection cross section	[mm²]	0.14 ... 2.5¹)	0.25 ... 1.5¹)	0.5 ... 2.5	0.34 ... 2.5	0.5 ... 4
UL data						
Rated voltage	[V]	600	600	600	600	600
Rated current	[A]	13	14	16	10	13
Connection cross section	AWG	14	16	14	14	22-14
CSA / cUL data						
Rated voltage	[V]	600	600	600	600	600
Rated current	[A]	13	11	13	10	20
Connection cross section	AWG	14	16	22-14	16	20-12
Material data						
Contact carrier material		PC	PC	PC	PA	PA
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag/Sn (tarnish protection)	Ag	Ag	Ag	Ag (alternatively Au)
Ambient conditions						
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data						
Connection method		Push-in connection	Push-in connection	Screw connection	QUICKON connection	Crimp connection
Stripping length	[mm]	8 ... 10	8	8	-	7.5
Number of positions		6	6	6	6	6
Contact numbering		1 - 6	1 - 6	1 - 6	1 - 6	1 - 6
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500	≥ 500

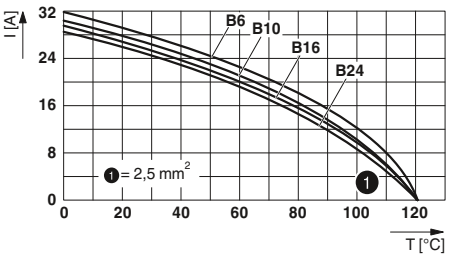
Derating curves



HC-B 6-I-PT-...



HC-B 6-I-UT-...



HC-B 6-I-CT-...

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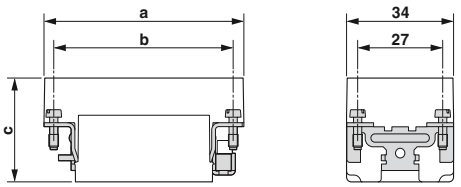
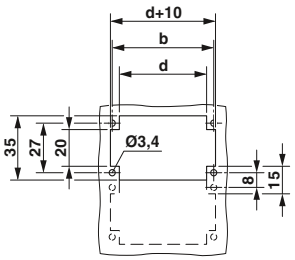
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	6	1 - 6	B6	① HC-B 6-I-PT-...	1407727	1407728	1
Push-in double connection							
	6	1 - 6	B6	② HC-B 6-I-TPT-...	1423016	1423015	1
Screw connection							
	6	1 - 6	B6	③ HC-B 6-I-UT-...	1648128	1648115	1
Insulation displacement connection							
	6	1 - 6	B6	④ HC-B 6-E...Q-2,5	1605556	1605611	10
Crimp connection							
	6	1 - 6	B6	⑤ HC-B 6-I-CT-...	1648160	1648157	1
Turned crimp contacts CK 2,5 Silver-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		CK2,5-ED-0,50... AG	1663640	1663572	100
		0.75 - 0.75 / 18		CK2,5-ED-0,75... AG	1663653	1663585	100
		0.75 - 1 / 18		CK2,5-ED-1,00... AG	1663666	1663598	100
		1.5 - 1.5 / 16		CK2,5-ED-1,50... AG	1663679	1663608	100
		2.5 - 2.5 / 14		CK2,5-ED-2,50... AG	1663682	1663611	100
		4 - 4 / 12		CK2,5-ED-4,00... AG	1663705	1663637	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	50.5	44	37	36
	Male			34.4	
②	Female	50.5	44	32	36
	Male				
③	Female	50.5	44	34.6	36
	Male			32	
④	Female	51	44	37	36
	Male	51.5		35	
⑤	Female	50.5	44	34.6	36
	Male			32	

Accessories

Crimping tools
From page 670

Coding elements
From page 656

Crimp contacts, gold-plated
From page 666

Replacement PE screws
From page 662

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B10 series

500 V, 10 A ... 24 A

Connection technology:
– Push-in connection
– Push-in double connection
– Screw connection
– Insulation displacement connection
– Crimp connection

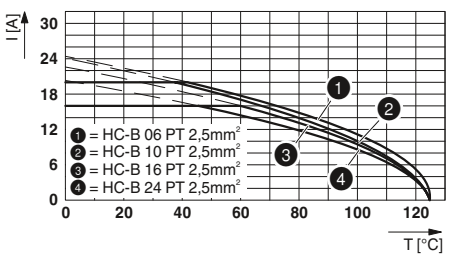
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
1) For flexible wires with wire end protection

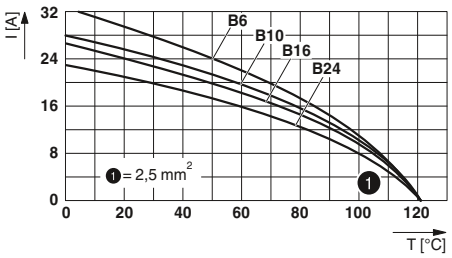
Technical data

Type		① HC-B 10-I-PT-...	② HC-B 10-I-TPT-...	③ HC-B 10-I-UT-...	④ HC-B 10-E...Q-2,5	⑤ HC-B 10-I-CT-...
Approvals						
IEC data						
Rated current, contacts (at 40°C)	[A]	16	10	24	16	16
Overvoltage category		III	III	III	III	III
Degree of pollution		3	3	3	3	3
Rated voltage (III/3) contacts	[V]	500	500	500	500	500
Rated surge voltage, contacts	[kV]	6	6	6	6	6
Connection cross section	[mm²]	0.14 ... 2.5¹)	0.25 ... 1.5¹)	0.5 ... 2.5	0.34 ... 2.5	0.5 ... 4
UL data						
Rated voltage	[V]	600	600	600	600	600
Rated current	[A]	13	14	16	10	13
Connection cross section	AWG	14	16	14	14	22-14
CSA / cUL data						
Rated voltage	[V]	600	600	600	600	600
Rated current	[A]	10	11	13	10	20
Connection cross section	AWG	14	16	22-14	16	20-12
Material data						
Contact carrier material		PC	PC	PC	PA	PA
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag/Sn (tarnish protection)	Ag	Ag	Ag	Ag (alternatively Au)
Ambient conditions						
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data						
Connection method		Push-in connection	Push-in connection	Screw connection	QUICKON connection	Crimp connection
Stripping length	[mm]	8 ... 10	8	8	-	7.5
Number of positions		10	10	10	10	10
Contact numbering		1 - 10	1 - 10	1 - 10	1 - 10	1 - 10
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500	≥ 500

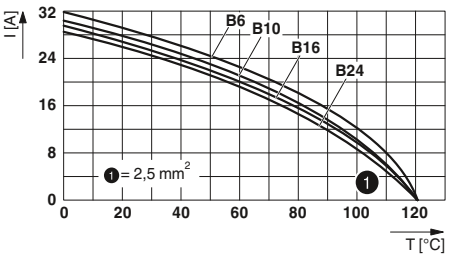
Derating curves



HC-B 10-I-PT-...



HC-B 10-I-UT-...



HC-B 10-I-CT-...

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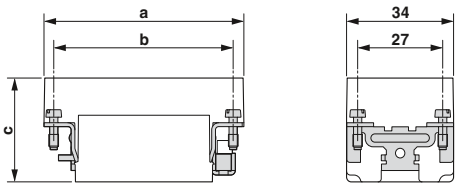
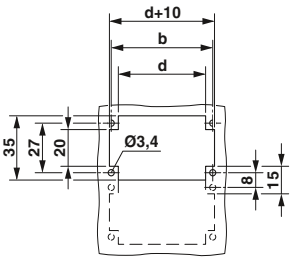
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	10	1 - 10	B10	① HC-B 10-I-PT-...	1407729	1407730	1
Push-in double connection							
	10	1 - 10	B10	② HC-B 10-I-TPT-...	1423018	1423017	1
Screw connection							
	10	1 - 10	B10	③ HC-B 10-I-UT-...	1648186	1648173	1
Insulation displacement connection							
	10	1 - 10	B10	④ HC-B 10-E...Q-2,5	1605569	1605624	10
Crimp connection							
	10	1 - 10	B10	⑤ HC-B 10-I-CT-...	1648225	1648212	1
Turned crimp contacts CK 2,5 Silver-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		CK2,5-ED-0,50... AG	1663640	1663572	100
		0.75 - 0.75 / 18		CK2,5-ED-0,75... AG	1663653	1663585	100
		0.75 - 1 / 18		CK2,5-ED-1,00... AG	1663666	1663598	100
		1.5 - 1.5 / 16		CK2,5-ED-1,50... AG	1663679	1663608	100
		2.5 - 2.5 / 14		CK2,5-ED-2,50... AG	1663682	1663611	100
		4 - 4 / 12		CK2,5-ED-4,00... AG	1663705	1663637	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	64	57	37	49
	Male			34.4	
②	Female	64	57	32	49
	Male				
③	Female	64	57	34.6	49
	Male			32	
④	Female	64	57	37	49
	Male			35	
⑤	Female	64	57	34.6	49
	Male			32	

Accessories

Crimping tools
From page 670

Coding elements
From page 656

Crimp contacts, gold-plated
From page 666

Replacement PE screws
From page 662

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B16 series

500 V, 10 A ... 20 A

Connection technology:
– Push-in connection
– Push-in double connection
– Screw connection
– Insulation displacement connection
– Crimp connection

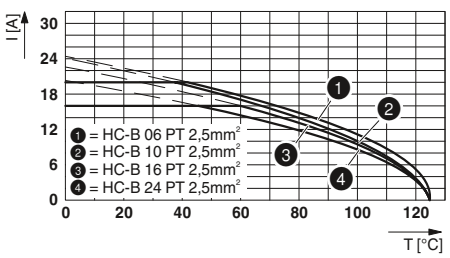
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
1) For flexible wires with wire end protection

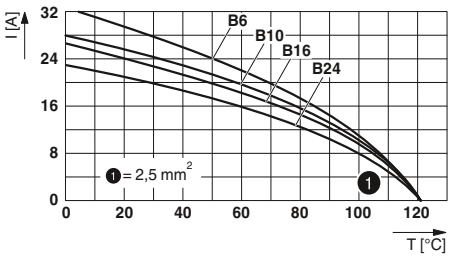
Technical data

Type		①② HC-B 16-I-PT-...	③④ HC-B 16-I-TPT-...	⑤⑥ HC-B 16-I-UT-...	⑦⑧ HC-B 16-E... Q-2,5	⑨⑩ HC-B 16-I-CT-...
Approvals						
IEC data						
Rated current, contacts (at 40°C)	[A]	16	10	20	16	16
Overvoltage category		III	III	III	III	III
Degree of pollution		3	3	3	3	3
Rated voltage (III/3) contacts	[V]	500	500	500	500	500
Rated surge voltage, contacts	[kV]	6	6	6	6	6
Connection cross section	[mm²]	0.14 ... 2.5¹)	0.25 ... 1.5¹)	0.5 ... 2.5	0.34 ... 2.5	0.5 ... 4
UL data						
Rated voltage	[V]	600	600	600	600	600
Rated current	[A]	13	14	16	10	13
Connection cross section	AWG	14	16	14	14	22-14
CSA / cUL data						
Rated voltage	[V]	600	600	600	600	600
Rated current	[A]	10	11	13	10	20
Connection cross section	AWG	14	16	22-14	16	20-12
Material data						
Contact carrier material		PC	PC	PC	PA	PA
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag/Sn (tarnish protection)	Ag	Ag	Ag	Ag (alternatively Au)
Ambient conditions						
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data						
Connection method		Push-in connection	Push-in connection	Screw connection	QUICKON connection	Crimp connection
Stripping length	[mm]	8 ... 10	8	8	-	7.5
Number of positions		16	16	16	16	16
Contact numbering		1 - 16	1 - 16	1 - 16	1 - 16	1 - 16
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500	≥ 500

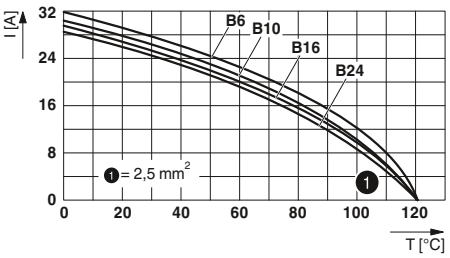
Derating curves



HC-B 16-I-PT-...



HC-B 16-I-UT-...



HC-B 16-I-CT-...

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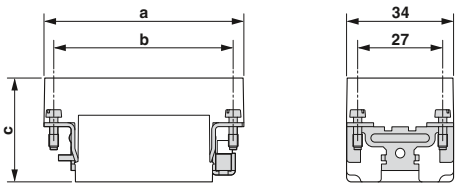
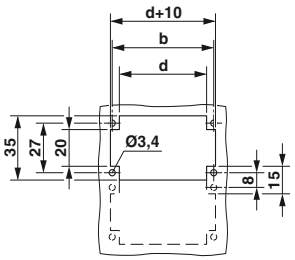
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	16	1 - 16	B16 / B32	① **HC-B 16-I-PT-...**	1407731	1407732	1
	16	17 - 32	B16 / B32	② **HC-B 16-I-PT-...-32**	1407733	1407734	1
Push-in double connection							
	16	1 - 16	B16	③ **HC-B 16-I-TPT-...**	1423020	1423019	1
	16	17 - 32	B16 / B32	④ **HC-B 16-I-TPT-...-32**	1423826	1423825	1
Screw connection							
	16	1 - 16	B16 / B32	⑤ **HC-B 16-I-UT-...**	1648241	1648238	1
	16	17 - 32	B16 / B32	⑥ **HC-B 16-I-UT-...-32**	1584884	1584871	1
Insulation displacement connection							
	16	1 - 16	B16 / B32	⑦ **HC-B 16-E...Q-2,5**	1605572	1605637	10
	16	17 - 32	B16 / B32	⑧ **HC-B 16-E...Q-2,5-32**	1605598	1605653	10
Crimp connection							
	16	1 - 16	B16 / B32	⑨ **HC-B 16-I-CT-...**	1648283	1648270	1
	16	17 - 32	B16 / B32	⑩ **HC-B 16-I-CT-...-32**	1584923	1584910	1
Turned crimp contacts CK 2,5 Silver-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		**CK2,5-ED-0,50... AG**	1663640	1663572	100
		0.75 - 0.75 / 18		**CK2,5-ED-0,75... AG**	1663653	1663585	100
		0.75 - 1 / 18		**CK2,5-ED-1,00... AG**	1663666	1663598	100
		1.5 - 1.5 / 16		**CK2,5-ED-1,50... AG**	1663679	1663608	100
		2.5 - 2.5 / 14		**CK2,5-ED-2,50... AG**	1663682	1663611	100
		4 - 4 / 12		**CK2,5-ED-4,00... AG**	1663705	1663637	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	84	77.5	37	72
	Male			34.4	
②	Female	84	77.5	37	72
	Male			34.4	
③	Female	84	77.5	34.6	72
	Male				
④	Female	84	77.5	34.6	72
	Male				
⑤	Female	84	77.5	34.6	72
	Male			32	
⑥	Female	84	77.5	34.6	72
	Male			32	
⑦	Female	84.5	77.5	37	72
	Male			35	
⑧	Female	84.5	77.5	37	72
	Male			35	
⑨	Female	84	77.5	34.6	72
	Male			32	
⑩	Female	84	77.5	34.6	72
	Male			32	

Accessories

Crimping tools
From page 670

Coding elements
From page 656

Crimp contacts, gold-plated
From page 666

Replacement PE screws
From page 662

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B24 series

500 V, 10 A ... 20 A

Connection technology:
– Push-in connection
– Push-in double connection
– Screw connection
– Insulation displacement connection
– Crimp connection

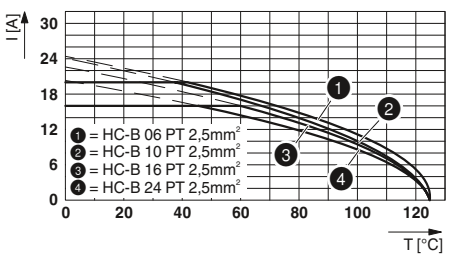
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
1) For flexible wires with wire end protection

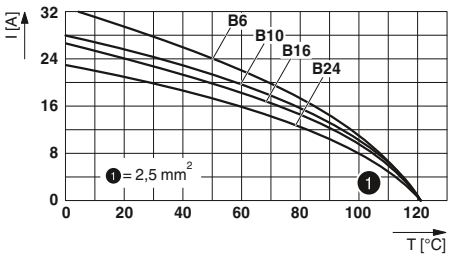
Technical data

Type		①② HC-B 24-I-PT-...	③④ HC-B 24-I-TPT-...	⑤⑥ HC-B 24-I-UT-...	⑦⑧ HC-B 24-E...Q-2,5	⑨⑩ HC-B 24-I-CT-...
Approvals						
IEC data						
Rated current, contacts (at 40°C)	[A]	16	10	20	16	16
Overvoltage category		III	III	III	III	III
Degree of pollution		3	3	3	3	3
Rated voltage (III/3) contacts	[V]	500	500	500	500	500
Rated surge voltage, contacts	[kV]	6	6	6	6	6
Connection cross section	[mm²]	0.14 ... 2.5¹)	0.25 ... 1.5¹)	0.5 ... 2.5	0.34 ... 2.5	0.5 ... 4
UL data						
Rated voltage	[V]	600	600	600	600	600
Rated current	[A]	13	13	16	10	13
Connection cross section	AWG	14	16	14	14	22-14
CSA / cUL data						
Rated voltage	[V]	600	600	600	600	600
Rated current	[A]	10	10	13	10	20
Connection cross section	AWG	14	16	22-14	16	20-12
Material data						
Contact carrier material		PC	PC	PC	PA	PA
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag/Sn (tarnish protection)	Ag	Ag	Ag	Ag (alternatively Au)
Ambient conditions						
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data						
Connection method		Push-in connection	Push-in connection	Screw connection	QUICKON connection	Crimp connection
Stripping length	[mm]	8 ... 10	8	8	-	7.5
Number of positions		24	24	24	24	24
Contact numbering		1 - 24	1 - 24	1 - 24	1 - 24	1 - 24
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500	≥ 500

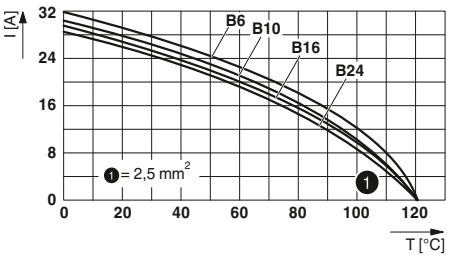
Derating curves



HC-B 24-I-PT-...



HC-B 24-I-UT-...



HC-B 24-I-CT-...

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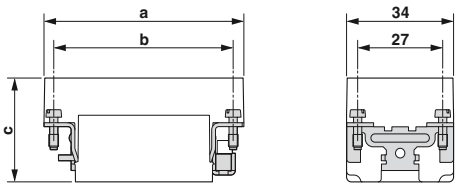
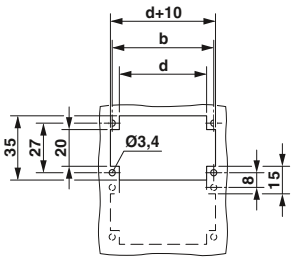
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	24	1 - 24	B24 / B48	① HC-B 24-I-PT-...	1407735	1407736	1
	24	25 - 48	B24 / B48	② HC-B 24-I-PT-...-48	1407737	1407738	1
Push-in double connection							
	24	1 - 24	B24	③ HC-B 24-I-TPT-...	1423022	1423021	1
	24 / 0	25 - 48	B24 / B48	④ HC-B 24-I-TPT-...-48	1423828	1423827	1
Screw connection							
	24	1 - 24	B24 / B48	⑤ HC-B 24-I-UT-...	1648306	1648296	1
	24	25 - 48	B24 / B48	⑥ HC-B 24-I-UT-...-48	1584949	1584936	1
Insulation displacement connection							
	24	1 - 24	B24 / B48	⑦ HC-B 24-E...Q-2,5	1605585	1605640	10
	24	1 - 24	B24 / B48	⑧ HC-B 24-E...Q-2,5-48	1605608	1605666	10
Crimp connection							
	24	1 - 24	B24 / B48	⑨ HC-B 24-I-CT-...	1648348	1648335	1
	24	25 - 48	B24 / B48	⑩ HC-B 24-I-CT-...-48	1584981	1584978	1
Turned crimp contacts CK 2,5 Silver-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	CK2,5-ED-0,50... AG	1663640	1663572	100
			0.75 - 0.75 / 18	CK2,5-ED-0,75... AG	1663653	1663585	100
			0.75 - 1 / 18	CK2,5-ED-1,00... AG	1663666	1663598	100
			1.5 - 1.5 / 16	CK2,5-ED-1,50... AG	1663679	1663608	100
			2.5 - 2.5 / 14	CK2,5-ED-2,50... AG	1663682	1663611	100
			4 - 4 / 12	CK2,5-ED-4,00... AG	1663705	1663637	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	111	104	37	98
	Male			34.4	
②	Female	111	104	37	98
	Male			34.4	
③	Female	111	104	34.6	98
	Male				
④	Female	111	104	34.6	98
	Male				
⑤	Female	111	104	34.6	98
	Male			32	
⑥	Female	111	104	34.6	98
	Male			32	
⑦	Female	111	104	37	98
	Male			35	
⑧	Female	111	104	37	98
	Male			35	
⑨	Female	111	104	34.6	98
	Male			32	
⑩	Female	111	104	34.6	98
	Male			32	

Accessories

Crimping tools
From page 670

Coding elements
From page 656

Crimp contacts, gold-plated
From page 666

Replacement PE screws
From page 662

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B6, B10, B16, B24 series terminal adapters

500 V, 16 A

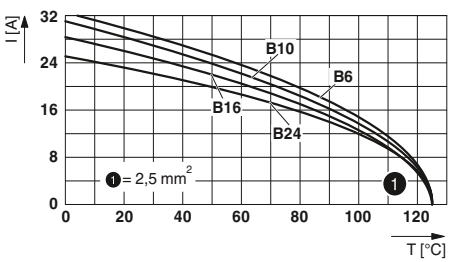
Connection technology:
– Push-in connection

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off

Technical data

Type		① ② HC-B 6-A-DT-PEL-...	③ ④ HC-B 10-A-DT-PEL-...	⑤ ⑥ HC-B 16-A-DT-PEL-...	⑦ ⑧ HC-B 24-A-DT-PEL-...
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	16	16	16	16
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	500	500	500	500
Rated surge voltage, contacts	[kV]	6	6	6	6
Connection cross section	[mm²]	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5
UL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	13	13	13	13
Connection cross section	AWG	22-14	22-14	22-14	22-14
CSA / cUL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	13	13	13	13
Connection cross section	AWG	22-14	22-14	22-14	22-14
Material data					
Contact carrier material		PA	PA	PA	PA
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Ag	Ag
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Push-in connection	Push-in connection	Push-in connection	Push-in connection
Stripping length	[mm]	10	10	10	10
Number of positions		6	10	16	24
Contact numbering		1 - 6	1 - 10	1 - 16	1 - 24
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

Derating curves



HC-B ...-A-DT-PER-...

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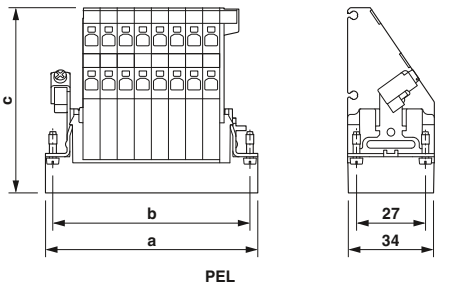
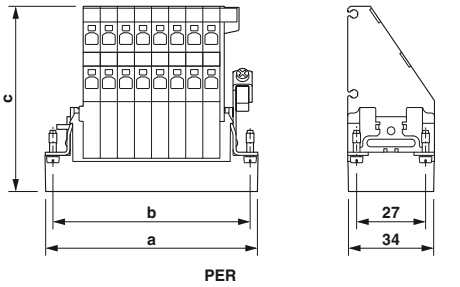
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
				PE left			
	6	1 - 6	B6	① **HC-B 6-A-DT-PEL-...**	1648351	1648364	5
				PE right			
	6	1 - 6	B6	② **HC-B 6-A-DT-PER-...**	1648377	1648380	5
Push-in connection							
				PE left			
	10	1 - 10	B10	③ **HC-B 10-A-DT-PEL-...**	1648393	1648403	5
				PE right			
	10	1 - 10	B10	④ **HC-B 10-A-DT-PER-...**	1648416	1648429	5
Push-in connection							
				PE left			
	16	1 - 16	B16	⑤ **HC-B 16-A-DT-PEL-...**	1648432	1648445	5
				PE right			
	16	1 - 16	B16	⑥ **HC-B 16-A-DT-PER-...**	1648458	1648461	5
Push-in connection							
				PE left			
	24	1 - 24	B24	⑦ **HC-B 24-A-DT-PEL-...**	1648474	1648487	5
				PE right			
	24	1 - 24	B24	⑧ **HC-B 24-A-DT-PER-...**	1648490	1648500	5
Foot element							
				HC-KA-FE	1775240		10
Locking screw barrel							
				HC-VSH	1660083		10

Dimensions (in mm)

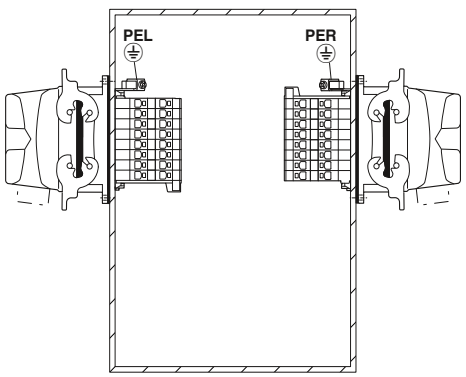


PEL



PER

		a	b	c	d
①	Female	50.5	44	72.1	
	Male			70.5	
②	Female	50.5	44	72.1	
	Male			70.5	
③	Female	64	57	72.1	
	Male			70.5	
④	Female	64	57	72.1	
	Male			70.5	
⑤	Female	84	77.5	72.1	
	Male			70.5	
⑥	Female	84	77.5	72.1	
	Male			70.5	
⑦	Female	111	104	72.1	
	Male			70.5	
⑧	Female	111	104	72.1	
	Male			70.5	



Mounting position PEL/PER

Accessories

Coding elements

From page 656

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@stevenseng.com - www.stevenengineering.com

B6, B10, B16, B24 series terminal adapters

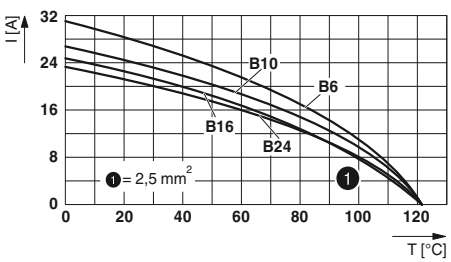
500 V, 16 A

Connection technology:
– Screw connection

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off

		Technical data			
Type		① ② **HC-B 6-A-UT-PEL-...**	③ ④ **HC-B 10-A-UT-PEL-...**	⑤ ⑥ **HC-B 16-A-UT-PEL-...**	⑦ ⑧ **HC-B 24-A-UT-PEL-...**
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	16	16	16	16
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	500	500	500	500
Rated surge voltage, contacts	[kV]	6	6	6	6
Connection cross section	[mm²]	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5
UL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	13	13	13	13
Connection cross section	AWG	22-14	22-14	22-14	22-14
CSA / cUL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	13	13	13	13
Connection cross section	AWG	22-14	22-14	22-14	22-14
Material data					
Contact carrier material		PA	PA	PA	PA
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Ag	Ag
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Screw connection	Screw connection	Screw connection	Screw connection
Stripping length	[mm]	12	12	12	12
Number of positions		6	10	16	24
Contact numbering		1 - 6	1 - 10	1 - 16	1 - 24
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

Derating curves



HC-B ...-A-UT-...

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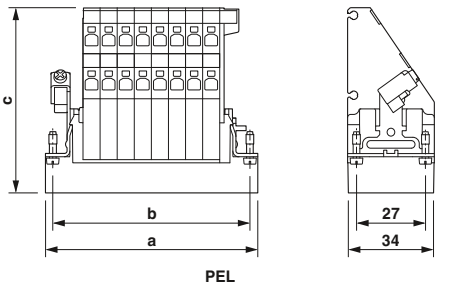
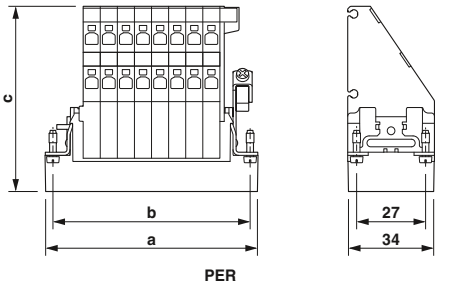
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Screw connection							
				PE left			
	6	1 - 6	B6	① **HC-B 6-A-UT-PEL-...**	1648018	1648024	5
				PE right			
	6	1 - 6	B6	② **HC-B 6-A-UT-PER-...**	1648066	1648072	5
Screw connection							
				PE left			
	10	1 - 10	B10	③ **HC-B 10-A-UT-PEL-...**	1648030	1648036	5
				PE right			
	10	1 - 10	B10	④ **HC-B 10-A-UT-PER-...**	1648078	1648084	5
Screw connection							
				PE left			
	16	1 - 16	B16	⑤ **HC-B 16-A-UT-PEL-...**	1648042	1648048	5
				PE right			
	16	1 - 16	B16	⑥ **HC-B 16-A-UT-PER-...**	1648090	1648096	5
Screw connection							
				PE left			
	24	1 - 24	B24	⑦ **HC-B 24-A-UT-PEL-...**	1648054	1648060	5
				PE right			
	24	1 - 24	B24	⑧ **HC-B 24-A-UT-PER-...**	1648102	1648108	5
Foot element							
				HC-KA-FE	1775240		10
Locking screw barrel							
				HC-VSH	1660083		10

Dimensions (in mm)

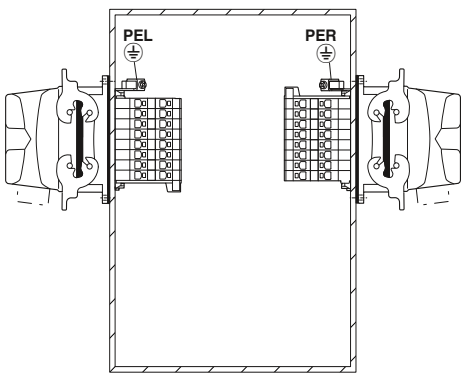


PEL



PER

		a	b	c	d
①	Female	51	44	74.2	
	Male			71.6	
②	Female	51	44	74.2	
	Male			71.6	
③	Female	64	57	74.2	
	Male			71.6	
④	Female	64	57	74.2	
	Male			71.6	
⑤	Female	84.5	77.5	74.2	
	Male			71.6	
⑥	Female	84.5	77.5	74.2	
	Male			71.6	
⑦	Female	111	104	74.2	
	Male			71.6	
⑧	Female	111	104	74.2	
	Male			71.6	



Mounting position PEL/PER

Accessories

Coding elements

From page 656

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

BB10, BB18, BB32, BB46 series

500 V, 16 A

Connection technology:
– Push-in connection

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off
1) For flexible wires with wire end protection

new

		Technical data			
Type		**① HC-BB 10-I-PT-...**	**② HC-BB 18-I-PT-...**	**③ HC-BB 32-I-PT-...**	**④ HC-BB 46-I-PT-...**
Approvals		-	-	-	-
IEC data					
Rated current, contacts (at 40°C)	[A]	16	16	16	16
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	500	500	500	500
Rated surge voltage, contacts	[kV]	6	6	6	6
Connection cross section	[mm²]	0.34 ... 2.5¹)	0.34 ... 2.5¹)	0.34 ... 2.5¹)	0.34 ... 2.5¹)
UL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
CSA / cUL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
Material data					
Contact carrier material		PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Au/Sn	Au/Sn	Au/Sn	Au/Sn
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Push-in connection	Push-in connection	Push-in connection	Push-in connection
Stripping length	[mm]	10	10	10	10
Number of positions		10	18	32	46
Contact numbering		1 - 10	1 - 18	1 - 32	1 - 46
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

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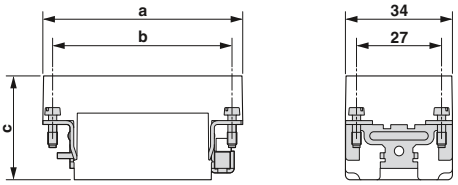
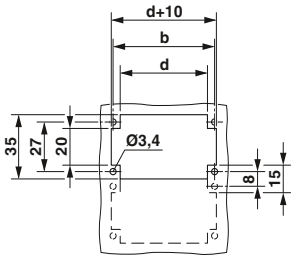
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	10	1 - 10	B6	① **HC-BB 10-I-PT-...**	1014417	1014418	1
Push-in connection							
	18	1 - 18	B10	② **HC-BB 18-I-PT-...**	1014419	1014420	1
Push-in connection							
	32	1 - 32	B16	③ **HC-BB 32-I-PT-...**	1014421	1014422	1
Push-in connection							
	46	1 - 46	B24	④ **HC-BB 46-I-PT-...**	1014423	1014424	1

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female Male	51	44	32.5	35
②	Female Male	64	57	33.2	48
③	Female Male	84.5	77.5	33.2	68.5
④	Female Male	111	104	32.5	95

Accessories

Coding profiles
From page 656

Replacement PE screws
From page 662

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

BB10, BB18, BB32, BB46 series

500 V, 16 A

Connection technology:
– Crimp connection

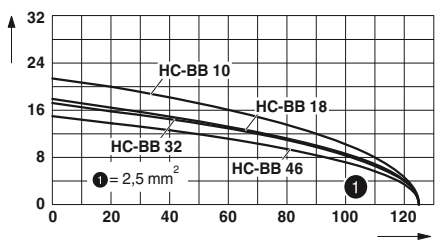
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

Technical data

Type		① HC-BB 10-I-CT-...	② HC-BB 18-I-CT-...	③ ④ HC-BB 32-I-CT-...	⑤ ⑥ HC-BB 46-I-CT-...
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	16	16	16	16
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	500	500	500	500
Rated surge voltage, contacts	[kV]	6	6	6	6
Connection cross section	[mm²]	0.5 ... 4	0.5 ... 4	0.5 ... 4	0.5 ... 4
UL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	20	20	16	16
Connection cross section	AWG	12	12	12	12
CSA / cUL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	18	16	13.5	13.5
Connection cross section	AWG	12	12	12	12
Material data					
Contact carrier material		PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Crimp connection	Crimp connection	Crimp connection	Crimp connection
Stripping length	[mm]	7.5	7.5	7.5	7.5
Number of positions		10	18	32	46
Contact numbering		1 - 10	1 - 18	1 - 32	1 - 46
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

Derating curves



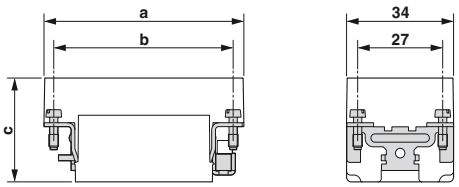
HC-BB ...

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

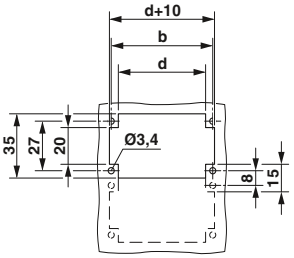
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection							
	10	1 - 10	B6	① **HC-BB 10-I-CT-...**	1584703	1584774	1
Crimp connection							
	18	1 - 18	B10	② **HC-BB 18-I-CT-...**	1584729	1584716	1
Crimp connection							
	32	1 - 32	B16 / B32	③ **HC-BB 32-I-CT-...**	1584745	1584732	1
	32	33 - 64	B16 / B32	④ **HC-BB 32-I-CT-... 33-64**	1406543	1406544	1
Crimp connection							
	46	1 - 46	B24 / B48	⑤ **HC-BB 46-I-CT-...**	1584758	1584761	1
	46	47 - 92	B24 / B48	⑥ **HC-BB 46-I-CT-... 47-92**	1406545	1406546	1
Turned crimp contacts CK 2,5 Silver-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		**CK2,5-ED-0,50... AG**	1663640	1663572	100
		0.75 - 0.75 / 18		**CK2,5-ED-0,75... AG**	1663653	1663585	100
		0.75 - 1 / 18		**CK2,5-ED-1,00... AG**	1663666	1663598	100
		1.5 - 1.5 / 16		**CK2,5-ED-1,50... AG**	1663679	1663608	100
		2.5 - 2.5 / 14		**CK2,5-ED-2,50... AG**	1663682	1663611	100
		4 - 4 / 12		**CK2,5-ED-4,00... AG**	1663705	1663637	100
Turned crimp contacts CK 2,5 Gold-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		**CK2,5-ED-0,50... AU**	1674859	1674804	100
		0.75 - 1 / 18		**CK2,5-ED-1,00... AU**	1674833	1674781	100
		1.5 - 1.5 / 16		**CK2,5-ED-1,50... AU**	1674820	1674778	100
		2.5 - 2.5 / 14		**CK2,5-ED-2,50... AU**	1674862	1674817	100
		4 - 4 / 12		**CK2,5-ED-4,00... AU**	1674846	1674794	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	51	44	32.5	35
	Male			33.2	
②	Female	64	57	32.5	48
	Male			33.2	
③	Female	84.5	77.5	32.5	68.5
	Male			33.2	
④	Female	84.5	77.5	32.5	68.5
	Male			33.2	
⑤	Female	111	104	32.5	95
	Male			33.2	
⑥	Female	111	104	32.5	95
	Male			33.2	

Accessories

Crimping tools
From page 670

Coding profiles
From page 656

Replacement PE screws
From page 662

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

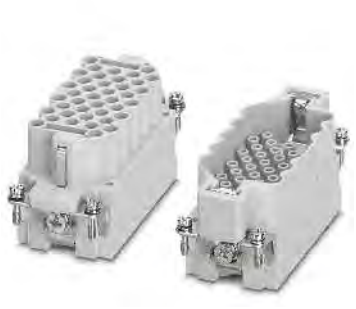
BBB40, BBB64 series

500 V, 16 A

Connection technology:
– Crimp connection

To determine the corresponding housing, see the system cross-reference list on page 502.

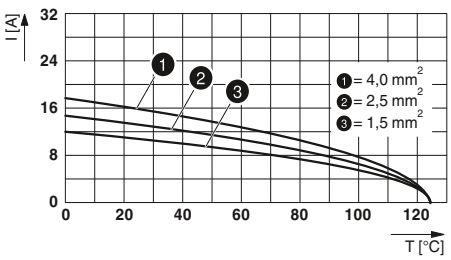
Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off



Technical data

Type		① HC-BBB 40-E...C	② HC-BBB 64-E...C
Approvals		EAC cULus GL	EAC cULus GL
IEC data			
Rated current, contacts (at 40°C)	[A]	16	16
Overvoltage category		III	III
Degree of pollution		3	3
Rated voltage (III/3) contacts	[V]	500	500
Rated surge voltage, contacts	[kV]	6	6
Connection cross section	[mm²]	0.5 ... 4	0.5 ... 4
UL data			
Rated voltage	[V]	600	600
Rated current	[A]	16	16
Connection cross section	AWG	12	12
CSA / cUL data			
Rated voltage	[V]	-	-
Rated current	[A]	-	-
Connection cross section	AWG	-	-
Material data			
Contact carrier material		PC	PC
Inflammability class in acc. with UL 94		V0	V0
Contact material		Copper alloy	Copper alloy
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)
Temperature data			
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125
General data			
Connection method		Crimp connection	Crimp connection
Stripping length	[mm]	7.5	7.5
Number of positions		40	64
Contact numbering		1 - 40	1 - 64
Insertion/withdrawal cycles		≥ 500	≥ 500

Derating curves



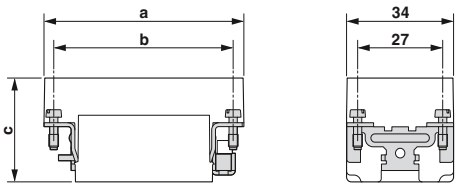
HC-BBB ...

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

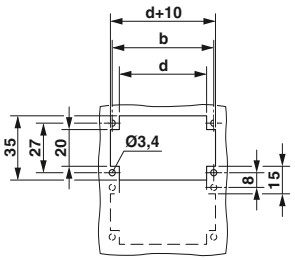
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection							
	40	1 - 40	B16 / B32	① **HC-BBB 40-E...C**	1409930	1409921	1
Crimp connection							
	64	1 - 64	B24 / B48	② **HC-BBB 64-E...C**	1409914	1409901	1
Turned crimp contacts CK 2,5 Silver-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	**CK2,5-ED-0,50... AG**	1663640	1663572	100
			0.75 - 0.75 / 18	**CK2,5-ED-0,75... AG**	1663653	1663585	100
			0.75 - 1 / 18	**CK2,5-ED-1,00... AG**	1663666	1663598	100
			1.5 - 1.5 / 16	**CK2,5-ED-1,50... AG**	1663679	1663608	100
			2.5 - 2.5 / 14	**CK2,5-ED-2,50... AG**	1663682	1663611	100
			4 - 4 / 12	**CK2,5-ED-4,00... AG**	1663705	1663637	100
Turned crimp contacts CK 2,5 Gold-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	**CK2,5-ED-0,50... AU**	1674859	1674804	100
			0.75 - 1 / 18	**CK2,5-ED-1,00... AU**	1674833	1674781	100
			1.5 - 1.5 / 16	**CK2,5-ED-1,50... AU**	1674820	1674778	100
			2.5 - 2.5 / 14	**CK2,5-ED-2,50... AU**	1674862	1674817	100
			4 - 4 / 12	**CK2,5-ED-4,00... AU**	1674846	1674794	100

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	84	77.5	37	68.5
	Male	84.5		34.4	
②	Female	111	104	39	95
	Male			36.4	

Accessories

Crimping tools
From page 670

Coding elements
From page 657

Replacement PE screws
From page 662

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

HV03, HV06, HV10 series
High-voltage applications
Push-in connection

830 V, 16 A

Connection technology:
– Push-in connection

– With 2 lagging switch contacts
– For all size B housing

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off
1) For flexible wires with wire end protection

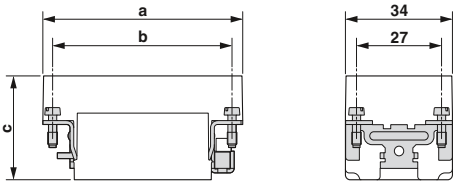
		Technical data		
Type		① **HC-HV03-I-PT-...**	② **HC-HV06-I-PT-...**	③ **HC-HV10-I-PT-...**
Approvals				
IEC data				
Rated current, contacts (at 40°C)	[A]	16	16	16
Overvoltage category		III	III	III
Degree of pollution		3	3	3
Rated voltage (III/3) contacts	[V]	830	830	830
Rated surge voltage, contacts	[kV]	8	8	8
Connection cross section	[mm²]	0.14 ... 2.5[1])	0.14 ... 2.5[1])	0.14 ... 2.5[1])
UL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	21	20	20
Connection cross section	AWG	14	14	14
CSA / cUL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	16	16	15
Connection cross section	AWG	14	14	14
Material data				
Contact carrier material		PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy
Contact surface material		-	-	-
Temperature data				
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125
General data				
Connection method		Push-in connection	Push-in connection	Push-in connection
Stripping length	[mm]	8 ... 10	8 ... 10	8 ... 10
Number of positions		5	8	12
Contact numbering		-	-	-
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

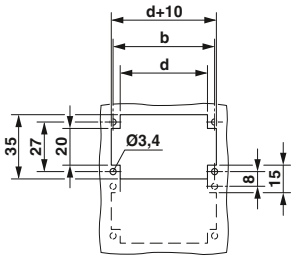
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	3 / 2		B10	① **HC-HV03-I-PT-...**	1407743	1407739	1
Push-in connection							
	6 / 2		B16 / B32	② **HC-HV06-I-PT-...**	1407744	1407740	1
Push-in connection							
	10 / 2		B24 / B48	③ **HC-HV10-I-PT-...**	1407745	1407741	1

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	64	57	34.6	49
	Male			32	
②	Female	84	77.5	34.6	72
	Male			32	
③	Female	111	104	34.6	98
	Male			32	

Accessories

Coding elements
From page 657

Replacement PE screws
From page 662

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

HV03, HV06, HV10 series
High-voltage applications
Crimp connection

830 V, 25 A

Connection technology:
– Crimp connection

– With 2 lagging switch contacts
– For all size B housing

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

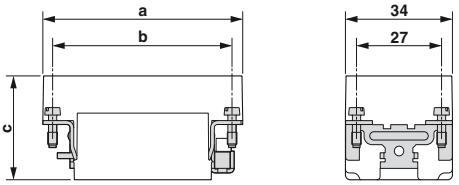
		Technical data		
Type		① **HC-HV03-I-CT-...**	② **HC-HV06-I-CT-...**	③ **HC-HV10-I-CT-...**
Approvals		EAC cULus GL	EAC cULus GL	EAC cULus GL
IEC data				
Rated current, contacts (at 40°C)	[A]	25	25	25
Overvoltage category		III	III	III
Degree of pollution		3	3	3
Rated voltage (III/3) contacts	[V]	830	830	830
Rated surge voltage, contacts	[kV]	8	8	8
Connection cross section	[mm²]	0.5 ... 4	0.5 ... 4	0.5 ... 4
UL data				
Rated voltage	[V]	600	600	600
Rated current	[A]	16	16	16
Connection cross section	AWG	12	12	12
CSA / cUL data				
Rated voltage	[V]	-	-	-
Rated current	[A]	-	-	-
Connection cross section	AWG	-	-	-
Material data				
Contact carrier material		PA	PA	PA
Inflammability class in acc. with UL 94		V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)
Temperature data				
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125
General data				
Connection method		Crimp connection	Crimp connection	Crimp connection
Stripping length	[mm]	7.5	7.5	7.5
Number of positions		5	8	12
Contact numbering		-	-	-
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

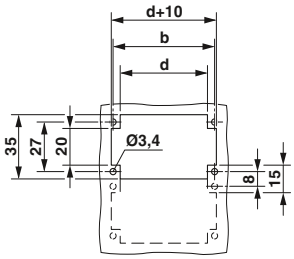
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection							
	3 / 2		B10	① **HC-HV03-I-CT-...**	1405261	1405260	1
Crimp connection							
	6 / 2		B16 / B32	② **HC-HV06-I-CT-...**	1405263	1405262	1
Crimp connection							
	10 / 2		B24 / B48	③ **HC-HV10-I-CT-...**	1405265	1405264	1
Turned crimp contacts CK 2,5 Silver-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		**CK2,5-ED-0,50... AG**	1663640	1663572	100
		0.75 - 0.75 / 18		**CK2,5-ED-0,75... AG**	1663653	1663585	100
		0.75 - 1 / 18		**CK2,5-ED-1,00... AG**	1663666	1663598	100
		1.5 - 1.5 / 16		**CK2,5-ED-1,50... AG**	1663679	1663608	100
		2.5 - 2.5 / 14		**CK2,5-ED-2,50... AG**	1663682	1663611	100
		4 - 4 / 12		**CK2,5-ED-4,00... AG**	1663705	1663637	100
Turned switch contacts CK 2,5 Male, silver-plated		**Cross section mm² / AWG**					
		1 - 1 / 18		**CK2,5-ED-1,00ST-S AG**		1663857	
		1.5 - 1.5 / 16		**CK2,5-ED-1,50ST-S AG**		1663860	
		2.5 - 2.5 / 14		**CK2,5-ED-2,50ST-S AG**		1663873	

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	64	57	34.6	49
	Male			32	
②	Female	84	77.5	34.6	72
	Male			32	
③	Female	111	104	34.6	98
	Male			32	

Accessories

Crimping tools
From page 670

Coding elements
From page 657

Replacement PE screws
From page 662

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HS series
High-current applications

400 V / 690 V, 41 A
1000 V, 80 A

Connection technology:
– Screw connection

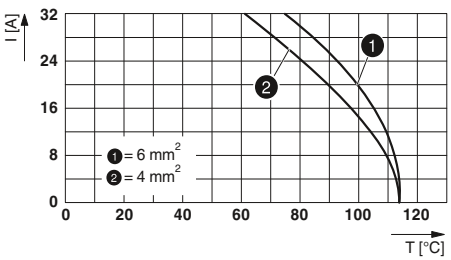
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off
For assembly instructions, see phoenixcontact.net/products
[1]) For rigid conductors and flexible wires with wire end protection

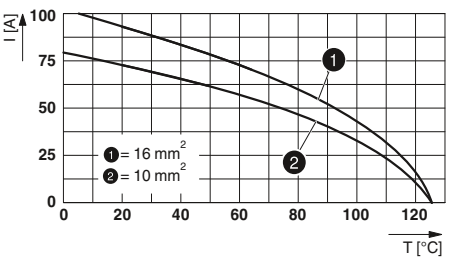
Technical data

Type		①② HC-HS06-I-UT-...	③ HC-K 6/0-E...S
Approvals			
IEC data			
Rated current, contacts (at 40°C)	[A]	41	80
Overvoltage category		III	III
Degree of pollution		3	3
Rated voltage (III/3) contacts	[V]	400 / 690	1000
Rated surge voltage, contacts	[kV]	6	8
Connection cross section	[mm²]	0.5 ... 6	6 ... 16
UL data			
Rated voltage	[V]	600	600
Rated current	[A]	35	80
Connection cross section	AWG	10	6
CSA / cUL data			
Rated voltage	[V]	600	600
Rated current	[A]	32	60
Connection cross section	AWG	10	10-6
Material data			
Contact carrier material		PC	PA
Inflammability class in acc. with UL 94		V0	V0
Contact material		Copper alloy	Copper alloy
Contact surface material		Ag	Ag
Temperature data			
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125
General data			
Connection method		Screw connection	Screw connection
Stripping length	[mm]	10	15
Number of positions		6	6
Contact numbering		1 - 6	1 - 6
Insertion/withdrawal cycles		≥ 500	≥ 500

Derating curves



HC-HS06-I-UT-...



HC-K 6/0-E...S

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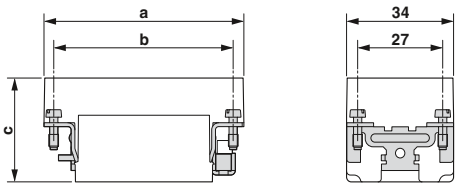
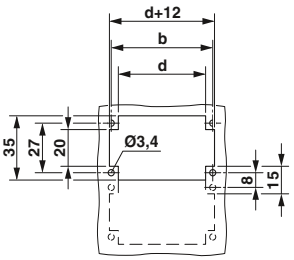
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Screw connection							
	6	1 - 6	B16 / B32	① **HC-HS06-I-UT-...**	1406530	1406531	1
	6	7 - 12	B16 / B32	② **HC-HS06-I-UT-... 7-12**	1406533	1406534	1
Screw connection[1])							
	6	1 - 6	B16 / B32	③ **HC-K 6/0-E...S**	1580537	1580538	10

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female Male	84.5	77.5	34	72
②	Female Male	84.5	77.5	34	72
③	Female Male	84	77.4	49.7 46.3	72

Accessories

Coding profiles
From page 656

Replacement PE screws
From page 662

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

K series
Combination applications for power and signal

400 V ... 830 V, 40 A ... 80 A

Connection technology:
– Power and control contacts
– Screw connection

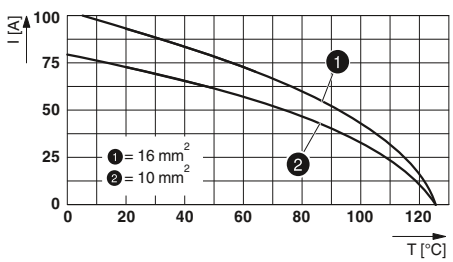
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off
1) For rigid conductors and flexible wires with wire end protection

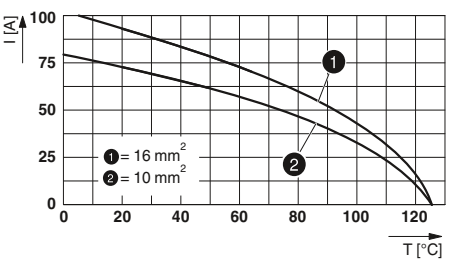
Technical data

Type		① HC-K 4/0-E...S		② HC-K 4/2-E...S		③ HC-K 4/8-E...S	
		Power contacts	Control contacts	Power contacts	Control contacts	Power contacts	Control contacts
Approvals							
IEC data							
Rated current	[A]	80	-	-	-	80	16
Overvoltage category		III		III		III	
Degree of pollution		3		3		3	
Rated voltage (III/3) contacts	[V]	830	-	-	-	400	400
Rated surge voltage, contacts	[kV]	8	-	-	-	6	6
Connection cross section	[mm²]	1.5 ... 16	-	-	-	1.5 ... 16	0.5 ... 2.5
UL data							
Rated voltage	[V]	600	-	600	-	600	-
Rated current	[A]	80	-	16	-	16	-
Connection cross section	AWG	6	-	14	-	14	-
CSA / cUL data							
Rated voltage	[V]	-	-	-	-	-	-
Rated current	[A]	-	-	-	-	-	-
Connection cross section	AWG	-	-	-	-	-	-
Material data							
Contact carrier material		PC		PC		PA	
Inflammability class in acc. with UL 94		V0		V0		V0	
Contact material		Cu alloy		Cu alloy		Copper alloy	
Contact surface material		Ag	-	Ag	Ag	Ag	Ag
Temperature data							
Ambient temperature range	[°C]	-40 ... 125		-40 ... 125		-40 ... 125	
General data							
Connection method		Screw connection	-	-	-	Screw connection	Screw connection
Hexagonal socket	[mm]	-	-	-	-	-	-
Stripping length	[mm]	-	-	-	-	14	7
Number of positions		4	0	4	2	4	8
Contact numbering		1 - 4	-	-	-	1 - 4	1 - 8
Insertion/withdrawal cycles		≥ 500		≥ 500		≥ 500	

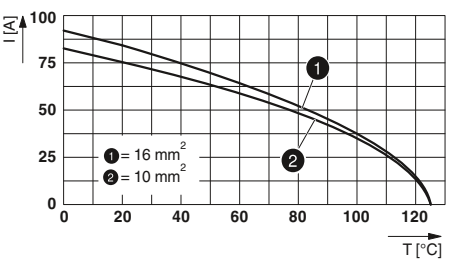
Derating curves



HC-K 4/0-E...S



HC-K 4/2-E...S



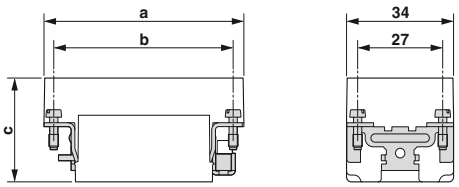
HC-K 4/8-E...S

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

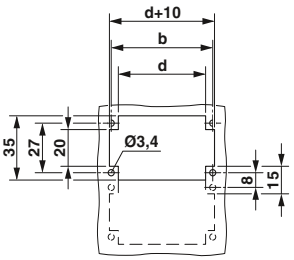
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Screw connection[1])							
	4 / 0	1 - 4	B16 / B32	① **HC-K 4/0-E...S**	1679427	1679414	1
Screw connection[1])							
	4 / 2	1 - 4	B16 / B32	② **HC-K 4/2-E...S**	1686876	1686889	1
Screw connection[1])							
	4 / 8	1 - 4	B24 / B48	③ **HC-K 4/8-E...S**	1679320	1679333	1

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	84.5	77.5	44.2	72
	Male			42	
②	Female	84.5	77.5	44.2	
	Male			42	
③	Female	111	104	44.2	98
	Male			42	

Accessories

Coding elements
From page 657

Replacement PE screws
From page 662

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K series
Combination applications for power and signal

690 V, 40 A

Connection technology:
– Power and control contacts
– Screw connection

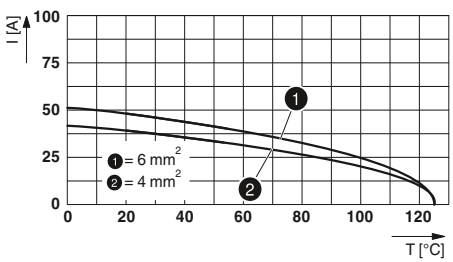
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off

Technical data

Type		① HC-K 6/6-E...S		② HC-K 6/12-E...S	
		Power contacts	Control contacts	Power contacts	Control contacts
Approvals					
IEC data					
Rated current	[A]	-	-	40	10
Overvoltage category		III		III	
Degree of pollution		3		3	
Rated voltage (III/3) contacts	[V]	-	-	690	230 / 400
Rated surge voltage, contacts	[kV]	-	-	8	4
Connection cross section	[mm²]	-	-	2.5 ... 8	0.2 ... 2.5
UL data					
Rated voltage	[V]	600	-	-	-
Rated current	[A]	16	-	-	-
Connection cross section	AWG	14	-	-	-
CSA / cUL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
Material data					
Contact carrier material		PC		PC	
Inflammability class in acc. with UL 94		V0		V0	
Contact material		Cu alloy		Cu alloy	
Contact surface material		Ag	Ag	Ag	Ag
Temperature data					
Ambient temperature range	[°C]	-40 ... 125		-40 ... 125	
General data					
Connection method		-	-	Axial screw connection	Screw connection
Hexagonal socket	[mm]	-	-	2	-
Stripping length	[mm]	-	-	8	10
Number of positions		6	6	6	12
Contact numbering		-	-	1 - 6	11 - 22
Insertion/withdrawal cycles		≥ 500		≥ 500	

Derating curves



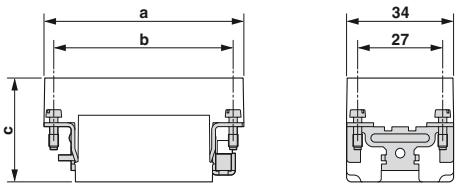
HC-K 6/12-E...S

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

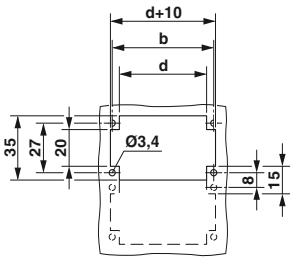
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Axial screw connection							
	6 / 6	1 - 6	B24 / B48	① **HC-K 6/6-E...S**	1636402	1636392	1
Axial screw connection							
	6 / 12	1 - 6	B16 / B32	② **HC-K 6/12-E...S**	1636363	1636350	1

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female				
	Male				
②	Female	84.1	77.5	47	68.5
	Male	84.5		47.2	

Accessories

Coding elements
From page 657

Replacement PE screws
From page 662

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

K series
Combination applications for power and signal

230 V / 400 V ... 690 V, 16 A ... 40 A

Connection technology:
– Power and control contacts
– Crimp connection

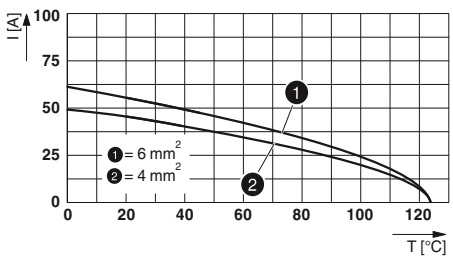
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

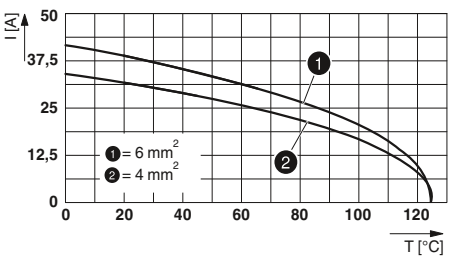
Technical data

Type		① HC-K 6/36-E...C		② HC-K12/ 2-E...C		③ HC-K 8/24-E...C	
		Power contacts	Control contacts	Power contacts	Control contacts	Power contacts	Control contacts
Approvals							
IEC data							
Rated current	[A]	40	10	40	10	16	10
Overvoltage category		III		III		III	
Degree of pollution		3		3		3	
Rated voltage (III/3) contacts	[V]	690	160	690	250	230 / 400	160
Rated surge voltage, contacts	[kV]	8	2.5	8	4	4	2.5
Connection cross section	[mm²]	1.5 ... 6	0.14 ... 2.5	1.5 ... 6	0.14 ... 2.5	0.5 ... 4	0.14 ... 2.5
UL data							
Rated voltage	[V]	600	-	600	-	600	-
Rated current	[A]	10	-	10	-	10	-
Connection cross section	AWG	14	-	14	-	14	-
CSA / cUL data							
Rated voltage	[V]	-	-	-	-	-	-
Rated current	[A]	-	-	-	-	-	-
Connection cross section	AWG	-	-	-	-	-	-
Material data							
Contact carrier material		PC		PC		PA	
Inflammability class in acc. with UL 94		V0		V0		V0	
Contact material		Cu alloy		Cu alloy		Cu alloy	
Contact surface material		Ag	Ag (alternatively Au)	Ag	Ag (alternatively Au)	Ag (alternat. Au)	Ag (alternatively Au)
Temperature data							
Ambient temperature range	[°C]	-40 ... 125		-40 ... 125		-40 ... 125	
General data							
Connection method		Crimp connection	Crimp connection	Crimp connection	Crimp connection	Crimp connection	Crimp connection
Stripping length	[mm]	9	8	9	8	7.5	8
Number of positions		6	36	12	2	8	24
Contact numbering		1 - 6	1 - 36	1 - 12	1 - 2	1 - 8	1 - 24
Insertion/withdrawal cycles		≥ 500		≥ 500		≥ 500	

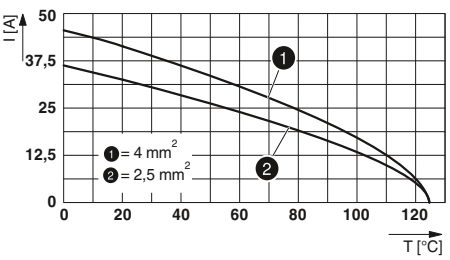
Derating curves



HC-K 6/36 E...C



HC-K 12/2 E...C



HC-K 8/24 E...C

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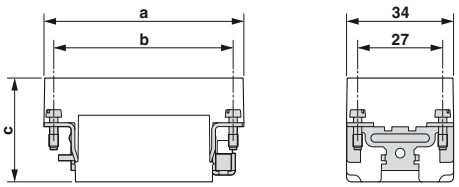
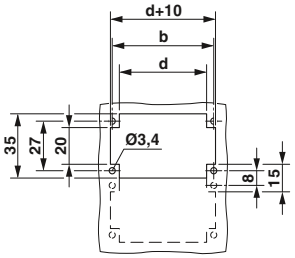
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection CK 4,0/CK 1,6							
	6 / 36	1 - 6	B16 / B32	① **HC-K 6/36-E...C**	1636389	1636376	1
Crimp connection CK 4,0/CK 1,6							
	12 / 2	1 - 12	B16 / B32	② **HC-K12/ 2-E...C**	1636347	1636334	1
Crimp connection CK 2,5/CK 1,6							
	8 / 24	1 - 8	B10	③ **HC-K 8/24-E...C**	1636321	1636318	1
Turned crimp contacts CK 1,6 Silver-plated			**Cross section mm² / AWG**				
			0.14 - 0.37 / 26 - 22	**CK1,6-ED-0,37... AG**	1663394	1663336	100
			0.5 - 0.5 / 20	**CK1,6-ED-0,50... AG**	1663404	1663349	100
			0.75 - 0.75 / 18	**CK1,6-ED-0,75... AG**	1663417	1663352	100
			0.75 - 1 / 18	**CK1,6-ED-1,00... AG**	1663420	1663365	100
			1.5 - 1.5 / 16	**CK1,6-ED-1,50... AG**	1663433	1663378	100
			2.5 - 2.5 / 14	**CK1,6-ED-2,50... AG**	1663446	1663381	100
Turned crimp contacts CK 2,5 Silver-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	**CK2,5-ED-0,50... AG**	1663640	1663572	100
			0.75 - 0.75 / 18	**CK2,5-ED-0,75... AG**	1663653	1663585	100
			0.75 - 1 / 18	**CK2,5-ED-1,00... AG**	1663666	1663598	100
			1.5 - 1.5 / 16	**CK2,5-ED-1,50... AG**	1663679	1663608	100
			2.5 - 2.5 / 14	**CK2,5-ED-2,50... AG**	1663682	1663611	100
			4 - 4 / 12	**CK2,5-ED-4,00... AG**	1663705	1663637	100
Turned crimp contacts CK 4,0 Silver-plated			**Cross section mm² / AWG**				
			1.5 - 1.5 / 16	**CK4,0-ED-1,50... AG**	1663271	1663239	25
			2.5 - 2.5 / 14	**CK4,0-ED-2,50... AG**	1663284	1663242	25
			4 - 4 / 12	**CK4,0-ED-4,00... AG**	1663297	1663255	25
			6 - 6 / 10	**CK4,0-ED-6,00... AG**	1663307	1663268	25
			10 - 10 / 8	**CK4,0-ED-10,00... AG**	1586183	1586198	25

Dimensions (in mm)



Dimensional drawing



Panel cutout

		a	b	c	d
①	Female	84.5	77.5	41.5	68.5
	Male			39	
②	Female	84.5	77.5	41.5	72
	Male			39.6	
③	Female	64	57	38	49
	Male			36	

Accessories

Crimping tools
From page 670

Coding elements
From page 657

Crimp contacts, gold-plated
From page 666

Replacement PE screws
From page 662

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Power

TYPE	HC-M-01-AT-...-40	HC-M-01-AT-...-40-PE	HC-M-02-AT-...-35	HC-M-02-AT-...-16	HC-M-02-AT-...-10
Connection technology	Axial screw	Axial screw	Axial screw	Axial screw	Axial screw
Number of positions	1	1	2	2	2
IEC rated data	200 A, 1000 V, 70 mm²	PE, 70 mm²	100 A, 1000 V, 35 mm²	70 A, 1000 V, 25 mm²	40 A, 1000 V, 10 mm²
UL rated data	146 A, 600 V, AWG 00	PE, AWG 00	127 A, 600 V, AWG 2	69 A, 600 V, AWG 6	55 A, 600 V, AWG 8
Module slots	2	2	2	1	1
Page	572	572	572	572	572

TYPE	HC-M-02-CT-...	HC-M-03-CT-...	HC-M-03/04-CT-...	HC-M-04-CT-...	HC-M-02-CT-...-HV-16
Connection technology	Crimp connection CK 4,0	Crimp connection CK 4,0	Crimp connection CK 4,0 / CK 1,6	Crimp connection CK 4,0	Crimp connection CK 2,5
Number of positions	2	3	3 / 4	4	2
IEC rated data	40 A, 1000 V, 10 mm²	40 A, 690 V, 10 mm²	40 / 10 A, 830 V, 6 / 2.5 mm²	40 A, 830 V, 6 mm²	16 A, 2900 / 5000 V, 4 mm²
UL rated data	42 A, 600 V, AWG 10	42 A, 600 V, AWG 10	40 A, 600 A, AWG 10	37 A, 600 V, AWG 10	28 A, 600 V, AWG 12
Module slots	1	1	1	1	2
Page	574	574	574	574	578

TYPE	HC-M-05-PT-...	HC-M-05L-TPT-...	HC-M-06P-CT-...	HC-M-06-PT-...	HC-M-06-CT-...
Connection technology	Push-in connection	Push-in double connection	Crimp connection CK 2,5	Push-in connection	Crimp connection CK 2,5
Number of positions	5	5	6	6	6
IEC rated data	16 A, 400 V, 2.5 mm²	10 A, 230 / 400 V, 1.5 mm²	16 A, 830 V, 4 mm²	16 A, 500 V, 4 mm²	16 A, 500 V, 4 mm²
UL rated data	19 A, 600 V, AWG 14	16 A, 600 V, AWG 16	24 A; 600 V; AWG 12	-	24 A, 600 V, AWG 12
Module slots	1	1	1	1	1
Page	576	576	578	576	578

TYPE	HC-M-08-PT-...	HC-M-08-CT-...		HC-M-20-CT-...	
Connection technology	Push-in connection	Crimp connection CK 2,5		Crimp connection CK 2,5	
Number of positions	8	8		20	
IEC rated data	16 A, 400 V, 4 mm²	16 A, 400 V, 4 mm²		16 A, 500 V, 4 mm²	
UL rated data	-	20 A, 600 V, AWG 12		17.5 A, 600 V, AWG 12	
Module slots	1	1		2	
Page	576	578		578	

Signal

TYPE	HC-M-12-PT-...	HC-M-12-CT-...	HC-M-17-CT-...	HC-M-25-CT-...	
Connection technology	Push-in connection	Crimp connection CK 1,6	Crimp connection CK 1,6	Crimp connection VS 1,0	
Number of positions	12	12	17	25	
IEC rated data	10 A, 250 V, 1.5 mm²	10 A, 250 V, 2.5 mm²	10 A, 160 V, 2.5 mm²	4 A, 50 V, 0.5 mm²	
UL rated data	-	16 A, 600 V, AWG 14	14 A, 600 V, AWG 14	5 A, 30 V, AWG 20	
Module slots	1	1	1	1	
Page	576	580	580	586	

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Data

TYPE	HC-M-DSUB 09-CT-...	HC-M-DSUB 09-UT-...	HC-M-08-GBIT-CT-...	HC-M-04-KT-...	HC-M-04-...-KOAX-...	
Connection technology	Crimp connection VS 1,0	Screw connection	Crimp connection VS 1,0	For coaxial crimp contacts	Coaxial crimp contacts	
Data transmission rate	-	12 Mbps, PROFIBUS	10 Gbps, CAT 6_A	-	≥ 2 GHz	
IEC rated data	1 A, 50 V, 0.5 mm²	1 A, 50 V, 0.5 mm²	5 A, 50 V, 0.5 mm²	-	75 Ω	50 Ω
UL rated data	-	-	5 A, 30 V, AWG 20	-		
Number of positions / module slots	9 / 1	9 / 1	8 / 1	4 / 1	-	
Page	586	586	586	588	588	

TYPE	HC-M-02-EMC-...	HC-M-EMC-DSUB...	HC-M-EMV-...	HC-M01-COAX-1,6...	HC-M01-COAX-1,6...
Connection technology	EMC connector	Crimp connection VS 1,0	Crimp connection CK 1,6	Crimp connection CK 1,6	Crimp connection CK 2,5
Data transmission rate	-	100 Mbps, CAT 5e	100 Mbps, CAT 5e	500 MHz, 75 Ω coaxial	500 MHz, 50 Ω coaxial
IEC rated data	-	5 A, 50 V, 0.52 mm²	10 A, 50 V, 2.5 mm²	10 A, 50 V	16 A, 50 V
UL rated data	-	5 A, 30 V, AWG 20	10 A, 30 V, AWG 16	10 A, 30 V	16 A, 30 V
Number of positions / module slots	2 / 2	8 / -	4 / -	1 / -	1 / -
Page	582	582	582	584	584

TYPE	HC-M-RJ45-08-GC-...	HC-M-RJ45-...	HC-M-RJI-AD-PC-...	CUC-INI-C1ZNI-S/R4IE8	CUC-INI-C1ZNI-S/R4IP8
Connection technology	RJ45 gender changer	RJ45, crimp connection	RJ Industrial, IDC		
Data transmission rate	10 Gbps, 500 MHz	10 Gbps, 500 MHz		1 Gbps, 100 MHz	1 Gbps, 100 MHz
Description	CAT 6_A	CAT 6_A	For RJ Industrial, IDC	CAT 5e	CAT 5e
Number of positions	8	-	-		
Module slots	1	1	1	AWG 26-24	AWG 23-22
Page	590	590	590	590	590

TYPE	HC-M-RJ45-...	NBC-R4AC1/1,0-94G/R4AC1-BU	FL CAT6 PATCH 1,0	FL CAT5 PATCH 1,0	
Connection technology	RJ45 patch cable				
Data transmission rate		10 Gbps, 500 MHz	1 Gbps, 250 MHz	1 Gbps, 100 MHz	
Description	For RJ45 patch cables	CAT 6_A patch cable	CAT 6 patch cable	CAT 5e patch cable	
Number of positions	-	-	-	-	
Module slots	1	-	-	-	
Page	590	590	590	590	

Pneumatics

TYPE	HC-M-02-PN-M-...	HC-M-PN2-...	HC-M-03-PN-M-...	HC-M-PN3-...			Dummy module HC-M-00
Hose internal diameter	6 mm	6 mm	1.6 mm	1.6 mm	3 mm	4 mm	
Number of positions	2	-	3	-	-	-	
Module slots	1	-	1	-	-	-	1
Page	592	592	592	592	592	592	594

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Modular contact inserts

1000 V, 40 A ... 200 A

Connection technology:
– Axial screw connection

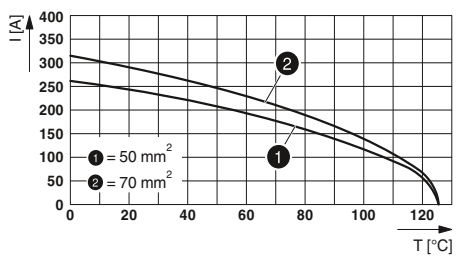
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off
1) For a housing height of ≥ 72 mm only

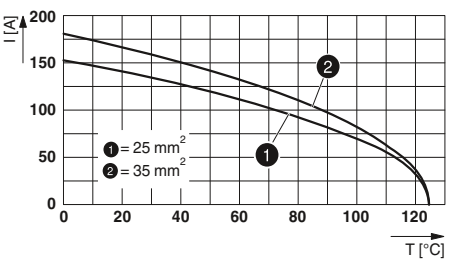
Technical data

Type		① HC-M-01-AT-...-40	② HC-M-01-AT-...-40-PE PE module	③ HC-M-02-AT-...-35	④ HC-M-02-AT-...-16	⑤ HC-M-02-AT-...-10
Approvals						
IEC data						
Rated current, contacts (at 40°C)	[A]	200	-	100	70	40
Overvoltage category		III	-	III	III	III
Degree of pollution		3	-	3	3	3
Rated voltage (III/3) contacts	[V]	1000	-	1000	1000	1000
Rated surge voltage, contacts	[kV]	8	-	8	8	8
Connection cross section	[mm²]	25 ... 70	25 ... 70	10 ... 35	1.5 ... 25	2.5 ... 10
UL data						
Rated voltage	[V]	600	-	600	600	600
Rated current	[A]	146	-	127	69	55
Connection cross section	AWG	0	-	2	6	8
CSA / cUL data						
Rated voltage	[V]	600	-	600	600	600
Rated current	[A]	116	-	100	54	45
Connection cross section	AWG	0	-	2	6	8
Material data						
Contact carrier material		PC	PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Ag	Ag	Ag
Ambient conditions						
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data						
Connection method		Axial screw connection	Axial screw connection	Axial screw connection	Axial screw connection	Axial screw connection
Hexagonal socket	[mm]	5	5	4	2.5	2
Stripping length	[mm]	16	16	13	11	5
Number of positions		1	1	2	2	2
Contact numbering		-	-	1 - 2	1 - 2	1 - 2
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500	≥ 500

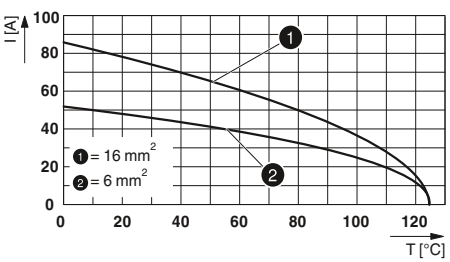
Derating curves



HC-M-01-AT-...-40



HC-M-02-AT-...-35



HC-M-02-AT-...-16

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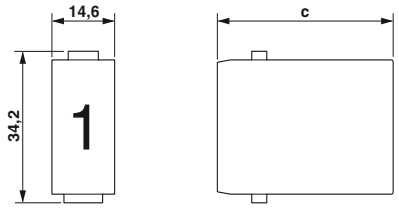
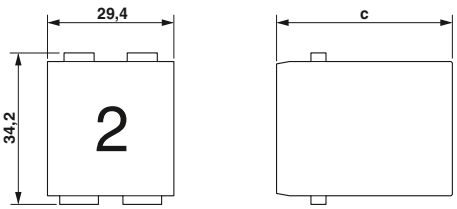
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Axial screw connection[1])	1		2	① **HC-M-01-AT-...-40**	1417379	1417381	2
Axial screw connection[1])	1		2	PE module ② **HC-M-01-AT-...-40-PE**	1417380	1417382	2
Axial screw connection[1])	2	1 - 2	2	③ **HC-M-02-AT-...-35**	1417390	1417392	2
Axial screw connection[1])	2	1 - 2	1	④ **HC-M-02-AT-...-16**	1417296	1417297	2
Axial screw connection[1])	2	1 - 2	1	⑤ **HC-M-02-AT-...-10**	1417387	1417389	2
Cable lug PE extension from 6 mm² to 16 mm²				**HC-M-MHR-PE16**	1636981		50

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			60	
	Male			54.5	
②	Female			54.3	
	Male			54.6	
③	Female			50.3	
	Male			49	
④	Female			46.5	
	Male			45	
⑤	Female			33.5	
	Male			34.7	

Accessories

Module carrier frames
From page 594

Dummy modules
From page 594

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Modular contact inserts

690 V ...1000 V, 40 A

Connection technology:
– Crimp connection CK 4,0

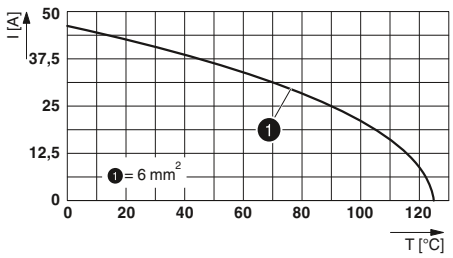
To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

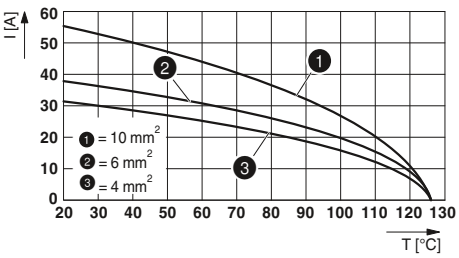
Technical data

Type		① HC-M-02-CT-...	② HC-M-03-CT-...	③ HC-M-04-CT-...	④ HC-M-03/04-CT-...
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	40	40	40	40
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	1000	690	830	830
Rated surge voltage, contacts	[kV]	8	6	8	8
Connection cross section	[mm²]	1.5 ... 10	1.5 ... 10	1.5 ... 6	1.5 ... 6
UL data					
Rated voltage	[V]	600	600	600	600
Rated current	[A]	42	42	37	40
Connection cross section	AWG	10	10	10	10
CSA / cUL data					
Rated voltage	[V]	600	600	830	600
Rated current	[A]	34	33	30	33
Connection cross section	AWG	10	10	10	10
Material data					
Contact carrier material		PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Ag	Ag
Temperature data					
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data					
Connection method		Crimp connection	Crimp connection	Crimp connection	Crimp connection
Stripping length	[mm]	9	9	9	9
Number of positions		2	3	4	7
Contact numbering		1 - 2	1 - 3	1 - 4	1 - 3
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

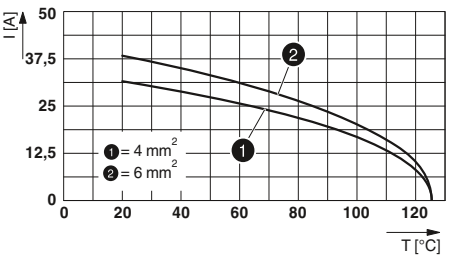
Derating curves



HC-M-02-CT-...



HC-M-03-CT-...



HC-M-04-CT-...

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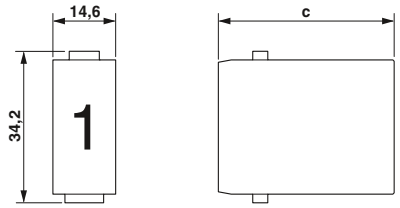
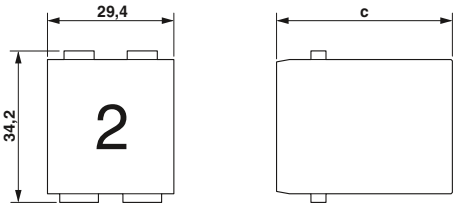
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection CK 4,0							
	2	1 - 2	1	① HC-M-02-CT-...	1414361	1414360	5
Crimp connection CK 4,0							
	3	1 - 3	1	② HC-M-03-CT-...	1414359	1414358	5
Crimp connection CK 4,0							
	4	1 - 4	1	③ HC-M-04-CT-...	1414363	1414362	5
Crimp connection CK 4,0/CK 1,6							
	3 / 4	1 - 3	1	④ HC-M-03/04-CT-...	1414365	1414364	5
Turned crimp contacts CK 4,0 Silver-plated		**Cross section mm² / AWG**					
		1.5 - 1.5 / 16		CK4,0-ED-1,50... AG	1663271	1663239	25
		2.5 - 2.5 / 14		CK4,0-ED-2,50... AG	1663284	1663242	25
		4 - 4 / 12		CK4,0-ED-4,00... AG	1663297	1663255	25
		6 - 6 / 10		CK4,0-ED-6,00... AG	1663307	1663268	25
		10 - 10 / 8		CK4,0-ED-10,00... AG	1586183	1586198	25
Turned crimp contacts CK 1,6 Silver-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 26 - 22		CK1,6-ED-0,37... AG	1663394	1663336	100
		0.5 - 0.5 / 20		CK1,6-ED-0,50... AG	1663404	1663349	100
		0.75 - 0.75 / 18		CK1,6-ED-0,75... AG	1663417	1663352	100
		0.75 - 1 / 18		CK1,6-ED-1,00... AG	1663420	1663365	100
		1.5 - 1.5 / 16		CK1,6-ED-1,50... AG	1663433	1663378	100
		2.5 - 2.5 / 14		CK1,6-ED-2,50... AG	1663446	1663381	100

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			42.4	
	Male			43.7	
②	Female			44.7	
	Male			43.1	
③	Female			40.9	
	Male			44.6	
④	Female			39.1	
	Male			44.3	

Accessories

Module carrier frames
From page 594

Crimping tools
From page 670

Crimp contacts, gold-plated
From page 666

Dummy modules
From page 594

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Modular contact inserts

230 V ... 400 V, 10 A ... 16 A

Connection technology:
– Push-in connection
– Push-in double connection

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off
For assembly instructions, see phoenixcontact.net/products
[1]) For flexible wires with wire end protection

new

		Technical data				
Type		**① HC-M-05-PT-...**	**② HC-M-05L-TPT-...**	**③ HC-M-06-PT-...**	**④ HC-M-08-PT-...**	**⑤ HC-M-12-PT-...**
Approvals				-	-	-
IEC data						
Rated current, contacts (at 40°C)	[A]	16	10	16	16	10
Overvoltage category		III	III	III	III	III
Degree of pollution		3	3	3	3	3
Rated voltage (III/3) contacts	[V]	400	230 / 400	500	400	250
Rated surge voltage, contacts	[kV]	6	4	6	6	4
Connection cross section	[mm²]	0.14 ... 2.5[1])	0.25 ... 1.5[1])	0.34 ... 2.5	0.34 ... 2.5	0.14 ... 1.5[1])
UL data						
Rated voltage	[V]	600	600	-	-	-
Rated current	[A]	19	16	-	-	-
Connection cross section	AWG	14	16	-	-	-
CSA / cUL data						
Rated voltage	[V]	600	600	-	-	-
Rated current	[A]	15	12	-	-	-
Connection cross section	AWG	14	16	-	-	-
Material data						
Contact carrier material		PC	PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag	Ag	Au/Sn	Au/Sn	Ag
Ambient conditions						
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125
General data						
Connection method		Push-in connection	Push-in connection	Push-in connection	Push-in connection	Push-in connection
Hexagonal socket	[mm]	-	-	-	-	-
Stripping length	[mm]	8	8	10	10	8
Number of positions		5	5	6	8	12
Contact numbering		1 - 5	1 - 5	1 - 6	1 - 8	1 - 12
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500	≥ 500

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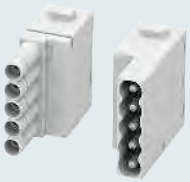
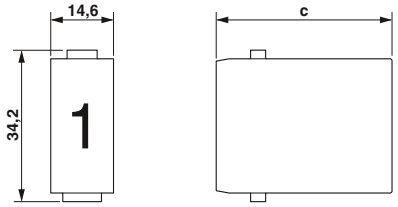
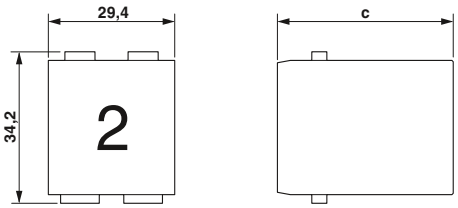
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Push-in connection							
	5	1 - 5	1	① HC-M-05-PT-...	1417373	1417372	5
Push-in double connection							
	5	1 - 5	1	② HC-M-05L-TPT-...	1423962	1423961	1
Push-in connection							
	6	1 - 6	1	③ HC-M-06-PT-...	1424224	1424225	1
Push-in connection							
	8	1 - 8	1	④ HC-M-08-PT-...	1424226	1424227	1
Push-in connection							
	12	1 - 12	1	⑤ HC-M-12-PT-...	1424228	1424246	1

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			34	
	Male			35.5	
②	Female			38	
	Male			36	
③	Female			39	
	Male				
④	Female			39	
	Male				
⑤	Female			36.3	
	Male				

Accessories

Module carrier frames
From page 594

Dummy modules
From page 594

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Modular contact inserts

400 V ... 830 V, 16 A

Connection technology:
– Crimp connection CK 2,5

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
[1]) For a housing height of ≥ 72 mm only

		Technical data					
Type		**① HC-M-02-CT-...-HV-16**	**② HC-M-06P-CT-...**	**③ HC-M-06-CT-...**	**④ HC-M-08-CT-...**	**⑤ HC-M-20-CT-...**	
Approvals							
IEC data							
Rated current, contacts (at 40°C)	[A]	16	16	16	16	16	
Overvoltage category		III	III	III	III	III	
Degree of pollution		3	3	3	3	3	
Rated voltage (III/3) contacts	[V]	2900 / 5000	830	500	400	690	
Rated surge voltage, contacts	[kV]	15	8	6	6	6	
Connection cross section	[mm²]	0.5 ... 4	0.5 ... 4	0.5 ... 4	0.5 ... 4	0.5 ... 4	
UL data							
Rated voltage	[V]	600	600	600	600	600	
Rated current	[A]	28	24	24	20	17.5	
Connection cross section	AWG	12	12	12	12	12	
CSA / cUL data							
Rated voltage	[V]	600	600	600	600	600	
Rated current	[A]	24	18	18	16	14	
Connection cross section	AWG	12	12	12	12	12	
Material data							
Contact carrier material		PC / PTFE	PC	PC	PC	PC	
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0	
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy	Copper alloy	
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)	Ag (alternatively Au)	
Ambient conditions							
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125	-40 ... 125	
General data							
Connection method		Crimp connection	Crimp connection	Crimp connection	Crimp connection	Crimp connection	
Stripping length	[mm]	9.5	7.5	7.5	7.5	7.5	
Number of positions		2	6	6	8	20	
Contact numbering		I, II	1 - 6	1 - 6	1 - 8	1 - 20	
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500	≥ 500	

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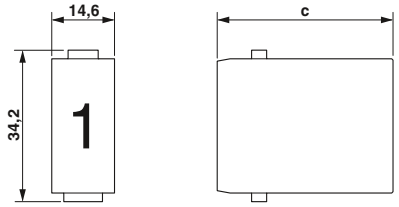
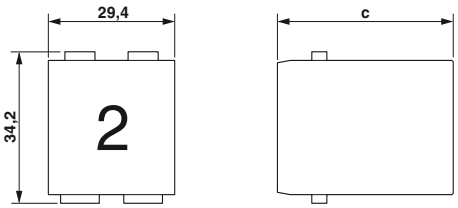
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection CK 2,5[1]							
	2	I, II	2	① HC-M-02-CT-...-HV-16	1417407	1417408	1
Crimp connection CK 2,5							
	6	1 - 6	1	② HC-M-06P-CT-...	1414369	1414368	5
Crimp connection CK 2,5							
	6	1 - 6	1	③ HC-M-06-CT-...	1414367	1414366	5
Crimp connection CK 2,5							
	8	1 - 8	1	④ HC-M-08-CT-...	1414371	1414370	5
Crimp connection CK 2,5							
	20	1 - 20	2	⑤ HC-M-20-CT-...	1414373	1414372	2
Turned crimp contacts CK 2,5 Silver-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		CK2,5-ED-0,50... AG	1663640	1663572	100
		0.75 - 0.75 / 18		CK2,5-ED-0,75... AG	1663653	1663585	100
		0.75 - 1 / 18		CK2,5-ED-1,00... AG	1663666	1663598	100
		1.5 - 1.5 / 16		CK2,5-ED-1,50... AG	1663679	1663608	100
		2.5 - 2.5 / 14		CK2,5-ED-2,50... AG	1663682	1663611	100
		4 - 4 / 12		CK2,5-ED-4,00... AG	1663705	1663637	100

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			64.3	
	Male			61.3	
②	Female			37.4	
	Male			38.9	
③	Female			35.8	
	Male			34	
④	Female			35.8	
	Male			34.5	
⑤	Female			39.95	
	Male			37.6	

Accessories

Module carrier frames
From page 594

Crimping tools
From page 670

Crimp contacts, gold-plated
From page 666

Dummy modules
From page 594

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Modular contact inserts

160 V ... 250 V, 10 A

Connection technology:
– Crimp connection CK 1,6

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

Technical data

Type		① HC-M-12-CT-...	② HC-M-17-CT-...
Approvals			
IEC data			
Rated current, contacts (at 40°C)	[A]	10	10
Overvoltage category		III	III
Degree of pollution		3	3
Rated voltage (III/3) contacts	[V]	250	160
Rated surge voltage, contacts	[kV]	4	2.5
Connection cross section	[mm²]	0.14 ... 2.5	0.14 ... 2.5
UL data			
Rated voltage	[V]	250	160
Rated current	[A]	16	14
Connection cross section	AWG	14	14
CSA / cUL data			
Rated voltage	[V]	250	160
Rated current	[A]	12	10
Connection cross section	AWG	14	14
Material data			
Contact carrier material		PC	PC
Inflammability class in acc. with UL 94		V0	V0
Contact material		Copper alloy	Copper alloy
Contact surface material		Ag (alternatively Au)	Ag (alternatively Au)
Temperature data			
Ambient temperature range	[°C]	-40 ... 125	-40 ... 125
General data			
Connection method		Crimp connection	Crimp connection
Stripping length	[mm]	8	8
Number of positions		12	17
Contact numbering		1 - 12	1 - 17
Insertion/withdrawal cycles		≥ 500	≥ 500

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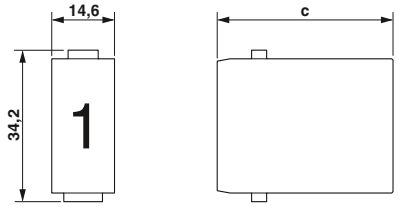
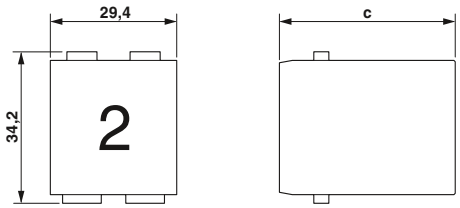
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection CK 1,6							
	12	1 - 12	1	① **HC-M-12-CT-...**	1414355	1414354	5
Crimp connection CK 1,6							
	17	1 - 17	1	② **HC-M-17-CT-...**	1414357	1414356	5
Turned crimp contacts CK 1,6 Silver-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 26 - 22		**CK1,6-ED-0,37... AG**	1663394	1663336	100
		0.5 - 0.5 / 20		**CK1,6-ED-0,50... AG**	1663404	1663349	100
		0.75 - 0.75 / 18		**CK1,6-ED-0,75... AG**	1663417	1663352	100
		0.75 - 1 / 18		**CK1,6-ED-1,00... AG**	1663420	1663365	100
		1.5 - 1.5 / 16		**CK1,6-ED-1,50... AG**	1663433	1663378	100
		2.5 - 2.5 / 14		**CK1,6-ED-2,50... AG**	1663446	1663381	100
Turned crimp contacts CK 1,6 Gold-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 24 - 22		**CK1,6-ED-0,37... AU**	1674969	1674901	100
		0.5 - 0.5 / 20		**CK1,6-ED-0,50... AU**	1674480	1672453	100
		0.75 - 0.75 / 18		**CK1,6-ED-0,75... AU**	1672440	1674914	100
		0.75 - 1 / 18		**CK1,6-ED-1,00... AU**	1674943	1674888	100
		1.5 - 1.5 / 16		**CK1,6-ED-1,50... AU**	1674930	1674875	100
		2.5 - 2.5 / 14		**CK1,6-ED-2,50... AU**	1674985	1674927	100

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			34	
	Male				
②	Female			34	
	Male				

Accessories

Module carrier frames
From page 594

Crimping tools
From page 670

Dummy modules
From page 594

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Modular contact inserts

50 V, 5 A ... 10 A

Connection technology:
– Crimp connection VS 1,0
– Crimp connection CK 1,6

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
[1]) For a housing height of ≥ 72 mm only

new

		Technical data		
Type		① **HC-M-02-EMC-...**	② **HC-M-08-EMC-DSUB-...**	③ **HC-M-EMV-.../3-9,5**
Approvals			-	
IEC data				
Rated current, contacts (at 40°C)	[A]	10	5	10
Overvoltage category		III	III	III
Degree of pollution		3	3	3
Rated voltage (III/3) contacts	[V]	50	50	50
Rated surge voltage, contacts	[kV]	0.8	0.8	0.8
Connection cross section	[mm²]	0.14 ... 2.5	0.09 ... 0.52	0.14 ... 2.5
UL data				
Rated voltage	[V]	-	-	42
Rated current	[A]	-	-	10
Connection cross section	AWG	-	-	16
CSA / cUL data				
Rated voltage	[V]	-	-	42
Rated current	[A]	-	-	9
Connection cross section	AWG	-	-	16
Material data				
Contact carrier material		PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag (power)/Au (signal)	AU	Ag (alternatively Au)
Temperature data				
Ambient temperature range	[°C]	-40 ... 125	-40 ... 85	-40 ... 85
General data				
Connection method		Crimp connection	-	Crimp connection
Stripping length	[mm]	-	-	8
Number of positions		2	8	4
Contact numbering		1 - 2	1 - 8	1 - 4
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500

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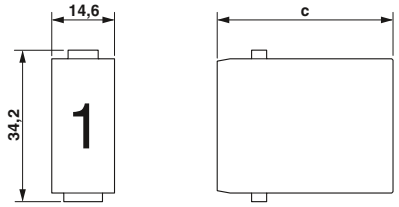
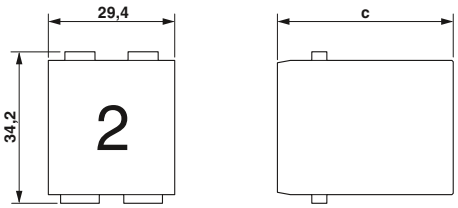
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
EMC module[1])							
	2	1 - 2	2	① HC-M-02-EMC-...	1417376	1417374	2
EMC connector, crimp connection VS 1,0							
	8	1 - 8		② HC-M-08-EMC-DSUB-...	1066080	1066082	1
EMC connector, crimp connection CK 1,6							
	4	1 - 4		③ HC-M-EMV-.../3-9,5	1636091	1636088	1
Shield adapters							
				HC-M-ADP-EMC	1420486	1420486	1
Turned crimp contacts VS 1,0 Gold-plated			**Cross section mm² / AWG**				
			0.08 - 0.12 / 28 - 26	CUC-DSC-...1BAU-S/DSC28	1418787	1418784	100
			0.08 - 0.34 / 28 - 22	CUC-DSC-...1BAU-S/DSC22	1418790	1418789	100
			0.2 - 0.5 / 24 - 20	CUC-DSC-...1BAU-S/DSC24	1418788	1418786	100
Turned crimp contacts CK 1,6 Silver-plated			**Cross section mm² / AWG**				
			0.14 - 0.37 / 26 - 22	CK1,6-ED-0,37... AG	1663394	1663336	100
			0.5 - 0.5 / 20	CK1,6-ED-0,50... AG	1663404	1663349	100
			0.75 - 0.75 / 18	CK1,6-ED-0,75... AG	1663417	1663352	100
			0.75 - 1 / 18	CK1,6-ED-1,00... AG	1663420	1663365	100
			1.5 - 1.5 / 16	CK1,6-ED-1,50... AG	1663433	1663378	100
			2.5 - 2.5 / 14	CK1,6-ED-2,50... AG	1663446	1663381	100

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female				
	Male			34	
②	Female				
	Male			15.5	15.5
③	Female				
	Male			15.5	

Accessories

Module carrier frames
From page 594

Crimping tools
From page 670

Dummy modules
From page 594

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Modular contact inserts

50 V, 10 A

Connection technology:
– Crimp connection CK 1,6
– Crimp connection CK 2,5

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off
[1]) For a housing height of ≥ 72 mm only

new

		Technical data		
Type		① **HC-M-02-EMC-...**	② **HC-M-01-COAX-CK1,6-75-...**	③ **HC-M-01-COAX-CK2,5-50-...**
Approvals				-
IEC data				
Rated current, contacts (at 40°C)	[A]	10	10	16
Overvoltage category		III	III	III
Degree of pollution		3	3	3
Rated voltage (III/3) contacts	[V]	50	50	50
Rated surge voltage, contacts	[kV]	0.8	0.8	0.8
Connection cross section	[mm²]	0.14 ... 2.5	0.14 ... 2.5	0.5 ... 4
UL data				
Rated voltage	[V]	-	50	-
Rated current	[A]	-	10	-
Connection cross section	AWG	-	-	-
CSA / cUL data				
Rated voltage	[V]	-	-	-
Rated current	[A]	-	-	-
Connection cross section	AWG	-	-	-
Material data				
Contact carrier material		PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy
Contact surface material		Ag (power)/Au (signal)	AU	AU
Temperature data				
Ambient temperature range	[°C]	-40 ... 125	-40 ... 85	-40 ... 85
General data				
Connection method		Crimp connection	-	-
Stripping length	[mm]	-	8	8
Number of positions		2	1	1
Contact numbering		1 - 2	-	-
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500

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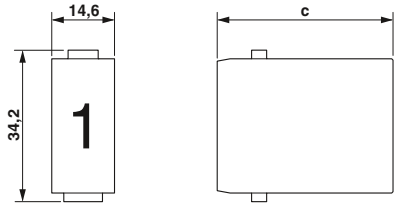
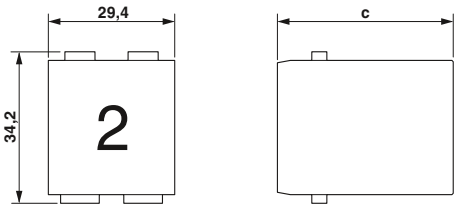
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
EMC module[1])							
	2	1 - 2	2	① HC-M-02-EMC-...	1417376	1417374	2
Coaxial connectors 75 Ω, crimp connection CK 1,6							
	1			② HC-M-01-COAX-CK1,6-75-...	1066961	1066962	1
Coaxial connectors 50 Ω, crimp connection CK 2,5							
	1			③ HC-M-01-COAX-CK2,5-50-...	1066959	1066960	1
Shield adapters							
				HC-M-ADP-EMC	1420486	1420486	1
Turned crimp contacts CK 1,6 Silver-plated		**Cross section mm² / AWG**					
		0.14 - 0.37 / 26 - 22		CK1,6-ED-0,37... AG	1663394	1663336	100
		0.5 - 0.5 / 20		CK1,6-ED-0,50... AG	1663404	1663349	100
		0.75 - 0.75 / 18		CK1,6-ED-0,75... AG	1663417	1663352	100
		0.75 - 1 / 18		CK1,6-ED-1,00... AG	1663420	1663365	100
		1.5 - 1.5 / 16		CK1,6-ED-1,50... AG	1663433	1663378	100
		2.5 - 2.5 / 14		CK1,6-ED-2,50... AG	1663446	1663381	100
Turned crimp contacts CK 2,5 Silver-plated		**Cross section mm² / AWG**					
		0.5 - 0.5 / 20		CK2,5-ED-0,50... AG	1663640	1663572	100
		0.75 - 0.75 / 18		CK2,5-ED-0,75... AG	1663653	1663585	100
		0.75 - 1 / 18		CK2,5-ED-1,00... AG	1663666	1663598	100
		1.5 - 1.5 / 16		CK2,5-ED-1,50... AG	1663679	1663608	100
		2.5 - 2.5 / 14		CK2,5-ED-2,50... AG	1663682	1663611	100
		4 - 4 / 12		CK2,5-ED-4,00... AG	1663705	1663637	100

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			34	
	Male				
②	Female			15.5	15.5
	Male				
③	Female			15.5	15.5
	Male				

Accessories

Module carrier frames
From page 594

Crimping tools
From page 670

Dummy modules
From page 594

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Modular contact inserts

50 V, 1 ... 5 A

Connection technology:
– Crimp connection VS 1,0
– Screw connection

Guide pins and sockets are mandatory for the HC-M-25-CT-... and HC-M-DSUB 09-... modules; see page 657.

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Order crimp contacts separately
Only operate connectors when there is no load/the power is switched off

new

Technical data

Type		① HC-M-25-CT-...	② HC-M-08-GBIT-CT-...	③ HC-M-DSUB 09-UT-... For 1 cable	④ HC-M-DSUB 09-CT-... For 1 cable	⑤ HC-M-DSUB 09/2-CT-... For 2 cables
Approvals						
IEC data						
Rated current, contacts (at 40°C)	[A]	4	5	1	1	5
Overvoltage category		III	III	III	III	III
Degree of pollution		3	3	3	3	3
Rated voltage (III/3) contacts	[V]	50	50	50	50	50
Rated surge voltage, contacts	[kV]	0.8	0.8	0.8	0.8	0.8
Connection cross section	[mm²]	0.08 ... 0.5	0.08 ... 0.5	0.08 ... 0.5	0.08 ... 0.5	0.09 ... 0.82
UL data						
Rated voltage	[V]	50	50	-	-	-
Rated current	[A]	5	5	-	-	-
Connection cross section	AWG	20	22	-	-	-
CSA / cUL data						
Rated voltage	[V]	30	50	-	-	-
Rated current	[A]	4	5	-	-	-
Connection cross section	AWG	20	22	-	-	-
Material data						
Contact carrier material		PC	PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0	V0
Contact material		Copper alloy	Copper alloy	Copper alloy	Copper alloy	Copper alloy
Contact surface material		Au	Au	Ag	Au	Ag
Ambient conditions						
Ambient temperature range	[°C]	-40 ... 125	-40 ... 85	-40 ... 125	-40 ... 125	-40 ... 125
General data						
Connection method		Crimp connection	Crimp connection	Screw connection	Crimp connection	Crimp connection
Stripping length	[mm]	4.2	4.2	4.2	4.2	4.2
Number of positions		25	8	9	9	9
Contact numbering		1 - 25	1 - 8	1 - 9	1 - 9	1 - 9
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500	≥ 500

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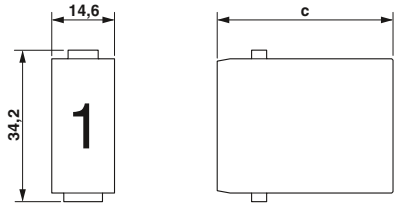
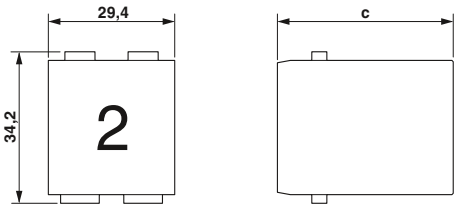
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Crimp connection VS 1,0							
	25	1 - 25	1	① HC-M-25-CT-...	1414375	1414374	5
Ethernet connector, crimp connection VS 1,0							
	8	1 - 8	1	② HC-M-08-GBIT-CT-...	1417303	1417302	1
D-SUB 09 module, screw connection							
	9	1 - 9	1	For 1 cable ③ HC-M-DSUB 09-UT-...	1417307	1423723	1
D-SUB 09 module, crimp connection VS 1,0							
	9	1 - 9	1	For 1 cable ④ HC-M-DSUB 09-CT-...	1417308	1417309	1
D-SUB 09/2 module, crimp connection VS 1,0							
	9	1 - 9	1	For 2 cables ⑤ HC-M-DSUB 09/2-CT-...	1079793	1079796	1
Turned crimp contacts VS 1,0 Gold-plated		**Cross section mm² / AWG**					
		0.08 - 0.12 / 28 - 26		CUC-DSC-...1BAU-S/DSC28	1418787	1418784	100
		0.08 - 0.34 / 28 - 22		CUC-DSC-...1BAU-S/DSC22	1418790	1418789	100
		0.2 - 0.5 / 24 - 20		CUC-DSC-...1BAU-S/DSC24	1418788	1418786	100

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			30.65	
	Male			34	
②	Female			40.3	
	Male			41.4	
③	Female			35.7	
	Male				
④	Female			35.2	
	Male				
⑤	Female			35.7	
	Male				

Accessories

Module carrier frames
From page 594

Crimping tools
From page 670

Guide elements
From page 657

Dummy modules
From page 594

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Modular contact inserts, coaxial modules

50 V, 1.5 A

Connection technology:
– Coaxial contacts

Guide pins and guide sockets are mandatory for the HC-M-04-KT-... series modules, see page 657.

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off
50 Ω coaxial contacts for cables RG 174/U, RG 188 A/U, RG 316/U
75 Ω coaxial contacts for cables RG 179 B/U, RG 187 A/U

		Technical data			
Type		① **HC-M-04-KT-...**			
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	1.5			
Overvoltage category		III			
Degree of pollution		3			
Rated voltage (III/3) contacts	[V]	50			
Rated surge voltage, contacts	[kV]	0.8			
Connection cross section	[mm²]	0.14 ... 2.5			
UL data					
Rated voltage	[V]	-			
Rated current	[A]	-			
Connection cross section	AWG	-			
CSA / cUL data					
Rated voltage	[V]	-			
Rated current	[A]	-			
Connection cross section	AWG	-			
Material data					
Contact carrier material		PC			
Inflammability class in acc. with UL 94		V0			
Contact material		Copper alloy			
Contact surface material		AU			
Temperature data					
Ambient temperature range	[°C]	-40 ... 125			
General data					
Connection method		Soldering and crimp connection			
Stripping length	[mm]	2.5			
Number of positions		4			
Contact numbering		1 - 4			
Insulation resistance	[GΩ]	≥ 10			
Contact resistance	[mΩ]	-			
Insertion/withdrawal cycles		≥ 500			

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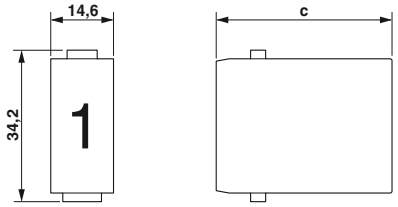
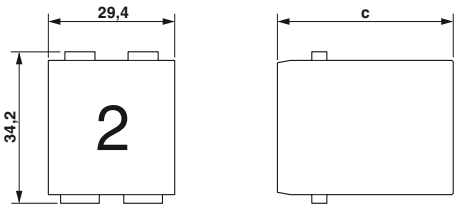
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
Coaxial module							
	4	1 - 4	1	① HC-M-04-KT-...	1417370	1417371	5
Coaxial contacts 50 Ω **For cables RG 174/U, RG 188 A/U, RG 316/U** 				HC-M-04-...-KOAX-50	1676815	1676802	10
Coaxial contacts 75 Ω **For cables RG 179 B/U, RG 187 A/U** 				HC-M-04-...-KOAX-75	1686245	1686258	10

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			32.6	
	Male			31.5	

Accessories

Module carrier frames
From page 594

Crimping tools
From page 671

Guide elements
From page 657

Dummy modules
From page 594

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Modular contact inserts, RJ45 modules

Connection technology:
– RJ45 and RJI

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off

		Technical data			
Type		① **HC-M-RJ45-08-GC-...** RJ45, CAT6$_A$, 10 Gbps	② **HC-M-RJ45-08-...** RJ45, CAT6$_A$, 10 Gbps	③ **HC-M-RJ45-AD-PC-...** for RJ45 patch cable	④ **HC-M-RJI-AD-PC-...** for RJ industrial inserts
Approvals					
IEC data					
Rated current, contacts (at 40°C)	[A]	1	1	1	1
Overvoltage category		III	III	III	III
Degree of pollution		3	3	3	3
Rated voltage (III/3) contacts	[V]	50	50	50	50
Rated surge voltage, contacts	[kV]	0.8	0.8	0.8	0.8
Connection cross section	[mm²]	-	-	-	-
UL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
CSA / cUL data					
Rated voltage	[V]	-	-	-	-
Rated current	[A]	-	-	-	-
Connection cross section	AWG	-	-	-	-
Material data					
Contact carrier material		PC	PC	PC	PC
Inflammability class in acc. with UL 94		V0	V0	V0	V0
Contact material		Copper alloy	Phosphor bronze	Copper alloy	Copper alloy
Contact surface material		Au	Au	Au	Au
Temperature data					
Ambient temperature range	[°C]	-40 ... 70	-25 ... 60	-25 ... 60	-40 ... 70
General data					
Connection method		-	-	-	-
Stripping length	[mm]	-	-	-	-
Number of positions		8	8	8	8
Contact numbering		1 - 8	1 - 8	1 - 8	1 - 8
Insulation resistance	[GΩ]	-	-	-	-
Contact resistance	[mΩ]	-	-	-	-
Insertion/withdrawal cycles		≥ 500	≥ 500	≥ 500	≥ 500

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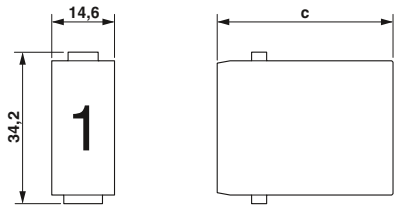
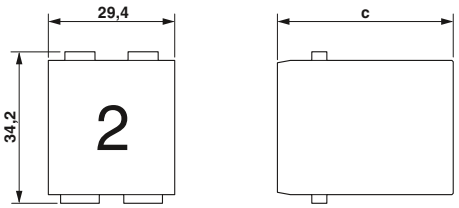
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
RJ45 gender changer							
	8	1 - 8	1	RJ45, CAT6$_A$, 10 Gbps ① **HC-M-RJ45-08-GC-...**	1419886		1
RJ45 male insert							
	8	1 - 8	1	RJ45, CAT6$_A$, 10 Gbps ② **HC-M-RJ45-08-...**		1419887	1
RJ45 adapter							
	8	1 - 8	1	for RJ45 patch cable ③ **HC-M-RJ45-AD-PC-...**		1419885	1
RJ45 adapter							
	8	1 - 8	1	for RJ industrial inserts ④ **HC-M-RJI-AD-PC-...**		1419888	1
RJ45 patch cable **Length: 1 m**							
			CAT6$_A$	**NBC-R4AC1/1,0-94G/R4AC1-BU**		1413160	1
			CAT6	**FL CAT6 PATCH 1,0**		2891385	10
			CAT5e	**FL CAT5 PATCH 1,0**		2832276	10
RJ45 connector, IP20, CAT5e			**Cross section mm² / AWG**				
			0.14 - 0.25 / 26 - 24	**CUC-INI-C1ZNI-S/R4IE8**		1421608	1
			0.23 - 0.32 / 23 - 22	**CUC-INI-C1ZNI-S/R4IP8**		1421129	1

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female			36.7	
	Male				
②	Female				
	Male			41	
③	Female				
	Male			50.7	
④	Female				
	Male			54.5	

Accessories

Module carrier frames
From page 594

RJ45 patch cables
From page 721

Dummy modules
From page 594

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Modular contact inserts, pneumatic modules

Connection technology:
– Pneumatic contact with valve
– Pneumatic contact without valve

Guide pins and guide sockets are mandatory for the HC-M-02-PN-M-... and HC-M-03-PN-M-... modules; see page 657.

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654

	Technical data					
Type	① **HC-M-02-PN-M-...**	② **HC-M-PN2-6,00-...-V** With valve	③ **HC-M-PN2-6,00-...** Without valve	④ **HC-M-03-PN-M-...**	⑤⑥⑦ **HC-M-PN3-1,60-BU-V** With valve	⑧⑨⑩ **HC-M-PN3-1,60-...** Without valve
Approvals						
Material data for pneumatic module						
Contact carrier material	PC	-	-	PC	-	-
Inflammability class in acc. with UL 94	V0	-	-	V0	-	-
Module slots	1	-	-	1	-	-
Material data for pneumatic contact						
Contact material	-	Delrin acetal	Delrin acetal	-	Delrin acetal	Delrin acetal
Seal material (contact)	-	Buna-N	Buna-N	-	Buna-N	Buna-N
Valve material (contact)	-	Polypropylene	Polypropylene	-	Polypropylene	Polypropylene
Mechanical data						
Number of positions	2	-	-	3	-	-
Contact numbering	1 - 2	-	-	1 - 3	-	-
Insertion/withdrawal cycles	≥ 500	≥ 500	≥ 500	≥ 500	≥ 500	≥ 500
Internal diameter of pressure hose connection	6 mm	6 mm	6 mm	1.6 mm	1.6 mm	1.6 mm
Operating pressure	-	8.00 bar	8.00 bar	-	8.00 bar	8.00 bar
Ambient conditions						
Ambient temperature range °C	-40 ... 80	-40 ... 80	-40 ... 80	-40 ... 80	-40 ... 80	-40 ... 80

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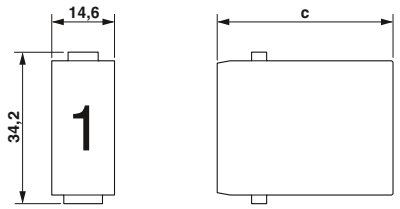
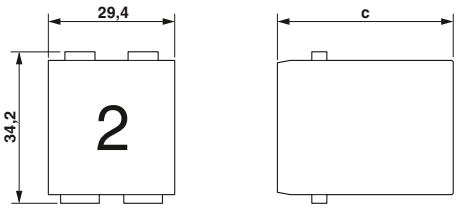
Ordering data

Description	Pos.	Number	Slots	Type	Order No. Female	Order No. Male	Pcs./ Pkt.
PN2 pneumatic module							
	2	1 - 2	1	① **HC-M-02-PN-M-...**	1417434	1417434	5
PN2 pneumatic contact							
				With valve ② **HC-M-PN2-6,00-...-V**	1676776		10
PN2 pneumatic contact							
				Without valve ③ **HC-M-PN2-6,00-...**	1676763	1676750	10
PN3 pneumatic module							
	3	1 - 3	1	④ **HC-M-03-PN-M-...**	1417433	1417433	5
PN3 pneumatic contact							
				With valve ⑤ **HC-M-PN3-1,60-BU-V** With valve ⑥ **HC-M-PN3-3,00-BU-V** With valve ⑦ **HC-M-PN3-4,00-BU-V**	1663543 1663556 1663569		10 10 10
PN3 pneumatic contact							
				Without valve ⑧ **HC-M-PN3-1,60-...** Without valve ⑨ **HC-M-PN3-3,00-...** Without valve ⑩ **HC-M-PN3-4,00-...**	1663514 1663527 1663530	1663488 1663491 1663501	10 10 10

Dimensions (in mm)



1 module slot



2 module slots

		a	b	c	d
①	Female Male			27.2	
④	Female Male			27.2	

Accessories

Module carrier frames
From page 594

Dummy modules
From page 594

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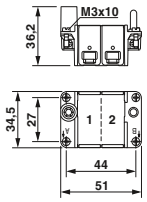
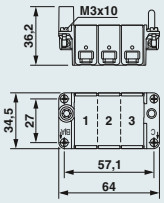
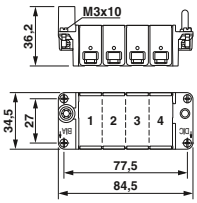
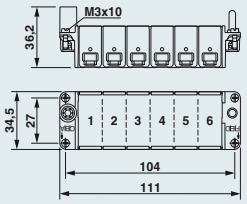
Modular contact inserts, module carrier frames

Technical data

General data		
Module carrier frame material		Die-cast zinc alloy
Connection cross section		4 mm² ... 6 mm² (for PE conductor – power side)
Connection cross section		1 mm² ... 2.5 mm² (for PE conductor – control side)
Connection cross section	AWG	12 ... 10 (for PE conductor – power side)
Connection cross section	AWG	18 ... 14 (for PE conductor – control side)
Insertion/withdrawal cycles		≥ 500
Ambient temperature (operation)		-40°C ... 125°C

Ordering data

Description	Size	Type	Order No.	Pcs./Pkt.	Dimensions
Module carrier frame[1])	B6	For sleeve housing (A, B, C, etc.) **HC-M-B06-MF-H**	1417403	1	
	B6	For panel mounting base (a, b, c, etc.) **HC-M-B06-MF-B**	1417398	1	
Module carrier frame[1])	B10	For sleeve housing (A, B, C, etc.) **HC-M-B10-MF-H**	1417404	1	
	B10	For panel mounting base (a, b, c, etc.) **HC-M-B10-MF-B**	1417399	1	
Module carrier frame[1])	B16	For sleeve housing (A, B, C, etc.) **HC-M-B16-MF-H**	1417405	1	
	B16	For panel mounting base (a, b, c, etc.) **HC-M-B16-MF-B**	1417400	1	
Module carrier frame[1])	B24	For sleeve housing (A, B, C, etc.) **HC-M-B24-MF-H**	1417406	1	
	B24	For panel mounting base (a, b, c, etc.) **HC-M-B24-MF-B**	1417402	1	
Dummy module		for unused slots **HC-M-00**	1414353	5	

Notes:
For assembly instructions, see phoenixcontact.net/products
Wire end protection is necessary for conductor cross sections <2.5 mm²
[1]) For rigid conductors and flexible wires with wire end protection

Accessories

Coding elements
From page 657

Dummy modules
From page 594

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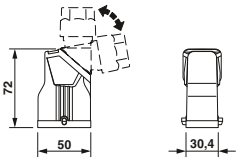
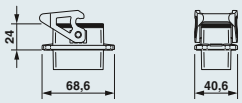
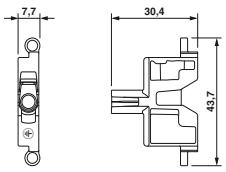
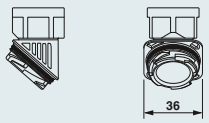
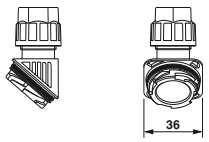
EVO M1 single-module housings, sleeve housings, panel mounting bases, contact insert modules

new

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection	IP66
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Size	Type	Order No.	Pcs./Pkt.	Dimensions
EVO M1 sleeve housing					
	M1	For one modular contact insert **HC-EVO-M1-HHFS-PLBK**	1424436	1	
EVO M1 panel mounting base					
	M1	For one modular contact insert **HC-EVO-M1-BWS-PLRBK**	1424437	1	
PE contact insert module					
		1/2 module, female **HC-1/2M-UT-F-6-PE** 1/2 module, male **HC-1/2M-UT-M-6-PE**	1424438 1424439	1 1	
Thread adapter					
		HC-D-TA-M25-PLRBK **HC-D-TA-PG16-PLR-BK**	1411352 1411353	1 1	
Cable gland	**Clamping area**				
	7 mm ... 13 mm 9 mm ... 17 mm	**HC-D-G-M20-PLRBK** **HC-D-G-M25-PLRBK**	1411350 1411351	1 1	

Accessories

EVO unlocking tools
From page 659

Cable glands
From page 686

Corrugated pipe adapters
see Catalog 3

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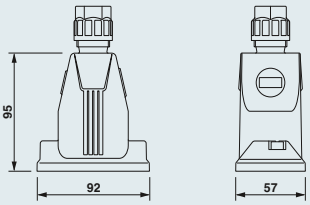
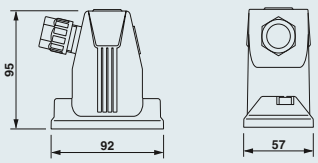
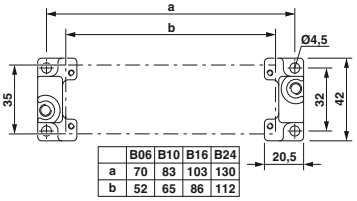
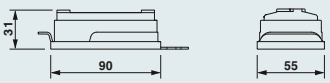
Size B6, plastic, ADVANCE PL sleeve housings with cable gland

Technical data

General data	
Housing material	PA
Lock material	Stainless steel
Sealing material	NBR
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 100°C

Ordering data

Description	Clamping area	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing[1]) Height: 93.7 mm		Cable outlet: top			
	8 mm ... 13 mm	**HC-ADV-B06-HHWH-1TGM20-PL**	1404222	1	
	9 mm ... 17 mm	**HC-ADV-B06-HHWH-1TGM25-PL**	1404225	1	
Sleeve housing[1]) Height: 93.7 mm		Cable outlet: lateral			
	8 mm ... 13 mm	**HC-ADV-B06-HHWH-1SGM20-PL**	1404224	1	
	9 mm ... 17 mm	**HC-ADV-B06-HHWH-1SGM25-PL**	1404226	1	
Panel mounting flange		2 pcs. per housing			
		HC-B-AF	1686533	20	
		Set with 2 panel mounting flanges			
		HC-B-AF-SET	1604638	1	
Protective cover Height: 31.2 mm		for sleeve side, IP50			
		HC-B 6-TMS-SD-IP50	1690736	10	
		for panel mounting side, IP66			
		HC-B 6-TMS-SD-IP66	1411494	10	

Notes:
Marking label: US-EMP (20X9) Order No. 0829439
[1]) Screw locking with M6 Allen screws

B06	B10	B16	B24
a	70	83	103	130
b	52	65	86	112

Accessories

Allen keys
see Catalog 3

Replacement seals
phoenixcontact.net/products

Corrugated pipe adapters
see Catalog 3

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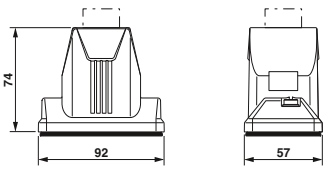
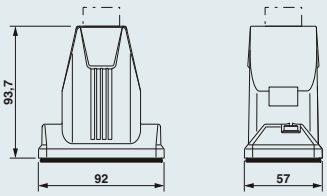
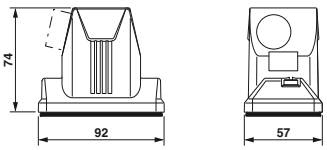
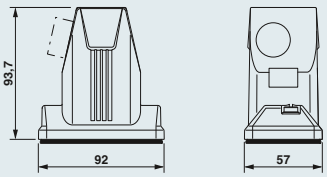
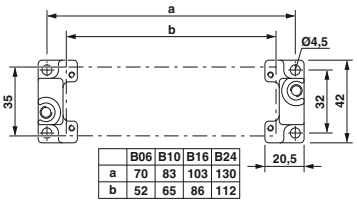
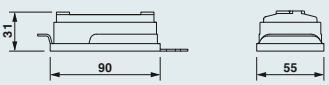
Size B6, metal, ADVANCE sleeve housings

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Surface material	uncoated / powder coated, black
Lock material	Stainless steel
Sealing material	NBR, conductive / Viton
IP degree of protection (when plugged in)	IP66 / IP68 / IP69K
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing, cable outlet: top[1]) **Height: 74 mm**		Uncoated, EMC ready			
	1x M20	**HC-ADV-B06-HLWH-1TTM20-EMC-AL**	1413362	1	
	1x M25	**HC-ADV-B06-HLWH-1TTM25-EMC-AL**	1413364	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B06-HLWH-BLANK-ELC-AL	1420048	1	
		Powder-coated, black			
	1x M20	**HC-ADV-B06-HLWH-1TTM20-MF-BK**	1420904	1	
	1x M25	**HC-ADV-B06-HLWH-1TTM25-MF-BK**	1420905	1	
Sleeve housing, cable outlet: top[1]) **Height: 93.7 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B06-HHWH-1TTM25-EMC-AL**	1413374	1	
	1x M32	**HC-ADV-B06-HHWH-1TTM32-EMC-AL**	1413376	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B06-HHWH-BLANK-ELC-AL	1420050	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B06-HHWH-1TTM25-MF-BK**	1420900	1	
	1x M32	**HC-ADV-B06-HHWH-1TTM32-MF-BK**	1420901	1	
Sleeve housing, cable outlet: to the side[1]) **Height: 74 mm**		Uncoated, EMC ready			
	1x M20	**HC-ADV-B06-HLWH-1STM20-EMC-AL**	1413363	1	
	1x M25	**HC-ADV-B06-HLWH-1STM25-EMC-AL**	1413365	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B06-HLWH-BLANK-ELC-AL	1420048	1	
		Powder-coated, black			
	1x M20	**HC-ADV-B06-HLWH-1STM20-MF-BK**	1420902	1	
	1x M25	**HC-ADV-B06-HLWH-1STM25-MF-BK**	1420903	1	
Sleeve housing, cable outlet: to the side[1]) **Height: 93.7 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B06-HHWH-1STM25-EMC-AL**	1413375	1	
	1x M32	**HC-ADV-B06-HHWH-1STM32-EMC-AL**	1413377	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B06-HHWH-BLANK-ELC-AL	1420050	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B06-HHWH-1STM25-MF-BK**	1420898	1	
	1x M32	**HC-ADV-B06-HHWH-1STM32-MF-BK**	1420899	1	
Panel mounting flange		2 pcs. per housing			
		HC-B-AF	1686533	20	
		Set with 2 panel mounting flanges			
		HC-B-AF-SET	1604638	1	
Protective cover **Height: 31.2 mm**		for sleeve side, IP50			
		HC-B 6-TMS-SD-IP50	1690736	10	
		for panel mounting side, IP66			
		HC-B 6-TMS-SD-IP66	1411494	10	

Notes:
In order to achieve optimum shielding results, the mounting surface must be conductive
Marking label: US-EMLP-HA (20X9), Order No. 0830989
[1]) Screw locking with M6 Allen screws

Accessories

Cable glands
From page 686

Allen keys
see Catalog 3

Replacement seals
phoenixcontact.net/products

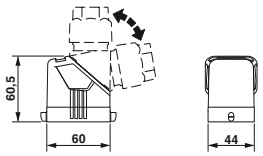
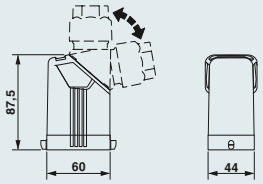
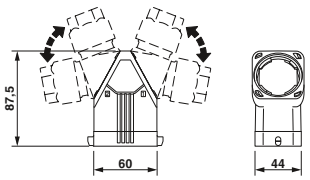
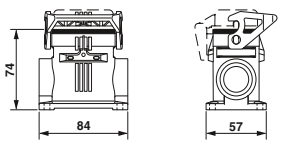
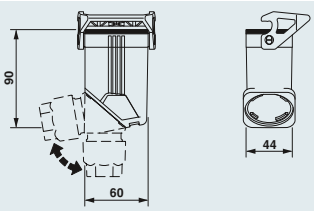
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B6, plastic, EVO housings, single locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 60.5 mm** 		**HC-EVO-B06-HLFS-PLBK**	1407619	1	
Sleeve housing **Height: 87.5 mm** 		**HC-EVO-B06-HHFS-PLBK**	1407620	1	
Double sleeve housing **Height: 87.5 mm** 		for single locking latch **HC-EVO-B06-HHFS-2B-PL-BK**	1420930	1	
Panel mounting base **Height: 30.5 mm** 		Without cover **HC-EVO-B06-BWS-PLRBK** With cover **HC-EVO-B06-BWSC-PLRBK**	1407621 1407622	1 1	
Box mounting base[1]) **Height: 74 mm** 	 2x M20 2x M25 2x M32 2x M20 2x M25 2x M32	Without cover **HC-EVO-B06-SHWS-2SSM20-PLRBK** **HC-EVO-B06-SHWS-2SSM25-PLRBK** **HC-EVO-B06-SHWS-2SSM32-PLRBK** With cover **HC-EVO-B06-SHWSC-2SSM20-PLRBK** **HC-EVO-B06-SHWSC-2SSM25-PLRBK** **HC-EVO-B06-SHWSC-2SSM32-PLRBK**	 1421322 1421229 1407623 1421329 1421244 1407624	 1 1 1 1 1 1	
Coupling housing **Height: 90 mm** 		**HC-EVO-B06-CHWS-PLRBK**	1407625	1	

Notes:
For further accessories, see from page 658
Marking label: US-EMP (20X9) Order No. 0829439
[1]) One cable entry is sealed with a knockout cover

Accessories

Cable glands
From page 658

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Connector sets
From page 646

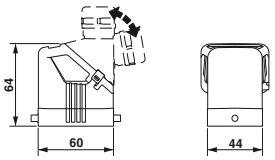
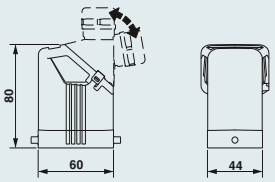
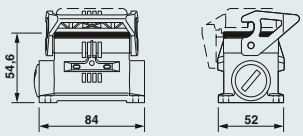
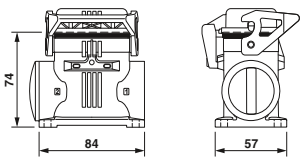
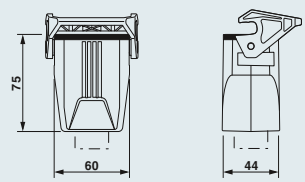
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B6, metal, EVO housings, single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 60.5 mm**		**HC-EVO-B06-HLFS-EL-AL**	1411448	1	
Sleeve housing **Height: 80 mm**		**HC-EVO-B06-HHFS-EL-AL**	1411447	1	
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B06-BWS-ELC-AL** With cover **HC-STA-B06-BWSC-ELC-AL**	 1411318 1411319	 1 1	
Box mounting base[1]) **Height: 54.6 mm**	 2x M20 2x M25 2x Pg16 2x M20 2x M25 2x Pg16	Without cover **HC-STA-B06-SLWS-2SSM20-ELC-AL** **HC-STA-B06-SLWS-2SSM25-ELC-AL** **HC-STA-B06-SLWS-2SSP16-ELC-AL** With cover **HC-STA-B06-SLWSC-2SSM20-ELC-AL** **HC-STA-B06-SLWSC-2SSM25-ELC-AL** **HC-STA-B06-SLWSC-2SSP16-ELC-AL**	 1412821 1412822 1412823 1412825 1412826 1412827	 1 1 1 1 1 1	
Box mounting base[1]) **Height: 74.8 mm**	 2x M25 2x M32 2x M40 2x M25 2x M32 2x M40	Without cover **HC-STA-B06-SHWS-2SSM25-ELC-AL** **HC-STA-B06-SHWS-2SSM32-ELC-AL** **HC-STA-B06-SHWS-2SSM40-ELC-AL** With cover **HC-STA-B06-SHWSC-2SSM25-ELC-AL** **HC-STA-B06-SHWSC-2SSM32-ELC-AL** **HC-STA-B06-SHWSC-2SSM40-ELC-AL**	 1082556 1082559 1082566 1082575 1082576 1082577	 1 1 1 1 1 1	
Coupling housing **Height: 73 mm**	1x M20 1x M25 1x M32 1x Pg13.5 1x Pg21 1x Pg29	**HC-STA-B06-CHWS-1TTM20-ELC-AL** **HC-STA-B06-CHWS-1TTM25-ELC-AL** **HC-STA-B06-CHWS-1TTM32-ELC-AL** **HC-STA-B06-CHWS-1TTP13-ELC-AL** **HC-STA-B06-CHWS-1TTP21-ELC-AL** **HC-STA-B06-CHWS-1TTP29-ELC-AL**	1412555 1412556 1412557 1412558 1412559 1412560	1 1 1 1 1 1	

Notes:

For further accessories, see page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 660

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Connector sets
phoenixcontact.net/products

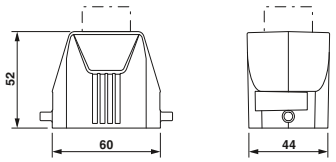
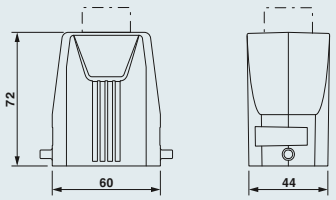
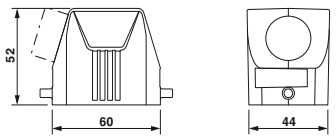
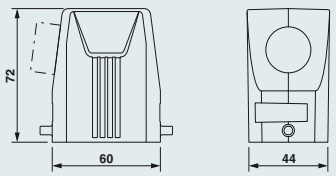
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B6, metal, sleeve housings for single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing Height: 52 mm		Cable outlet: top			
	1x M20	**HC-STA-B06-HLFS-1TTM20-EL-AL**	1412574	1	
	1x M25	**HC-STA-B06-HLFS-1TTM25-EL-AL**	1412575	1	
	1x Pg13.5	**HC-STA-B06-HLFS-1TTP13-EL-AL**	1412576	1	
	1x Pg16	**HC-STA-B06-HLFS-1TTP16-EL-AL**	1412577	1	
		without bore hole			
		HC-STA-B06-HLFS-BLANK-EL-AL	1419900	1	
Sleeve housing Height: 72 mm		Cable outlet: top			
	1x M25	**HC-STA-B06-HHFS-1TTM25-EL-AL**	1412566	1	
	1x M32	**HC-STA-B06-HHFS-1TTM32-EL-AL**	1412567	1	
	1x Pg21	**HC-STA-B06-HHFS-1TTP21-EL-AL**	1412568	1	
	1x Pg29	**HC-STA-B06-HHFS-1TTP29-EL-AL**	1412569	1	
		without bore hole			
		HC-STA-B06-HHFS-BLANK-EL-AL	1419901	1	
Sleeve housing Height: 52 mm		Cable outlet: lateral			
	1x M20	**HC-STA-B06-HLFS-1STM20-EL-AL**	1412570	1	
	1x M25	**HC-STA-B06-HLFS-1STM25-EL-AL**	1412571	1	
	1x Pg13.5	**HC-STA-B06-HLFS-1STP13-EL-AL**	1412572	1	
	1x Pg16	**HC-STA-B06-HLFS-1STP16-EL-AL**	1412573	1	
		without bore hole			
		HC-STA-B06-HLFS-BLANK-EL-AL	1419900	1	
Sleeve housing Height: 72 mm		Cable outlet: lateral			
	1x M25	**HC-STA-B06-HHFS-1STM25-EL-AL**	1412562	1	
	1x M32	**HC-STA-B06-HHFS-1STM32-EL-AL**	1412563	1	
	1x Pg21	**HC-STA-B06-HHFS-1STP21-EL-AL**	1412564	1	
	1x Pg29	**HC-STA-B06-HHFS-1STP29-EL-AL**	1412565	1	
		without bore hole			
		HC-STA-B06-HHFS-BLANK-EL-AL	1419901	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Cover plates
From page 664

Connector sets
From page 647

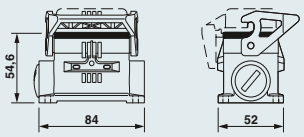
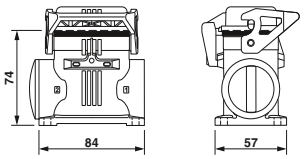
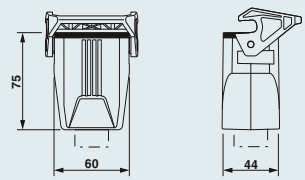
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B6, metal, supporting base elements with single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B06-BWS-ELC-AL** With cover **HC-STA-B06-BWSC-ELC-AL**	 **1411318** **1411319**	 1 1	
Box mounting base[1]) **Height: 54.6 mm**	2x M20 2x M25 2x Pg16 2x M20 2x M25 2x Pg16	Without cover **HC-STA-B06-SLWS-2SSM20-ELC-AL** **HC-STA-B06-SLWS-2SSM25-ELC-AL** **HC-STA-B06-SLWS-2SSP16-ELC-AL** With cover **HC-STA-B06-SLWSC-2SSM20-ELC-AL** **HC-STA-B06-SLWSC-2SSM25-ELC-AL** **HC-STA-B06-SLWSC-2SSP16-ELC-AL**	 **1412821** **1412822** **1412823** **1412825** **1412826** **1412827**	 1 1 1 1 1 1	
Box mounting base[1]) **Height: 74.8 mm**	2x M25 2x M32 2x M40 2x M25 2x M32 2x M40	Without cover **HC-STA-B06-SHWS-2SSM25-ELC-AL** **HC-STA-B06-SHWS-2SSM32-ELC-AL** **HC-STA-B06-SHWS-2SSM40-ELC-AL** With cover **HC-STA-B06-SHWSC-2SSM25-ELC-AL** **HC-STA-B06-SHWSC-2SSM32-ELC-AL** **HC-STA-B06-SHWSC-2SSM40-ELC-AL**	 **1082556** **1082559** **1082566** **1082575** **1082576** **1082577**	 1 1 1 1 1 1	
Coupling housing **Height: 73 mm**	1x M20 1x M25 1x M32 1x Pg13.5 1x Pg21 1x Pg29	Cable outlet: top **HC-STA-B06-CHWS-1TTM20-ELC-AL** **HC-STA-B06-CHWS-1TTM25-ELC-AL** **HC-STA-B06-CHWS-1TTM32-ELC-AL** **HC-STA-B06-CHWS-1TTP13-ELC-AL** **HC-STA-B06-CHWS-1TTP21-ELC-AL** **HC-STA-B06-CHWS-1TTP29-ELC-AL**	 **1412555** **1412556** **1412557** **1412558** **1412559** **1412560**	 1 1 1 1 1 1	

Notes:

For further accessories, see from page 658

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

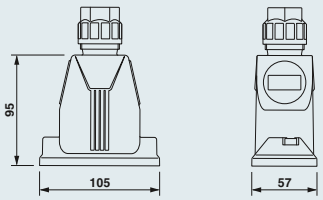
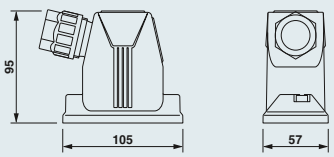
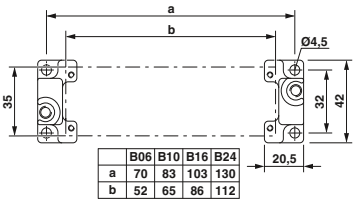
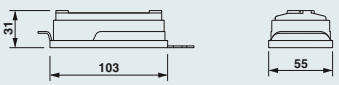
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, plastic, ADVANCE PL sleeve housings with cable gland

Technical data

General data	
Housing material	PA
Lock material	Stainless steel
Sealing material	NBR
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 100°C

Ordering data

Description	Clamping area	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing[1]) Height: 95 mm	9 mm ... 17 mm 11 mm ... 21 mm	Cable outlet: top **HC-ADV-B10-HHWH-1TGM25-PL** **HC-ADV-B10-HHWH-1TGM32-PL**	 1404227 1404229	 1 1	
Sleeve housing[1]) Height: 95 mm	9 mm ... 17 mm 11 mm ... 21 mm	Cable outlet: lateral **HC-ADV-B10-HHWH-1SGM25-PL** **HC-ADV-B10-HHWH-1SGM32-PL**	 1404228 1404230	 1 1	
Panel mounting flange		2 pcs. per housing **HC-B-AF** Set with 2 panel mounting flanges **HC-B-AF-SET**	 1686533 1604638	 20 1	
Protective cover Height: 31.2 mm		for sleeve side, IP50 **HC-B 10-TMS-SD-IP50** for panel mounting side, IP66 **HC-B 10-TMS-SD-IP66**	 1690749 1411504	 10 10	

Notes:

Marking label: US-EMP (20X9) Order No. 0829439

[1]) Screw locking with M6 Allen screws

Accessories

Allen keys
see Catalog 3

Replacement seals
phoenixcontact.net/products

Corrugated pipe adapters
see Catalog 3

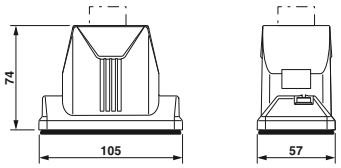
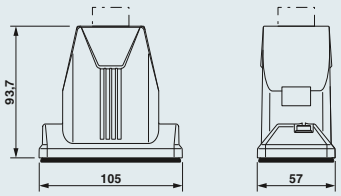
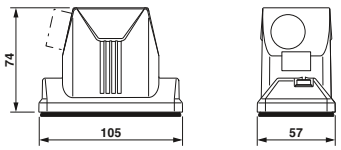
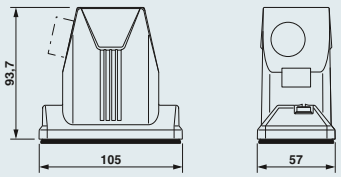
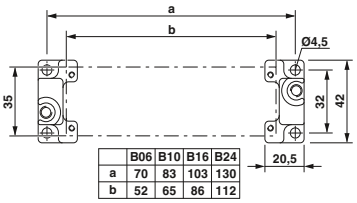
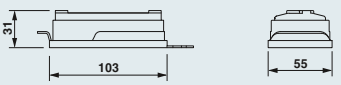
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, ADVANCE sleeve housings

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Surface material	uncoated / powder coated, black
Lock material	Stainless steel
Sealing material	NBR, conductive / Viton
IP degree of protection (when plugged in)	IP66 / IP68 / IP69K
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing, cable outlet: top[1]) **Height: 74 mm**		Uncoated, EMC ready			
	1x M20	**HC-ADV-B10-HLWH-1TTM20-EMC-AL**	1413388	1	
	1x M25	**HC-ADV-B10-HLWH-1TTM25-EMC-AL**	1413390	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B10-HLWH-BLANK-ELC-AL	1420051	1	
		Powder-coated, black			
	1x M20	**HC-ADV-B10-HLWH-1TTM20-MF-BK**	1420912	1	
	1x M25	**HC-ADV-B10-HLWH-1TTM25-MF-BK**	1420913	1	
Sleeve housing, cable outlet: top[1]) **Height: 93.7 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B10-HHWH-1TTM25-EMC-AL**	1413400	1	
	1x M32	**HC-ADV-B10-HHWH-1TTM32-EMC-AL**	1413402	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B10-HHWH-BLANK-ELC-AL	1420052	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B10-HHWH-1TTM25-MF-BK**	1420908	1	
	1x M32	**HC-ADV-B10-HHWH-1TTM32-MF-BK**	1420909	1	
Sleeve housing, cable outlet: to the side[1]) **Height: 74 mm**		Uncoated, EMC ready			
	1x M20	**HC-ADV-B10-HLWH-1STM20-EMC-AL**	1413389	1	
	1x M25	**HC-ADV-B10-HLWH-1STM25-EMC-AL**	1413391	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B10-HLWH-BLANK-ELC-AL	1420051	1	
		Powder-coated, black			
	1x M20	**HC-ADV-B10-HLWH-1STM20-MF-BK**	1420910	1	
	1x M25	**HC-ADV-B10-HLWH-1STM25-MF-BK**	1420911	1	
Sleeve housing, cable outlet: to the side[1]) **Height: 93.7 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B10-HHWH-1STM25-EMC-AL**	1413401	1	
	1x M32	**HC-ADV-B10-HHWH-1STM32-EMC-AL**	1413403	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B10-HHWH-BLANK-ELC-AL	1420052	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B10-HHWH-1STM25-MF-BK**	1420906	1	
	1x M32	**HC-ADV-B10-HHWH-1STM32-MF-BK**	1420907	1	
Panel mounting flange		2 pcs. per housing			
		HC-B-AF	1686533	20	
		Set with 2 panel mounting flanges			
		HC-B-AF-SET	1604638	1	
Protective cover **Height: 31.2 mm**		for sleeve side, IP50			
		HC-B 10-TMS-SD-IP50	1690749	10	
		for panel mounting side, IP66			
		HC-B 10-TMS-SD-IP66	1411504	10	

Notes:
In order to achieve optimum shielding results, the mounting surface must be conductive
Marking label: US-EMLP-HA (20X9), Order No. 0830989
[1]) Screw locking with M6 Allen screws

Accessories

Screw connections
From page 686

Allen keys
see Catalog 3

Replacement seals
phoenixcontact.net/products

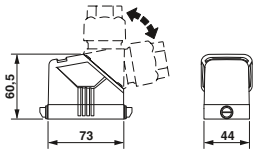
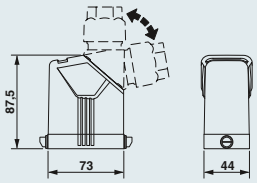
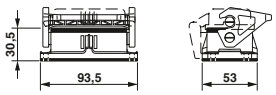
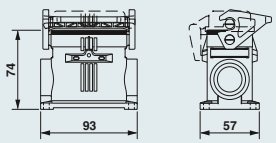
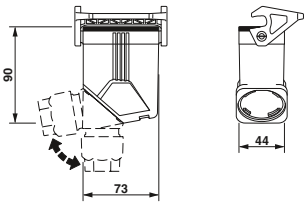
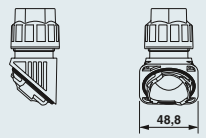
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, plastic, EVO housings, single locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 60.5 mm** 		**HC-EVO-B10-HLFS-PLBK**	1407626	1	
Sleeve housing **Height: 87.5 mm** 		**HC-EVO-B10-HHFS-PLBK**	1407627	1	
Panel mounting base **Height: 30.5 mm** 		Without cover **HC-EVO-B10-BWS-PLRBK** With cover **HC-EVO-B10-BWSC-PLRBK**	 1407632 1407633	 1 1	
Box mounting base[1] **Height: 74 mm** 	2x M20 2x M25 2x M32 2x M20 2x M25 2x M32	Without cover **HC-EVO-B10-SHWS-2SSM20-PLRBK** **HC-EVO-B10-SHWS-2SSM25-PLRBK** **HC-EVO-B10-SHWS-2SSM32-PLRBK** With cover **HC-EVO-B10-SHWSC-2SSM20-PLRBK** **HC-EVO-B10-SHWSC-2SSM25-PLRBK** **HC-EVO-B10-SHWSC-2SSM32-PLRBK**	 1421354 1421277 1407636 1421355 1421301 1407637	 1 1 1 1 1 1	
Coupling housing **Height: 90 mm** 		**HC-EVO-B10-CHWS-PLRBK**	1407640	1	
Cable gland 	**Clamping area** 7 mm ... 13 mm 9 mm ... 17 mm 11 mm ... 21 mm 19 mm ... 28 mm	 **HC-B-G-M20-PLRBK** **HC-B-G-M25-PLRBK** **HC-B-G-M32-PLRBK** **HC-B-G-M40-PLRBK**	 1407669 1407670 1407671 1407672	 1 1 1 1	

Notes:

For further accessories, see from page 658

Marking label: US-EMP (20X9) Order No. 0829439

[1]) One cable entry is sealed with a knockout cover

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Connector sets
From page 646

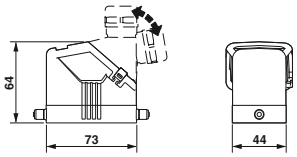
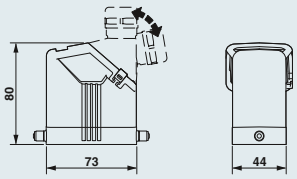
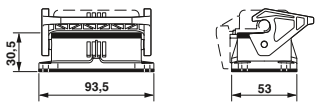
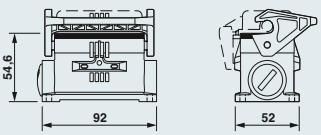
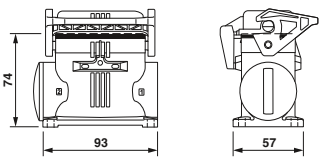
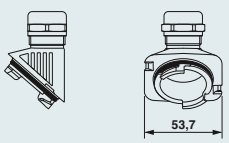
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, EVO housings, single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 64 mm**		**HC-EVO-B10-HLFS-EL-AL**	1411456	1	
Sleeve housing **Height: 80 mm**		**HC-EVO-B10-HHFS-EL-AL**	1411453	1	
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B10-BWS-ELC-AL** With cover **HC-STA-B10-BWSC-ELC-AL**	 1411320 1411321	 1 1	
Box mounting base[1]) **Height: 54.6 mm**	 2x M20 2x M25 2x Pg16 2x M20 2x M25 2x Pg16	Without cover **HC-STA-B10-SLWS-2SSM20-ELC-AL** **HC-STA-B10-SLWS-2SSM25-ELC-AL** **HC-STA-B10-SLWS-2SSP16-ELC-AL** With cover **HC-STA-B10-SLWSC-2SSM20-ELC-AL** **HC-STA-B10-SLWSC-2SSM25-ELC-AL** **HC-STA-B10-SLWSC-2SSP16-ELC-AL**	 1412839 1412840 1412842 1412844 1412845 1412846	 1 1 1 1 1 1	
Box mounting base[1]) **Height: 74.5 mm**	 2x M25 2x M32 2x M40 2x M25 2x M32 2x M40	Without cover **HC-STA-B10-SHWS-2SSM25-ELC-AL** **HC-STA-B10-SHWS-2SSM32-ELC-AL** **HC-STA-B10-SHWS-2SSM40-ELC-AL** With cover **HC-STA-B10-SHWSC-2SSM25-ELC-AL** **HC-STA-B10-SHWSC-2SSM32-ELC-AL** **HC-STA-B10-SHWSC-2SSM40-ELC-AL**	 1082578 1082579 1082580 1082582 1082583 1082585	 1 1 1 1 1 1	
Cable gland	**Clamping area** 9 mm ... 13 mm 11 mm ... 16 mm 14 mm ... 21 mm 19 mm ... 27 mm	 **HC-B-G-M20-EC-AL** **HC-B-G-M25-EC-AL** **HC-B-G-M32-EC-AL** **HC-B-G-M40-EC-AL**	 1411439 1411446 1411440 1411441	 1 1 1 1	

Notes:

For further accessories, see page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Supplied with a plastic sealing cap

Accessories

Thread adapters
From page 660

EMC cable glands
From page 660

Replacement seals
phoenixcontact.net/products

Connector sets
phoenixcontact.net/products

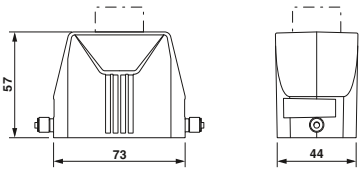
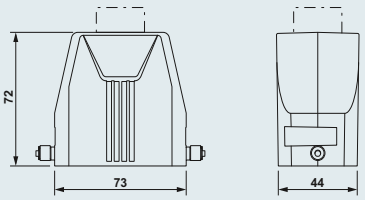
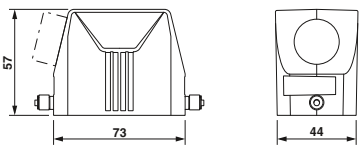
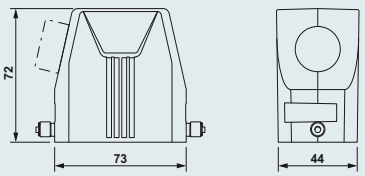
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, sleeve housings for single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing Height: 57 mm		Cable outlet: top			
	1x M20	**HC-STA-B10-HLFS-1TTM20-EL-AL**	1412629	1	
	1x M25	**HC-STA-B10-HLFS-1TTM25-EL-AL**	1412630	1	
	1x Pg16	**HC-STA-B10-HLFS-1TTP16-EL-AL**	1412631	1	
	1x Pg21	**HC-STA-B10-HLFS-1TTP21-EL-AL**	1412632	1	
		without bore hole			
		HC-STA-B10-HLFS-BLANK-EL-AL	1419902	1	
Sleeve housing Height: 72 mm		Cable outlet: top			
	1x M25	**HC-STA-B10-HHFS-1TTM25-EL-AL**	1412604	1	
	1x M32	**HC-STA-B10-HHFS-1TTM32-EL-AL**	1412605	1	
	1x Pg21	**HC-STA-B10-HHFS-1TTP21-EL-AL**	1412606	1	
	1x Pg29	**HC-STA-B10-HHFS-1TTP29-EL-AL**	1412607	1	
		without bore hole			
		HC-STA-B10-HHFS-BLANK-EL-AL	1419903	1	
Sleeve housing Height: 57 mm		Cable outlet: lateral			
	1x M20	**HC-STA-B10-HLFS-1STM20-EL-AL**	1412624	1	
	1x M25	**HC-STA-B10-HLFS-1STM25-EL-AL**	1412625	1	
	1x Pg16	**HC-STA-B10-HLFS-1STP16-EL-AL**	1412627	1	
	1x Pg21	**HC-STA-B10-HLFS-1STP21-EL-AL**	1412628	1	
		without bore hole			
		HC-STA-B10-HLFS-BLANK-EL-AL	1419902	1	
Sleeve housing Height: 72 mm		Cable outlet: lateral			
	1x M25	**HC-STA-B10-HHFS-1STM25-EL-AL**	1412600	1	
	1x M32	**HC-STA-B10-HHFS-1STM32-EL-AL**	1412601	1	
	1x Pg21	**HC-STA-B10-HHFS-1STP21-EL-AL**	1412602	1	
	1x Pg29	**HC-STA-B10-HHFS-1STP29-EL-AL**	1412603	1	
		without bore hole			
		HC-STA-B10-HHFS-BLANK-EL-AL	1419903	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Cover plates
From page 664

Connector sets
From page 647

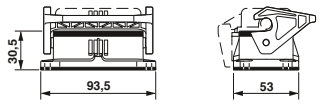
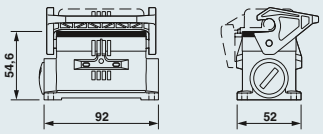
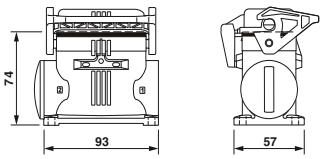
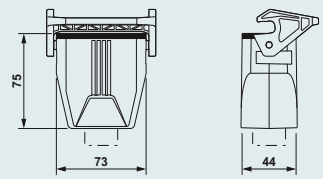
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, supporting base elements with single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B10-BWS-ELC-AL** With cover **HC-STA-B10-BWSC-ELC-AL**	 1411320 1411321	 1 1	
Box mounting base[1]) **Height: 54.6 mm**		Without cover			
	2x M20	**HC-STA-B10-SLWS-2SSM20-ELC-AL**	1412839	1	
	2x M25	**HC-STA-B10-SLWS-2SSM25-ELC-AL**	1412840	1	
	2x Pg16	**HC-STA-B10-SLWS-2SSP16-ELC-AL**	1412842	1	
		With cover			
	2x M20	**HC-STA-B10-SLWSC-2SSM20-ELC-AL**	1412844	1	
	2x M25	**HC-STA-B10-SLWSC-2SSM25-ELC-AL**	1412845	1	
	2x Pg16	**HC-STA-B10-SLWSC-2SSP16-ELC-AL**	1412846	1	
Box mounting base[1]) **Height: 74.5 mm**		Without cover			
	2x M25	**HC-STA-B10-SHWS-2SSM25-ELC-AL**	1082578	1	
	2x M32	**HC-STA-B10-SHWS-2SSM32-ELC-AL**	1082579	1	
	2x M40	**HC-STA-B10-SHWS-2SSM40-ELC-AL**	1082580	1	
		With cover			
	2x M25	**HC-STA-B10-SHWSC-2SSM25-ELC-AL**	1082582	1	
	2x M32	**HC-STA-B10-SHWSC-2SSM32-ELC-AL**	1082583	1	
	2x M40	**HC-STA-B10-SHWSC-2SSM40-ELC-AL**	1082585	1	
Coupling housing **Height: 73 mm**		Cable outlet: top			
	1x M20	**HC-STA-B10-CHWS-1TTM20-ELC-AL**	1412584	1	
	1x M25	**HC-STA-B10-CHWS-1TTM25-ELC-AL**	1412585	1	
	1x M32	**HC-STA-B10-CHWS-1TTM32-ELC-AL**	1412586	1	
	1x Pg16	**HC-STA-B10-CHWS-1TTP16-ELC-AL**	1412587	1	
	1x Pg21	**HC-STA-B10-CHWS-1TTP21-ELC-AL**	1412588	1	
	1x Pg29	**HC-STA-B10-CHWS-1TTP29-ELC-AL**	1412589	1	

Notes:

For further accessories, see from page 658

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

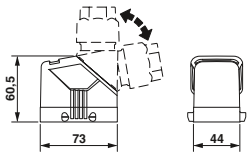
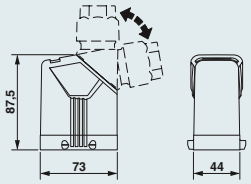
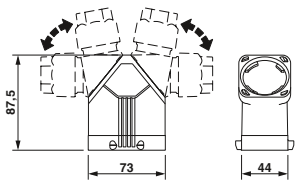
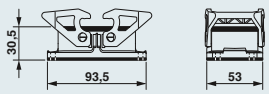
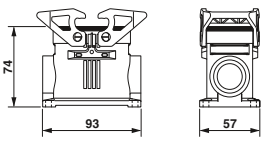
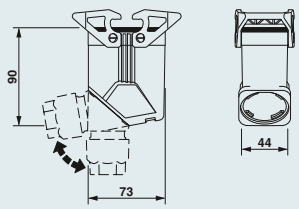
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, plastic, EVO housings, double locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 60.5 mm** 		**HC-EVO-B10-HLFD-PLBK**	1407628	1	
Sleeve housing **Height: 87.5 mm** 		**HC-EVO-B10-HHFD-PLBK**	1407629	1	
Double sleeve housing **Height: 87.5 mm** 		for double locking latch **HC-EVO-B10-HHFD-2B-PL-BK**	1411495	1	
Panel mounting base **Height: 30.5 mm** 		Without cover **HC-EVO-B10-BWD-PLRBK**	1407634	1	
Box mounting base[1]) **Height: 74 mm** 	 2x M20 2x M25 2x M32	Without cover **HC-EVO-B10-SHWD-2SSM20-PLRBK** **HC-EVO-B10-SHWD-2SSM25-PLRBK** **HC-EVO-B10-SHWD-2SSM32-PLRBK**	 1421356 1421304 1407638	 1 1 1	
Coupling housing **Height: 90 mm** 		**HC-EVO-B10-CHWD-PLRBK**	1407641	1	

Notes:
For further accessories, see from page 658
Marking label: US-EMP (20X9) Order No. 0829439
For coupling housings, visit phoenixcontact.net/products
[1]) One cable entry is sealed with a knockout cover

Accessories

Cable glands
From page 658

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Connector sets
From page 646

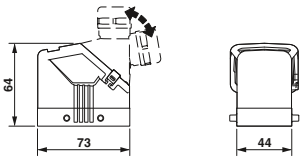
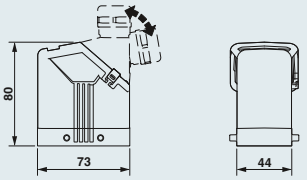
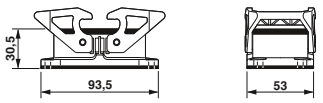
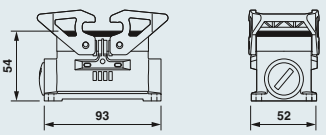
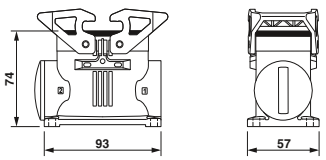
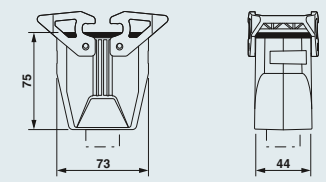
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, EVO housings, double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 64 mm**		**HC-EVO-B10-HLFD-EL-AL**	1411455	1	
Sleeve housing **Height: 80 mm**		**HC-EVO-B10-HHFD-EL-AL**	1411451	1	
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B10-BWD-ELC-AL**	1411322	1	
Box mounting base[1]) **Height: 54 mm**	2x M20 2x M25 2x Pg16	Without cover **HC-STA-B10-SLWD-2SSM20-ELC-AL** **HC-STA-B10-SLWD-2SSM25-ELC-AL** **HC-STA-B10-SLWD-2SSP16-ELC-AL**	 1412835 1412836 1412837	 1 1 1	
Box mounting base[1]) **Height: 74.5 mm**	2x M25 2x M32 2x M40	Without cover **HC-STA-B10-SHWD-2SSM25-ELC-AL** **HC-STA-B10-SHWD-2SSM32-ELC-AL** **HC-STA-B10-SHWD-2SSM40-ELC-AL**	 1082598 1082599 1083164	 1 1 1	
Coupling housing **Height: 73 mm**	1x M20 1x M25 1x M32 1x Pg16 1x Pg21 1x Pg29	Cable outlet: top **HC-STA-B10-CHWD-1TTM20-ELC-AL** **HC-STA-B10-CHWD-1TTM25-ELC-AL** **HC-STA-B10-CHWD-1TTM32-ELC-AL** **HC-STA-B10-CHWD-1TTP16-ELC-AL** **HC-STA-B10-CHWD-1TTP21-ELC-AL** **HC-STA-B10-CHWD-1TTP29-ELC-AL**	 1412578 1412579 1412580 1412581 1412582 1412583	 1 1 1 1 1 1	

Notes:

For further accessories, see page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 660

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Connector sets
phoenixcontact.net/products

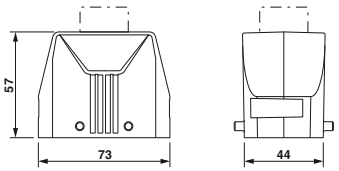
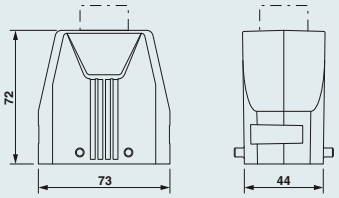
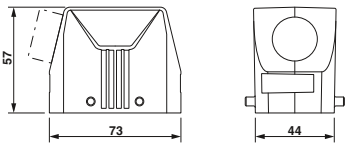
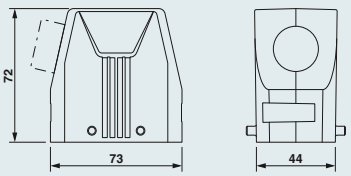
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, sleeve housings for double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 57 mm**		Cable outlet: top			
	1x M20	**HC-STA-B10-HLFD-1TTM20-EL-AL**	1412620	1	
	1x M25	**HC-STA-B10-HLFD-1TTM25-EL-AL**	1412621	1	
	1x Pg16	**HC-STA-B10-HLFD-1TTP16-EL-AL**	1412622	1	
	1x Pg21	**HC-STA-B10-HLFD-1TTP21-EL-AL**	1412623	1	
		without bore hole			
		HC-STA-B10-HLFD-BLANK-EL-AL	1419972	1	
Sleeve housing **Height: 72 mm**		Cable outlet: top			
	1x M25	**HC-STA-B10-HHFD-1TTM25-EL-AL**	1412596	1	
	1x M32	**HC-STA-B10-HHFD-1TTM32-EL-AL**	1412597	1	
	1x Pg21	**HC-STA-B10-HHFD-1TTP21-EL-AL**	1412598	1	
	1x Pg29	**HC-STA-B10-HHFD-1TTP29-EL-AL**	1412599	1	
		without bore hole			
		HC-STA-B10-HHFD-BLANK-EL-AL	1419979	1	
Sleeve housing **Height: 57 mm**		Cable outlet: lateral			
	1x M20	**HC-STA-B10-HLFD-1STM20-EL-AL**	1412616	1	
	1x M25	**HC-STA-B10-HLFD-1STM25-EL-AL**	1412617	1	
	1x Pg16	**HC-STA-B10-HLFD-1STP16-EL-AL**	1412618	1	
	1x Pg21	**HC-STA-B10-HLFD-1STP21-EL-AL**	1412619	1	
		without bore hole			
		HC-STA-B10-HLFD-BLANK-EL-AL	1419972	1	
Sleeve housing **Height: 72 mm**		Cable outlet: lateral			
	1x M25	**HC-STA-B10-HHFD-1STM25-EL-AL**	1412592	1	
	1x M32	**HC-STA-B10-HHFD-1STM32-EL-AL**	1412593	1	
	1x Pg21	**HC-STA-B10-HHFD-1STP21-EL-AL**	1412594	1	
	1x Pg29	**HC-STA-B10-HHFD-1STP29-EL-AL**	1412595	1	
		without bore hole			
		HC-STA-B10-HHFD-BLANK-EL-AL	1419979	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Cover plates
From page 664

Connector sets
From page 647

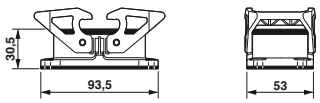
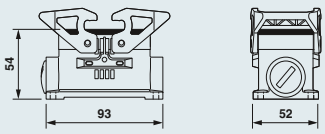
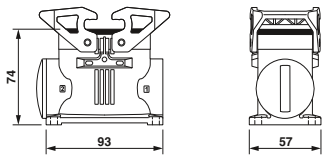
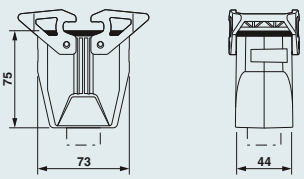
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, supporting base elements with double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B10-BWD-ELC-AL**	1411322	1	
Box mounting base[1]) **Height: 54 mm**	2x M20 2x M25 2x Pg16	Without cover **HC-STA-B10-SLWD-2SSM20-ELC-AL** **HC-STA-B10-SLWD-2SSM25-ELC-AL** **HC-STA-B10-SLWD-2SSP16-ELC-AL**	 1412835 1412836 1412837	 1 1 1	
Box mounting base[1]) **Height: 74.5 mm**	2x M25 2x M32 2x M40	Without cover **HC-STA-B10-SHWD-2SSM25-ELC-AL** **HC-STA-B10-SHWD-2SSM32-ELC-AL** **HC-STA-B10-SHWD-2SSM40-ELC-AL**	 1082598 1082599 1083164	 1 1 1	
Coupling housing **Height: 73 mm**	1x M20 1x M25 1x M32 1x Pg16 1x Pg21 1x Pg29	Cable outlet: top **HC-STA-B10-CHWD-1TTM20-ELC-AL** **HC-STA-B10-CHWD-1TTM25-ELC-AL** **HC-STA-B10-CHWD-1TTM32-ELC-AL** **HC-STA-B10-CHWD-1TTP16-ELC-AL** **HC-STA-B10-CHWD-1TTP21-ELC-AL** **HC-STA-B10-CHWD-1TTP29-ELC-AL**	 1412578 1412579 1412580 1412581 1412582 1412583	 1 1 1 1 1 1	

Notes:

For further accessories, see from page 658

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

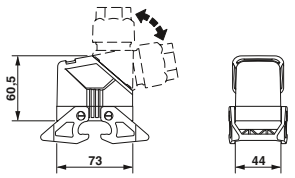
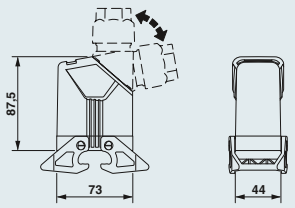
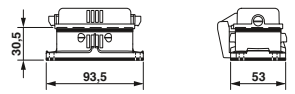
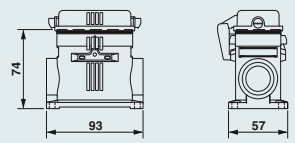
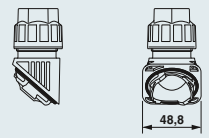
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, plastic, EVO housings, double locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 60.5 mm** 		**HC-EVO-B10-HLWD-PLBK**	1407630	1	
Sleeve housing **Height: 87.5 mm** 		**HC-EVO-B10-HHWD-PLBK**	1407631	1	
Panel mounting base **Height: 30.5 mm** 		With cover **HC-EVO-B10-BFDC-PLRBK**	1407635	1	
Box mounting base[1] **Height: 74 mm** 	2x M20 2x M25 2x M32	With cover **HC-EVO-B10-SHFDC-2SSM20-PLRBK** **HC-EVO-B10-SHFDC-2SSM25-PLRBK** **HC-EVO-B10-SHFDC-2SSM32-PLRBK**	1421362 1421320 1407639	1 1 1	
Cable gland 	**Clamping area** 7 mm ... 13 mm 9 mm ... 17 mm 11 mm ... 21 mm 19 mm ... 28 mm	**HC-B-G-M20-PLRBK** **HC-B-G-M25-PLRBK** **HC-B-G-M32-PLRBK** **HC-B-G-M40-PLRBK**	1407669 1407670 1407671 1407672	1 1 1 1	

Notes:
For further accessories, see from page 658
Marking label: US-EMP (20X9) Order No. 0829439
[1]) One cable entry is sealed with a knockout cover

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

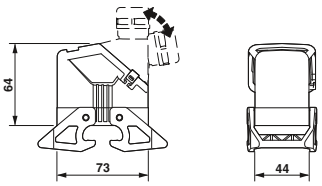
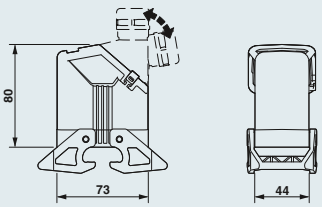
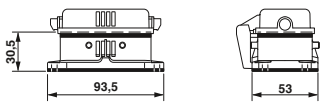
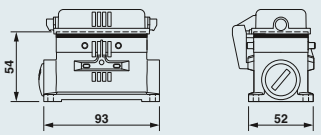
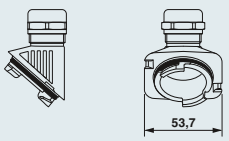
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, EVO housings, double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 64 mm**		**HC-EVO-B10-HLWD-EL-AL**	1411457	1	
Sleeve housing **Height: 80 mm**		**HC-EVO-B10-HHWD-EL-AL**	1411454	1	
Panel mounting base **Height: 30.5 mm**		With cover **HC-STA-B10-BFDC-ELC-AL**	1411323	1	
Box mounting base[1]) **Height: 54 mm**	2x M20 2x M25 2x Pg16	With cover **HC-STA-B10-SLFDC-2SSM20-ELC-AL** **HC-STA-B10-SLFDC-2SSM25-ELC-AL** **HC-STA-B10-SLFDC-2SSP16-ELC-AL**	1412830 1412831 1412832	1 1 1	
Cable gland	**Clamping area**				
	9 mm ... 13 mm	**HC-B-G-M20-EC-AL**	1411439	1	
	11 mm ... 16 mm	**HC-B-G-M25-EC-AL**	1411446	1	
	14 mm ... 21 mm	**HC-B-G-M32-EC-AL**	1411440	1	
	19 mm ... 27 mm	**HC-B-G-M40-EC-AL**	1411441	1	

Notes:

For further accessories, see page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Supplied with a plastic sealing cap

Accessories

Thread adapters
From page 660

EMC cable glands
From page 660

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

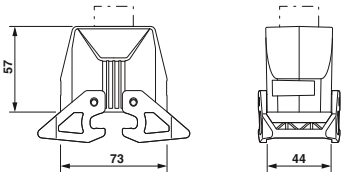
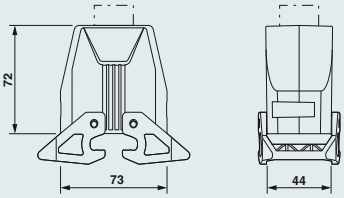
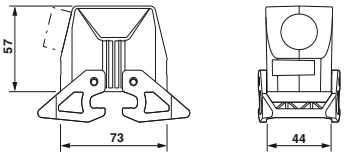
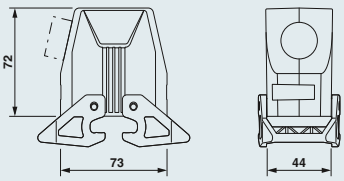
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, sleeve housings with double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 57 mm**		Cable outlet: top			
	1x M20	**HC-STA-B10-HLWD-1TTM20-EL-AL**	1412637	1	
	1x M25	**HC-STA-B10-HLWD-1TTM25-EL-AL**	1412638	1	
	1x Pg16	**HC-STA-B10-HLWD-1TTP16-EL-AL**	1412639	1	
	1x Pg21	**HC-STA-B10-HLWD-1TTP21-EL-AL**	1412640	1	
		without bore hole			
		HC-STA-B10-HLWD-BLANK-EL-AL	1420034	1	
Sleeve housing **Height: 72 mm**		Cable outlet: top			
	1x M25	**HC-STA-B10-HHWD-1TTM25-EL-AL**	1412612	1	
	1x M32	**HC-STA-B10-HHWD-1TTM32-EL-AL**	1412613	1	
	1x Pg21	**HC-STA-B10-HHWD-1TTP21-EL-AL**	1412614	1	
	1x Pg29	**HC-STA-B10-HHWD-1TTP29-EL-AL**	1412615	1	
		without bore hole			
		HC-STA-B10-HHWD-BLANK-EL-AL	1420035	1	
Sleeve housing **Height: 57 mm**		Cable outlet: lateral			
	1x M20	**HC-STA-B10-HLWD-1STM20-EL-AL**	1412633	1	
	1x M25	**HC-STA-B10-HLWD-1STM25-EL-AL**	1412634	1	
	1x Pg16	**HC-STA-B10-HLWD-1STP16-EL-AL**	1412635	1	
	1x Pg21	**HC-STA-B10-HLWD-1STP21-EL-AL**	1412636	1	
		without bore hole			
		HC-STA-B10-HLWD-BLANK-EL-AL	1420034	1	
Sleeve housing **Height: 72 mm**		Cable outlet: lateral			
	1x M25	**HC-STA-B10-HHWD-1STM25-EL-AL**	1412608	1	
	1x M32	**HC-STA-B10-HHWD-1STM32-EL-AL**	1412609	1	
	1x Pg21	**HC-STA-B10-HHWD-1STP21-EL-AL**	1412610	1	
	1x Pg29	**HC-STA-B10-HHWD-1STP29-EL-AL**	1412611	1	
		without bore hole			
		HC-STA-B10-HHWD-BLANK-EL-AL	1420035	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Replacement latches
phoenixcontact.net/products

Protective covers
From page 654

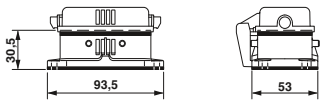
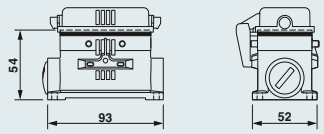
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B10, metal, supporting base elements for double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		With cover **HC-STA-B10-BFDC-ELC-AL**	1411323	1	
Box mounting base[1]) **Height: 54 mm**	2x M20 2x M25 2x Pg16	With cover **HC-STA-B10-SLFDC-2SSM20-ELC-AL** **HC-STA-B10-SLFDC-2SSM25-ELC-AL** **HC-STA-B10-SLFDC-2SSP16-ELC-AL**	1412830 1412831 1412832	1 1 1	

Notes:
For further accessories, see from page 658
[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Cover plates
From page 664

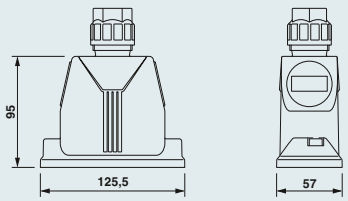
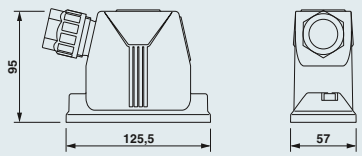
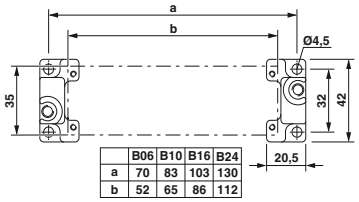
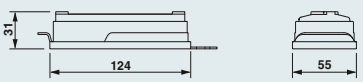
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B16, plastic, ADVANCE PL sleeve housings with cable gland

Technical data

General data	
Housing material	PA
Lock material	Stainless steel
Sealing material	NBR
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 100°C

Ordering data

Description	Clamping area	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing[1]) Height: 95 mm	11 mm ... 21 mm 19 mm ... 28 mm	Cable outlet: top **HC-ADV-B16-HHWH-1TGM32-PL** **HC-ADV-B16-HHWH-1TGM40-PL**	1404231 1404233	1 1	
Sleeve housing[1]) Height: 95 mm	11 mm ... 21 mm 19 mm ... 28 mm	Cable outlet: lateral **HC-ADV-B16-HHWH-1SGM32-PL** **HC-ADV-B16-HHWH-1SGM40-PL**	1404232 1404234	1 1	
Panel mounting flange		2 pcs. per housing **HC-B-AF** Set with 2 panel mounting flanges **HC-B-AF-SET**	1686533 1604638	20 1	
					B06 B10 B16 B24 a 70 83 103 130 b 52 65 86 112
Protective cover Height: 31.2 mm		for sleeve side, IP50 **HC-B 16-TMS-SD-IP50** for panel mounting side, IP66 **HC-B 16-TMS-SD-IP66**	 1690752 1411517	 10 10	

Notes:
Marking label: US-EMP (20X9) Order No. 0829439
[1]) Screw locking with M6 Allen screws

Accessories

Allen keys
see Catalog 3

Replacement seals
phoenixcontact.net/products

Corrugated pipe adapters
see Catalog 3

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

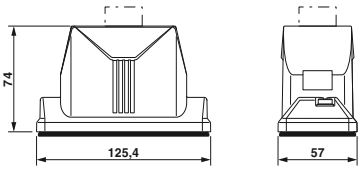
Size B16, metal, ADVANCE sleeve housings

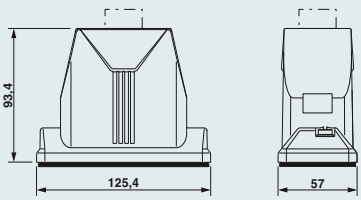
Technical data

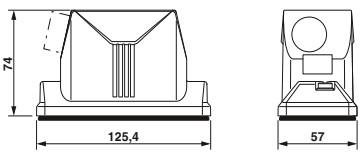
General data	
Housing material	Die-cast aluminum, salt water resistant
Surface material	Uncoated / powder coated, black
Lock material	Stainless steel
Sealing material	NBR, conductive / Viton
IP degree of protection (when plugged in)	IP66 / IP68 / IP69K
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

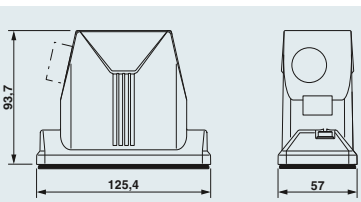
Ordering data

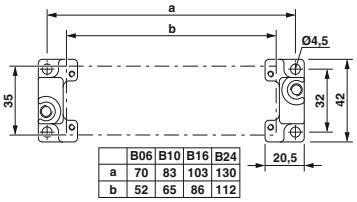
Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing[1]) **Height: 74 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B16-HLWH-1TTM25-EMC-AL**	1414975	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B16-HLWH-BLANK-ELC-AL	1420053	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B16-HLWH-1TTM25-MF-BK**	1420921	1	
Sleeve housing[1]) **Height: 93.7 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B16-HHWH-1TTM25-EMC-AL**	1414977	1	
	1x M32	**HC-ADV-B16-HHWH-1TTM32-EMC-AL**	1413416	1	
	1x M40	**HC-ADV-B16-HHWH-1TTM40-EMC-AL**	1413418	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B16-HHWH-BLANK-ELC-AL	1420054	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B16-HHWH-1TTM25-MF-BK**	1420917	1	
	1x M32	**HC-ADV-B16-HHWH-1TTM32-MF-BK**	1420918	1	
	1x M40	**HC-ADV-B16-HHWH-1TTM40-MF-BK**	1420919	1	
Sleeve housing[1]) **Height: 74 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B16-HLWH-1STM25-EMC-AL**	1414976	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B16-HLWH-BLANK-ELC-AL	1420053	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B16-HLWH-1STM25-MF-BK**	1420920	1	
Sleeve housing[1]) **Height: 93.7 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B16-HHWH-1STM25-EMC-AL**	1414978	1	
	1x M32	**HC-ADV-B16-HHWH-1STM32-EMC-AL**	1413417	1	
	1x M40	**HC-ADV-B16-HHWH-1STM40-EMC-AL**	1413419	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B16-HHWH-BLANK-ELC-AL	1420054	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B16-HHWH-1STM25-MF-BK**	1420914	1	
	1x M32	**HC-ADV-B16-HHWH-1STM32-MF-BK**	1420915	1	
	1x M40	**HC-ADV-B16-HHWH-1STM40-MF-BK**	1420916	1	
Panel mounting flange		2 pcs. per housing			
		HC-B-AF	1686533	20	
		Set with 2 panel mounting flanges			
		HC-B-AF-SET	1604638	1	
Protective cover **Height: 31.2 mm**		for sleeve side, IP50			
		HC-B 16-TMS-SD-IP50	1690752	10	
		for panel mounting side, IP66			
		HC-B 16-TMS-SD-IP66	1411517	10	



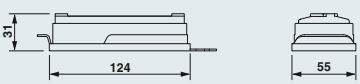








a	B06	B10	B16	B24
	70	83	103	130
b	52	65	86	112



Notes:

In order to achieve optimum shielding results, the mounting surface must be conductive

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Screw locking with M6 Allen screws

Accessories

Cable glands
From page 686

Allen keys
see Catalog 3

Replacement seals
phoenixcontact.net/products

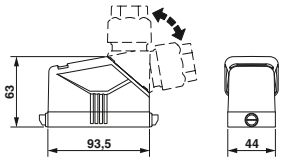
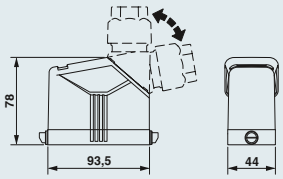
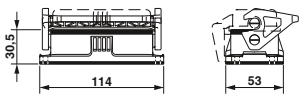
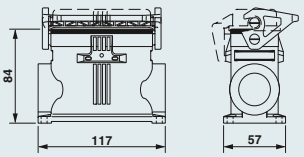
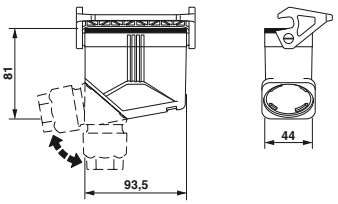
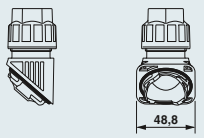
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B16, plastic, EVO housings, single locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 63 mm** 		**HC-EVO-B16-HLFS-PLBK**	1420931	1	
Sleeve housing **Height: 78 mm** 		**HC-EVO-B16-HHFS-PLBK**	1407642	1	
Panel mounting base **Height: 30.5 mm** 		Without cover **HC-EVO-B16-BWS-PLRBK** With cover **HC-EVO-B16-BWSC-PLRBK**	 1407646 1407647	 1 1	
Box mounting base[1] **Height: 84 mm** 	 2x M25 2x M32 2x M40 2x M25 2x M32 2x M40	Without cover **HC-EVO-B16-SHWS-2SSM25-PLRBK** **HC-EVO-B16-SHWS-2SSM32-PLRBK** **HC-EVO-B16-SHWS-2SSM40-PLRBK** With cover **HC-EVO-B16-SHWSC-2SSM25-PLRBK** **HC-EVO-B16-SHWSC-2SSM32-PLRBK** **HC-EVO-B16-SHWSC-2SSM40-PLRBK**	 1421381 1421363 1407650 1421382 1421364 1407651	 1 1 1 1 1 1	
Coupling housing **Height: 81 mm** 		**HC-EVO-B16-CHWS-PLRBK**	1407654	1	
Cable gland 	**Clamping area** 7 mm ... 13 mm 9 mm ... 17 mm 11 mm ... 21 mm 19 mm ... 28 mm	 **HC-B-G-M20-PLRBK** **HC-B-G-M25-PLRBK** **HC-B-G-M32-PLRBK** **HC-B-G-M40-PLRBK**	 1407669 1407670 1407671 1407672	 1 1 1 1	

Notes:

For further accessories, see from page 658

Marking label: US-EMP (20X9) Order No. 0829439

[1]) One cable entry is sealed with a knockout cover

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Connector sets
From page 646

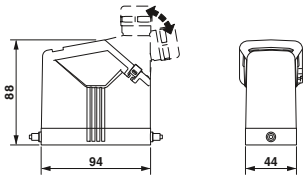
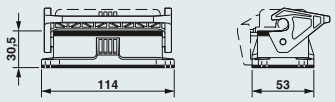
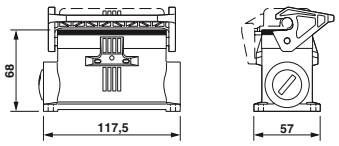
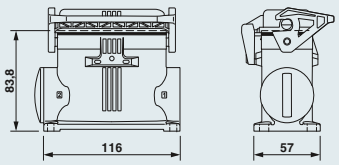
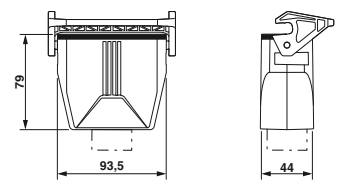
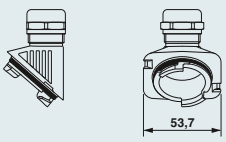
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B16, metal, EVO housings, single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 88 mm**		**HC-EVO-B16-HHFS-EL-AL**	1411461	1	
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B16-BWS-ELC-AL** With cover **HC-STA-B16-BWSC-ELC-AL**	 1411324 1411325	 1 1	
Box mounting base[1]) **Height: 68 mm**		Without cover			
	2x M25	**HC-STA-B16-SLWS-2SSM25-ELC-AL**	1412861	1	
	2x M32	**HC-STA-B16-SLWS-2SSM32-ELC-AL**	1412862	1	
	2x Pg21	**HC-STA-B16-SLWS-2SSP21-ELC-AL**	1412863	1	
		With cover			
	2x M25	**HC-STA-B16-SLWSC-2SSM25-ELC-AL**	1412865	1	
	2x M32	**HC-STA-B16-SLWSC-2SSM32-ELC-AL**	1412866	1	
	2x Pg21	**HC-STA-B16-SLWSC-2SSP21-ELC-AL**	1412867	1	
Box mounting base[1]) **Height: 84.7 mm**		Without cover			
	2x M25	**HC-STA-B16-SHWS-2SSM25-ELC-AL**	1082586	1	
	2x M32	**HC-STA-B16-SHWS-2SSM32-ELC-AL**	1082587	1	
	2x M40	**HC-STA-B16-SHWS-2SSM40-ELC-AL**	1082588	1	
		With cover			
	2x M25	**HC-STA-B16-SHWSC-2SSM25-ELC-AL**	1082589	1	
	2x M32	**HC-STA-B16-SHWSC-2SSM32-ELC-AL**	1082590	1	
	2x M40	**HC-STA-B16-SHWSC-2SSM40-ELC-AL**	1082591	1	
Coupling housing **Height: 79 mm**		Cable outlet: top			
	1x M25	**HC-STA-B16-CHWS-1TTM25-ELC-AL**	1412645	1	
	1x M32	**HC-STA-B16-CHWS-1TTM32-ELC-AL**	1412646	1	
	1x Pg21	**HC-STA-B16-CHWS-1TTP21-ELC-AL**	1412647	1	
	1x Pg29	**HC-STA-B16-CHWS-1TTP29-ELC-AL**	1412648	1	
Cable gland	**Clamping area**				
	9 mm ... 13 mm	**HC-B-G-M20-EC-AL**	1411439	1	
	11 mm ... 16 mm	**HC-B-G-M25-EC-AL**	1411446	1	
	14 mm ... 21 mm	**HC-B-G-M32-EC-AL**	1411440	1	
	19 mm ... 27 mm	**HC-B-G-M40-EC-AL**	1411441	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Supplied with a plastic sealing cap

Accessories

EMC cable glands
From page 660

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Connector sets
phoenixcontact.net/products

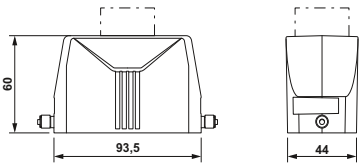
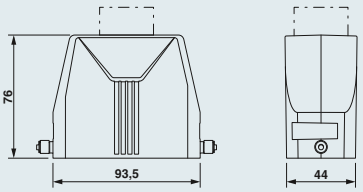
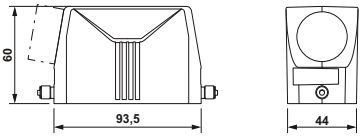
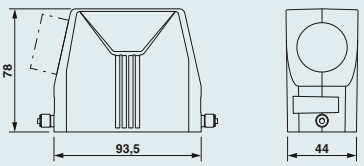
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B16, metal, sleeve housings for single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread		Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing Height: 60 mm			Cable outlet: top			
	1x M25		**HC-STA-B16-HLFS-1TTM25-EL-AL**	1412729	1	
	1x M32		**HC-STA-B16-HLFS-1TTM32-EL-AL**	1412730	1	
		1x Pg16	**HC-STA-B16-HLFS-1TTP16-EL-AL**	1412731	1	
		1x Pg21	**HC-STA-B16-HLFS-1TTP21-EL-AL**	1412732	1	
			without bore hole			
			HC-STA-B16-HLFS-BLANK-EL-AL	1419905	1	
Sleeve housing Height: 76 mm			Cable outlet: top			
	1x M32		**HC-STA-B16-HHFS-1TTM32-EL-AL**	1412689	1	
	1x M40		**HC-STA-B16-HHFS-1TTM40-EL-AL**	1412700	1	
		1x Pg21	**HC-STA-B16-HHFS-1TTP21-EL-AL**	1412701	1	
		1x Pg29	**HC-STA-B16-HHFS-1TTP29-EL-AL**	1412702	1	
			without bore hole			
			HC-STA-B16-HHFS-BLANK-EL-AL	1419934	1	
Sleeve housing Height: 60 mm			Cable outlet: lateral			
	1x M25		**HC-STA-B16-HLFS-1STM25-EL-AL**	1412725	1	
	1x M32		**HC-STA-B16-HLFS-1STM32-EL-AL**	1412726	1	
		1x Pg16	**HC-STA-B16-HLFS-1STP16-EL-AL**	1412727	1	
		1x Pg21	**HC-STA-B16-HLFS-1STP21-EL-AL**	1412728	1	
			without bore hole			
			HC-STA-B16-HLFS-BLANK-EL-AL	1419905	1	
Sleeve housing Height: 76 mm			Cable outlet: lateral			
	1x M32		**HC-STA-B16-HHFS-1STM32-EL-AL**	1412679	1	
	1x M40		**HC-STA-B16-HHFS-1STM40-EL-AL**	1412682	1	
		1x Pg21	**HC-STA-B16-HHFS-1STP21-EL-AL**	1412683	1	
		1x Pg29	**HC-STA-B16-HHFS-1STP29-EL-AL**	1412684	1	
			without bore hole			
			HC-STA-B16-HHFS-BLANK-EL-AL	1419934	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Cover plates
From page 664

Connector sets
From page 647

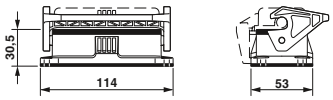
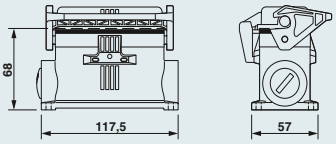
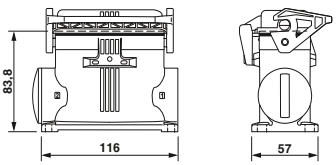
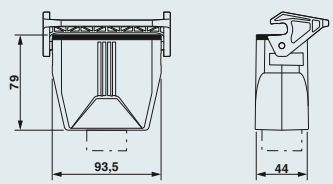
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B16, metal, supporting base elements with single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B16-BWS-ELC-AL** With cover **HC-STA-B16-BWSC-ELC-AL**	 1411324 1411325	 1 1	
Box mounting base[1]) **Height: 68 mm**		Without cover			
	2x M25	**HC-STA-B16-SLWS-2SSM25-ELC-AL**	1412861	1	
	2x M32	**HC-STA-B16-SLWS-2SSM32-ELC-AL**	1412862	1	
	2x Pg21	**HC-STA-B16-SLWS-2SSP21-ELC-AL**	1412863	1	
		With cover			
	2x M25	**HC-STA-B16-SLWSC-2SSM25-ELC-AL**	1412865	1	
	2x M32	**HC-STA-B16-SLWSC-2SSM32-ELC-AL**	1412866	1	
	2x Pg21	**HC-STA-B16-SLWSC-2SSP21-ELC-AL**	1412867	1	
Box mounting base[1]) **Height: 84.7 mm**		Without cover			
	2x M25	**HC-STA-B16-SHWS-2SSM25-ELC-AL**	1082586	1	
	2x M32	**HC-STA-B16-SHWS-2SSM32-ELC-AL**	1082587	1	
	2x M40	**HC-STA-B16-SHWS-2SSM40-ELC-AL**	1082588	1	
		With cover			
	2x M25	**HC-STA-B16-SHWSC-2SSM25-ELC-AL**	1082589	1	
	2x M32	**HC-STA-B16-SHWSC-2SSM32-ELC-AL**	1082590	1	
	2x M40	**HC-STA-B16-SHWSC-2SSM40-ELC-AL**	1082591	1	
Coupling housing **Height: 79 mm**		Cable outlet: top			
	1x M25	**HC-STA-B16-CHWS-1TTM25-ELC-AL**	1412645	1	
	1x M32	**HC-STA-B16-CHWS-1TTM32-ELC-AL**	1412646	1	
	1x Pg21	**HC-STA-B16-CHWS-1TTP21-ELC-AL**	1412647	1	
	1x Pg29	**HC-STA-B16-CHWS-1TTP29-ELC-AL**	1412648	1	

Notes:

For further accessories, see from page 658

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

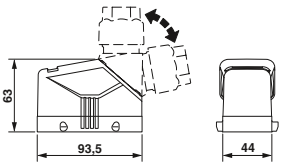
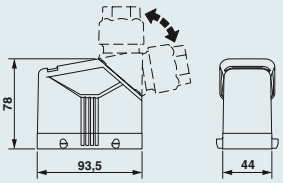
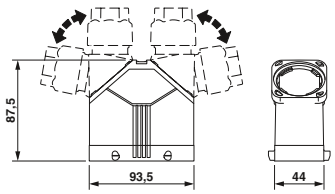
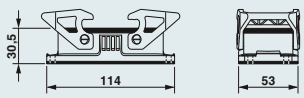
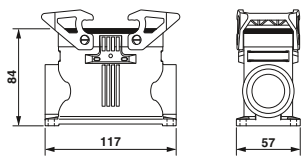
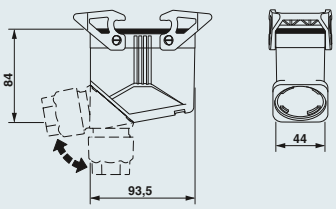
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B16, plastic, EVO housings, double locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 63 mm** 		**HC-EVO-B16-HLFD-PLBK**	1420932	1	
Sleeve housing **Height: 78 mm** 		**HC-EVO-B16-HHFD-PLBK**	1407643	1	
Double sleeve housing **Height: 78 mm** 		for double locking latch **HC-EVO-B16-HHFD-2B-PL-BK**	1411496	1	
Panel mounting base **Height: 30.5 mm** 		Without cover **HC-EVO-B16-BWD-PLRBK**	1407648	1	
Box mounting base[1]) **Height: 84 mm** 	2x M25 2x M32 2x M40	Without cover **HC-EVO-B16-SHWD-2SSM25-PLRBK** **HC-EVO-B16-SHWD-2SSM32-PLRBK** **HC-EVO-B16-SHWD-2SSM40-PLRBK**	1421455 1421365 1407652	1 1 1	
Coupling housing **Height: 84 mm** 		**HC-EVO-B16-CHWD-PLRBK**	1407655	1	

Notes:
For further accessories, see from page 658
Marking label: US-EMP (20X9) Order No. 0829439
[1]) One cable entry is sealed with a knockout cover

Accessories

Cable glands
From page 658

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Connector sets
From page 646

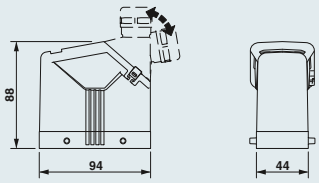
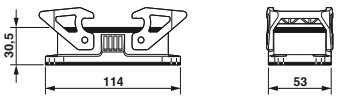
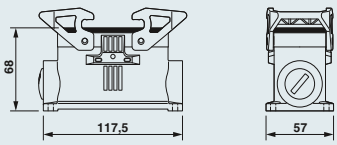
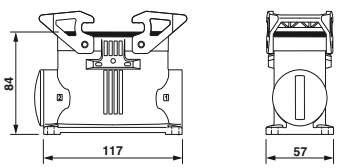
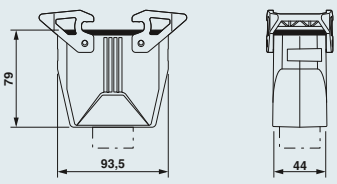
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B16, metal, EVO housings, double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	Polyamide
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 88 mm**		**HC-EVO-B16-HHFD-EL-AL**	1411460	1	
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B16-BWD-ELC-AL**	1411327	1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg21	Without cover **HC-STA-B16-SLWD-2SSM25-ELC-AL** **HC-STA-B16-SLWD-2SSM32-ELC-AL** **HC-STA-B16-SLWD-2SSP21-ELC-AL**	1412855 1412856 1412857	1 1 1	
Box mounting base[1]) **Height: 84.7 mm**	2x M25 2x M32 2x M40	Without cover **HC-STA-B16-SHWD-2SSM25-ELC-AL** **HC-STA-B16-SHWD-2SSM32-ELC-AL** **HC-STA-B16-SHWD-2SSM40-ELC-AL**	1082600 1082601 1082602	1 1 1	
Coupling housing **Height: 79 mm**	1x M25 1x M32 1x Pg21 1x Pg29	Cable outlet: top **HC-STA-B16-CHWD-1TTM25-ELC-AL** **HC-STA-B16-CHWD-1TTM32-ELC-AL** **HC-STA-B16-CHWD-1TTP21-ELC-AL** **HC-STA-B16-CHWD-1TTP29-ELC-AL**	1412641 1412642 1412643 1412644	1 1 1 1	

Notes:
For further accessories, see from page 658
Marking label: US-EMLP-HA (20X9), Order No. 0830989
[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 660

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Connector sets
phoenixcontact.net/products

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

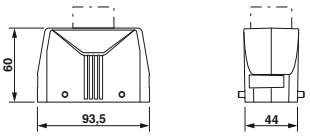
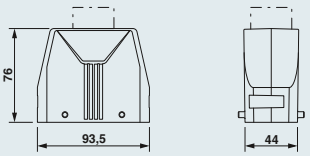
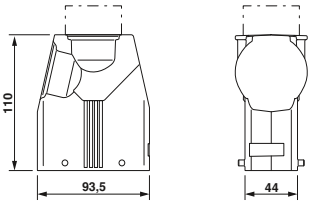
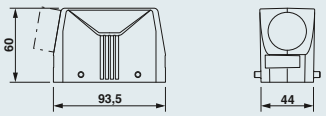
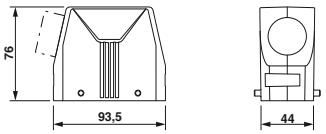
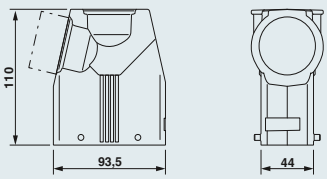
Size B16, metal, sleeve housings for double locking latch

new

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing Height: 60 mm		Cable outlet: top			
	1x M25	**HC-STA-B16-HLFD-1TTM25-EL-AL**	1412721	1	
	1x M32	**HC-STA-B16-HLFD-1TTM32-EL-AL**	1412722	1	
	1x Pg16	**HC-STA-B16-HLFD-1TTP16-EL-AL**	1412723	1	
	1x Pg21	**HC-STA-B16-HLFD-1TTP21-EL-AL**	1412724	1	
		without bore hole			
		HC-STA-B16-HLFD-BLANK-EL-AL	1419999	1	
Sleeve housing Height: 76 mm		Cable outlet: top			
	1x M32	**HC-STA-B16-HHFD-1TTM32-EL-AL**	1412653	1	
	1x M40	**HC-STA-B16-HHFD-1TTM40-EL-AL**	1412654	1	
	1x Pg21	**HC-STA-B16-HHFD-1TTP21-EL-AL**	1412669	1	
	1x Pg29	**HC-STA-B16-HHFD-1TTP29-EL-AL**	1412678	1	
		without bore hole			
		HC-STA-B16-HHFD-BLANK-EL-AL	1420000	1	
Sleeve housing Height: 110.8 mm		Cable outlet: top			
	1x M50	**HC-STA-B16-HHFD-1TTM50-EL-AL**	1082552	1	
Sleeve housing Height: 60 mm		Cable outlet: lateral			
	1x M25	**HC-STA-B16-HLFD-1STM25-EL-AL**	1412717	1	
	1x M32	**HC-STA-B16-HLFD-1STM32-EL-AL**	1412718	1	
	1x Pg16	**HC-STA-B16-HLFD-1STP16-EL-AL**	1412719	1	
	1x Pg21	**HC-STA-B16-HLFD-1STP21-EL-AL**	1412720	1	
		without bore hole			
		HC-STA-B16-HLFD-BLANK-EL-AL	1419999	1	
Sleeve housing Height: 76 mm		Cable outlet: lateral			
	1x M32	**HC-STA-B16-HHFD-1STM32-EL-AL**	1412649	1	
	1x M40	**HC-STA-B16-HHFD-1STM40-EL-AL**	1412650	1	
	1x Pg21	**HC-STA-B16-HHFD-1STP21-EL-AL**	1412651	1	
	1x Pg29	**HC-STA-B16-HHFD-1STP29-EL-AL**	1412652	1	
		without bore hole			
		HC-STA-B16-HHFD-BLANK-EL-AL	1420000	1	
Sleeve housing Height: 110.8 mm		Cable outlet: lateral			
	1x M50	**HC-STA-B16-HHFD-1STM50-EL-AL**	1082551	1	

Notes:
For further accessories, see from page 658
Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Cover plates
From page 664

Connector sets
From page 647

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B16, metal, supporting base elements with double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B16-BWD-ELC-AL**	1411327	1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg21	Without cover **HC-STA-B16-SLWD-2SSM25-ELC-AL** **HC-STA-B16-SLWD-2SSM32-ELC-AL** **HC-STA-B16-SLWD-2SSP21-ELC-AL**	1412855 1412856 1412857	1 1 1	
Box mounting base[1]) **Height: 84.7 mm**	2x M25 2x M32 2x M40	Without cover **HC-STA-B16-SHWD-2SSM25-ELC-AL** **HC-STA-B16-SHWD-2SSM32-ELC-AL** **HC-STA-B16-SHWD-2SSM40-ELC-AL**	1082600 1082601 1082602	1 1 1	
Coupling housing **Height: 79 mm**	1x M25 1x M32 1x Pg21 1x Pg29	Cable outlet: top **HC-STA-B16-CHWD-1TTM25-ELC-AL** **HC-STA-B16-CHWD-1TTM32-ELC-AL** **HC-STA-B16-CHWD-1TTP21-ELC-AL** **HC-STA-B16-CHWD-1TTP29-ELC-AL**	1412641 1412642 1412643 1412644	1 1 1 1	

Notes:
For further accessories, see from page 658
[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

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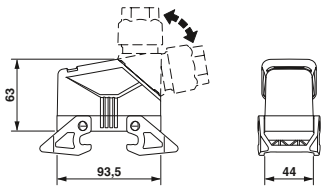
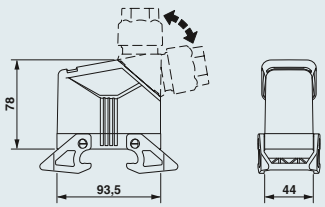
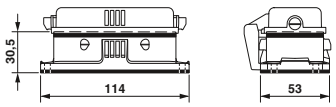
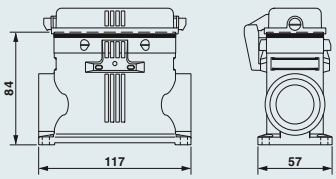
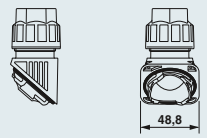
Size B16, plastic, EVO housings, double locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 63 mm** 		**HC-EVO-B16-HLWD-PLBK**	1420933	1	
Sleeve housing **Height: 78 mm** 		**HC-EVO-B16-HHWD-PLBK**	1407644	1	
Panel mounting base **Height: 30.5 mm** 		With cover **HC-EVO-B16-BFDC-PLRBK**	1407649	1	
Box mounting base[1] **Height: 84 mm** 	2x M25 2x M32 2x M40	With cover **HC-EVO-B16-SHFDC-2SSM25-PLRBK** **HC-EVO-B16-SHFDC-2SSM32-PLRBK** **HC-EVO-B16-SHFDC-2SSM40-PLRBK**	1421458 1421366 1407653	1 1 1	
Cable gland	**Clamping area** 7 mm ... 13 mm 9 mm ... 17 mm 11 mm ... 21 mm 19 mm ... 28 mm	 **HC-B-G-M20-PLRBK** **HC-B-G-M25-PLRBK** **HC-B-G-M32-PLRBK** **HC-B-G-M40-PLRBK**	 1407669 1407670 1407671 1407672	 1 1 1 1	

Notes:

For further accessories, see from page 658

Marking label: US-EMP (20X9) Order No. 0829439

[1]) One cable entry is sealed with a knockout cover

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

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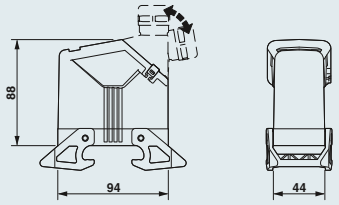
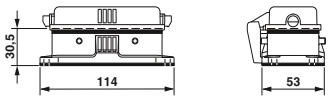
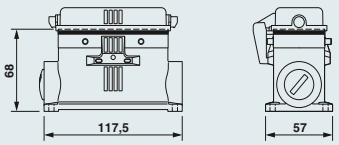
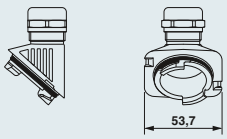
Size B16, metal, EVO housings, double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 88 mm**		**HC-EVO-B16-HHWD-EL-AL**	1411462	1	
Panel mounting base **Height: 30.5 mm**		With cover **HC-STA-B16-BFDC-ELC-AL**	1411328	1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg16 2x Pg21	With cover **HC-STA-B16-SLFDC-2SSM25-ELC-AL** **HC-STA-B16-SLFDC-2SSM32-ELC-AL** **HC-STA-B16-SLFDC-2SSP16-ELC-AL** **HC-STA-B16-SLFDC-2SSP21-ELC-AL**	1412849 1412850 1412852 1412853	1 1 1 1	
Cable gland	**Clamping area** 9 mm ... 13 mm 11 mm ... 16 mm 14 mm ... 21 mm 19 mm ... 27 mm	**HC-B-G-M20-EC-AL** **HC-B-G-M25-EC-AL** **HC-B-G-M32-EC-AL** **HC-B-G-M40-EC-AL**	1411439 1411446 1411440 1411441	1 1 1 1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Supplied with a plastic sealing cap

Accessories

Thread adapters
From page 660

EMC cable glands
From page 660

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

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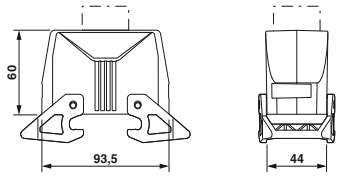
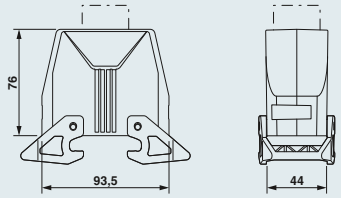
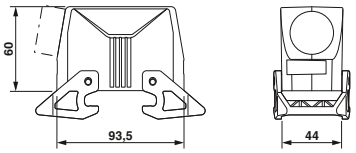
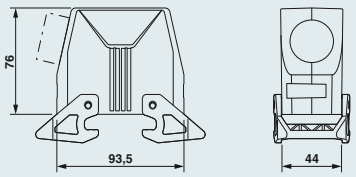
Size B16, metal, sleeve housings with double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing Height: 60 mm		Cable outlet: top			
	1x M25	**HC-STA-B16-HLWD-1TTM25-EL-AL**	1412738	1	
	1x M32	**HC-STA-B16-HLWD-1TTM32-EL-AL**	1412739	1	
	1x Pg16	**HC-STA-B16-HLWD-1TTP16-EL-AL**	1412740	1	
	1x Pg21	**HC-STA-B16-HLWD-1TTP21-EL-AL**	1412741	1	
		without bore hole			
		HC-STA-B16-HLWD-BLANK-EL-AL	1420036	1	
Sleeve housing Height: 76 mm		Cable outlet: top			
	1x M32	**HC-STA-B16-HHWD-1TTM32-EL-AL**	1412708	1	
	1x M40	**HC-STA-B16-HHWD-1TTM40-EL-AL**	1412709	1	
	1x Pg21	**HC-STA-B16-HHWD-1TTP21-EL-AL**	1412715	1	
	1x Pg29	**HC-STA-B16-HHWD-1TTP29-EL-AL**	1412716	1	
		without bore hole			
		HC-STA-B16-HHWD-BLANK-EL-AL	1420044	1	
Sleeve housing Height: 60 mm		Cable outlet: lateral			
	1x M25	**HC-STA-B16-HLWD-1STM25-EL-AL**	1412733	1	
	1x M32	**HC-STA-B16-HLWD-1STM32-EL-AL**	1412734	1	
	1x Pg16	**HC-STA-B16-HLWD-1STP16-EL-AL**	1412735	1	
	1x Pg21	**HC-STA-B16-HLWD-1STP21-EL-AL**	1412737	1	
		without bore hole			
		HC-STA-B16-HLWD-BLANK-EL-AL	1420036	1	
Sleeve housing Height: 76 mm		Cable outlet: lateral			
	1x M32	**HC-STA-B16-HHWD-1STM32-EL-AL**	1412703	1	
	1x M40	**HC-STA-B16-HHWD-1STM40-EL-AL**	1412704	1	
	1x Pg21	**HC-STA-B16-HHWD-1STP21-EL-AL**	1412705	1	
	1x Pg29	**HC-STA-B16-HHWD-1STP29-EL-AL**	1412706	1	
		without bore hole			
		HC-STA-B16-HHWD-BLANK-EL-AL	1420044	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Replacement latches
phoenixcontact.net/products

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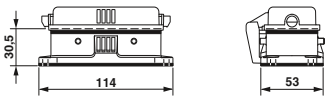
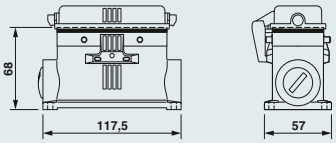
Size B16, metal, supporting base elements for double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		With cover **HC-STA-B16-BFDC-ELC-AL**	1411328	1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg16 2x Pg21	With cover **HC-STA-B16-SLFDC-2SSM25-ELC-AL** **HC-STA-B16-SLFDC-2SSM32-ELC-AL** **HC-STA-B16-SLFDC-2SSP16-ELC-AL** **HC-STA-B16-SLFDC-2SSP21-ELC-AL**	 1412849 1412850 1412852 1412853	 1 1 1 1	

Notes:

For further accessories, see from page 658

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Cover plates
From page 664

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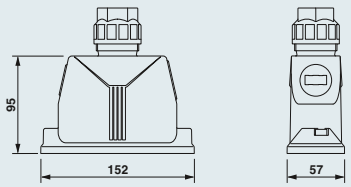
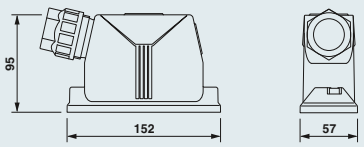
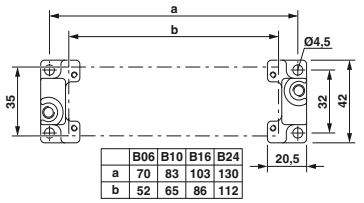
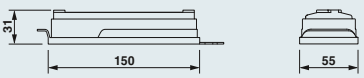
Size B24, plastic, ADVANCE sleeve housings with cable gland

Technical data

General data	
Housing material	PA
Lock material	Stainless steel
Sealing material	NBR
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 100°C

Ordering data

Description	Clamping area	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing[1]) Height: 95 mm	11 mm ... 21 mm 19 mm ... 28 mm	Cable outlet: top **HC-ADV-B24-HHWH-1TGM32-PL** **HC-ADV-B24-HHWH-1TGM40-PL**	 1404235 1404238	 1 1	
Sleeve housing[1]) Height: 95 mm	11 mm ... 21 mm 19 mm ... 28 mm	Cable outlet: lateral **HC-ADV-B24-HHWH-1SGM32-PL** **HC-ADV-B24-HHWH-1SGM40-PL**	 1404237 1404239	 1 1	
Panel mounting flange		2 pcs. per housing **HC-B-AF** Set with 2 panel mounting flanges **HC-B-AF-SET**	 1686533 1604638	 20 1	
Protective cover Height: 31.2 mm		for sleeve side, IP50 **HC-B 24-TMS-SD-IP50** for panel mounting side, IP66 **HC-B 24-TMS-SD-IP66**	 1690765 1411520	 10 10	

Notes:

Marking label: US-EMP (20X9) Order No. 0829439

[1]) Screw locking with M6 Allen screws

Accessories

Allen keys
see Catalog 3

Replacement seals
phoenixcontact.net/products

Corrugated pipe adapters
see Catalog 3

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

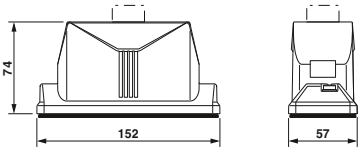
Size B24, metal, ADVANCE sleeve housings

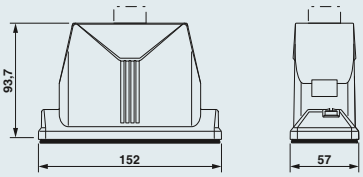
Technical data

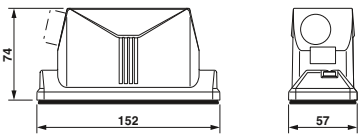
General data	
Housing material	Die-cast aluminum, salt water resistant
Surface material	Uncoated / powder coated, black
Lock material	Stainless steel
Sealing material	NBR, conductive / Viton
IP degree of protection (when plugged in)	IP66 / IP68 / IP69K
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

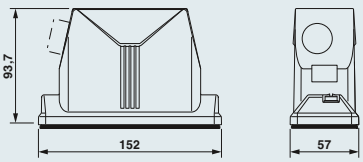
Ordering data

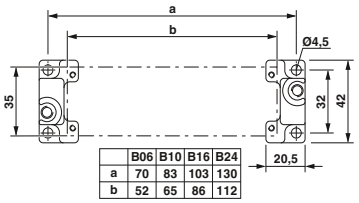
Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing[1]) **Height: 74 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B24-HLWH-1TTM25-EMC-AL**	1414982	1	
		Height: 74 mm			
		HC-ADV-B24-HLWH-BLANK-ELC-AL	1420055	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B24-HLWH-1TTM25-MF-BK**	1420929	1	
Sleeve housing[1]) **Height: 93.7 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B24-HHWH-1TTM25-EMC-AL**	1414980	1	
	1x M32	**HC-ADV-B24-HHWH-1TTM32-EMC-AL**	1413430	1	
	1x M40	**HC-ADV-B24-HHWH-1TTM40-EMC-AL**	1413432	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B24-HHWH-BLANK-ELC-AL	1420056	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B24-HHWH-1TTM25-MF-BK**	1420925	1	
	1x M32	**HC-ADV-B24-HHWH-1TTM32-MF-BK**	1420926	1	
	1x M40	**HC-ADV-B24-HHWH-1TTM40-MF-BK**	1420927	1	
Sleeve housing[1]) **Height: 74 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B24-HLWH-1STM25-EMC-AL**	1414983	1	
		Height: 74 mm			
		HC-ADV-B24-HLWH-BLANK-ELC-AL	1420055	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B24-HLWH-1STM25-MF-BK**	1420928	1	
Sleeve housing[1]) **Height: 93.7 mm**		Uncoated, EMC ready			
	1x M25	**HC-ADV-B24-HHWH-1STM25-EMC-AL**	1414981	1	
	1x M32	**HC-ADV-B24-HHWH-1STM32-EMC-AL**	1413431	1	
	1x M40	**HC-ADV-B24-HHWH-1STM40-EMC-AL**	1413433	1	
		Uncoated, EMC ready, without drill hole			
		HC-ADV-B24-HHWH-BLANK-ELC-AL	1420056	1	
		Powder-coated, black			
	1x M25	**HC-ADV-B24-HHWH-1STM25-MF-BK**	1420922	1	
	1x M32	**HC-ADV-B24-HHWH-1STM32-MF-BK**	1420923	1	
	1x M40	**HC-ADV-B24-HHWH-1STM40-MF-BK**	1420924	1	
Panel mounting flange		2 pcs. per housing			
		HC-B-AF	1686533	20	
		Set with 2 panel mounting flanges			
		HC-B-AF-SET	1604638	1	
Protective cover **Height: 31.2 mm**		for sleeve side, IP50			
		HC-B 24-TMS-SD-IP50	1690765	10	
		for panel mounting side, IP66			
		HC-B 24-TMS-SD-IP66	1411520	10	

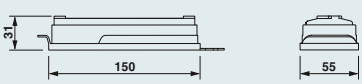












Notes:
In order to achieve optimum shielding results, the mounting surface must be conductive
Marking label: US-EMLP-HA (20X9), Order No. 0830989
[1]) Screw locking with M6 Allen screws

Accessories

Cable glands
From page 686

Allen keys
see Catalog 3

Replacement seals
phoenixcontact.net/products

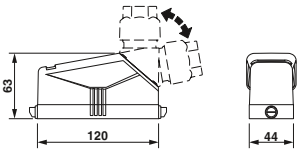
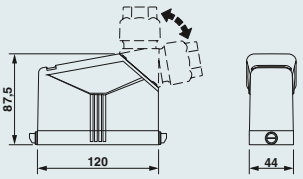
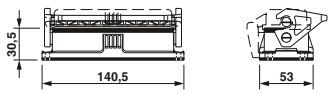
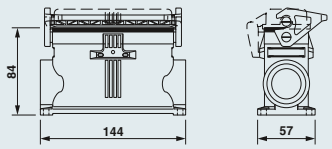
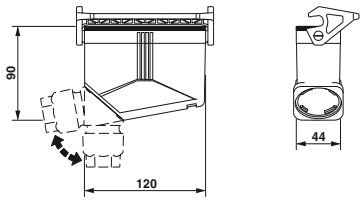
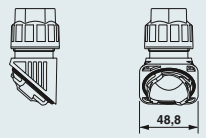
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, plastic, EVO housings, single locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 63 mm** 		**HC-EVO-B24-HLFS-PLBK**	1420934	1	
Sleeve housing **Height: 87.5 mm** 		**HC-EVO-B24-HHFS-PLBK**	1407656	1	
Panel mounting base **Height: 30.5 mm** 		Without cover **HC-EVO-B24-BWS-PLRBK** With cover **HC-EVO-B24-BWSC-PLRBK**	 1407659 1407660	 1 1	
Box mounting base[1] **Height: 84 mm** 	 2x M25 2x M32 2x M40 2x M25 2x M32 2x M40	Without cover **HC-EVO-B24-SHWS-2SSM25-PLRBK** **HC-EVO-B24-SHWS-2SSM32-PLRBK** **HC-EVO-B24-SHWS-2SSM40-PLRBK** With cover **HC-EVO-B24-SHWSC-2SSM25-PLRBK** **HC-EVO-B24-SHWSC-2SSM32-PLRBK** **HC-EVO-B24-SHWSC-2SSM40-PLRBK**	 1421459 1421367 1407663 1421460 1421369 1407664	 1 1 1 1 1 1	
Coupling housing **Height: 90 mm** 		**HC-EVO-B24-CHWS-PLRBK**	1407667	1	
Cable gland 	**Clamping area** 7 mm ... 13 mm 9 mm ... 17 mm 11 mm ... 21 mm 19 mm ... 28 mm	 **HC-B-G-M20-PLRBK** **HC-B-G-M25-PLRBK** **HC-B-G-M32-PLRBK** **HC-B-G-M40-PLRBK**	 1407669 1407670 1407671 1407672	 1 1 1 1	

Notes:

For further accessories, see from page 658

Marking label: US-EMP (20X9) Order No. 0829439

[1]) One cable entry is sealed with a knockout cover

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Connector sets
From page 646

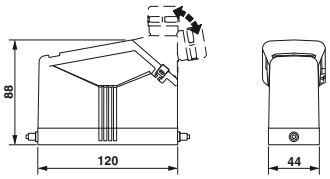
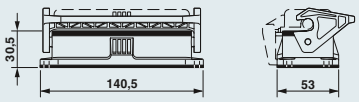
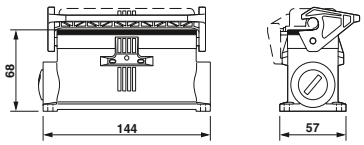
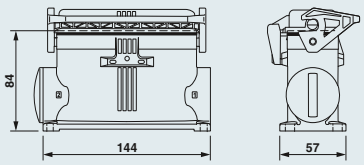
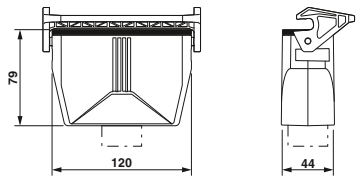
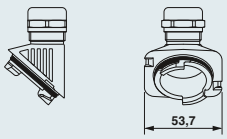
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, metal, EVO housings, single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	Polyamide
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 88 mm**		**HC-EVO-B24-HHFS-EL-AL**	1411473	1	
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B24-BWS-ELC-AL** With cover **HC-STA-B24-BWSC-ELC-AL**	 1411329 1411330	 1 1	
Box mounting base[1]) **Height: 68 mm**		Without cover			
	2x M25	**HC-STA-B24-SLWS-2SSM25-ELC-AL**	1412877	1	
	2x M32	**HC-STA-B24-SLWS-2SSM32-ELC-AL**	1412878	1	
	2x Pg21	**HC-STA-B24-SLWS-2SSP21-ELC-AL**	1412879	1	
		With cover			
	2x M25	**HC-STA-B24-SLWSC-2SSM25-ELC-AL**	1412881	1	
	2x M32	**HC-STA-B24-SLWSC-2SSM32-ELC-AL**	1412882	1	
	2x Pg21	**HC-STA-B24-SLWSC-2SSP21-ELC-AL**	1412883	1	
Box mounting base[1]) **Height: 84.7 mm**		Without cover			
	2x M32	**HC-STA-B24-SHWS-2SSM32-ELC-AL**	1082592	1	
	2x M40	**HC-STA-B24-SHWS-2SSM40-ELC-AL**	1082593	1	
		With cover			
	2x M25	**HC-STA-B24-SHWSC-2SSM25-ELC-AL**	1082595	1	
	2x M32	**HC-STA-B24-SHWSC-2SSM32-ELC-AL**	1082596	1	
	2x M40	**HC-STA-B24-SHWSC-2SSM40-ELC-AL**	1082597	1	
Coupling housing **Height: 79 mm**		Cable outlet: top			
	1x M32	**HC-STA-B24-CHWS-1TTM32-ELC-AL**	1412746	1	
	1x M40	**HC-STA-B24-CHWS-1TTM40-ELC-AL**	1412747	1	
	1x Pg21	**HC-STA-B24-CHWS-1TTP21-ELC-AL**	1412748	1	
	1x Pg29	**HC-STA-B24-CHWS-1TTP29-ELC-AL**	1412749	1	
Cable gland	**Clamping area**				
	9 mm ... 13 mm	**HC-B-G-M20-EC-AL**	1411439	1	
	11 mm ... 16 mm	**HC-B-G-M25-EC-AL**	1411446	1	
	14 mm ... 21 mm	**HC-B-G-M32-EC-AL**	1411440	1	
	19 mm ... 27 mm	**HC-B-G-M40-EC-AL**	1411441	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Supplied with a plastic sealing cap

Accessories

EMC cable glands
From page 660

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Connector sets
phoenixcontact.net/products

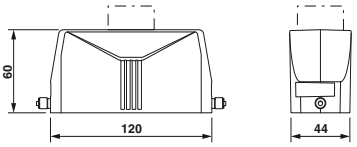
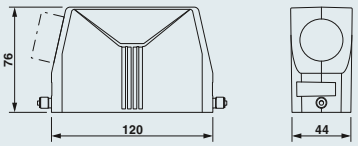
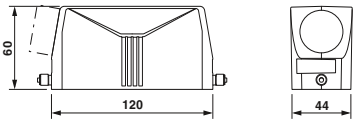
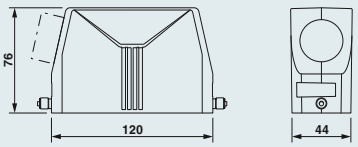
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, metal, sleeve housings for single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread		Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing Height: 60 mm			Cable outlet: top			
	1x M25		**HC-STA-B24-HLFS-1TTM25-EL-AL**	1412788	1	
	1x M32		**HC-STA-B24-HLFS-1TTM32-EL-AL**	1412789	1	
		1x Pg16	**HC-STA-B24-HLFS-1TTP16-EL-AL**	1412790	1	
		1x Pg21	**HC-STA-B24-HLFS-1TTP21-EL-AL**	1412791	1	
		1x Pg29	**HC-STA-B24-HLFS-1TTP29-EL-AL**	1412792	1	
			without bore hole			
			HC-STA-B24-HLFS-BLANK-EL-AL	1419937	1	
Sleeve housing Height: 76 mm			Cable outlet: top			
	1x M32		**HC-STA-B24-HHFS-1TTM32-EL-AL**	1412761	1	
	1x M40		**HC-STA-B24-HHFS-1TTM40-EL-AL**	1412098	1	
		1x Pg21	**HC-STA-B24-HHFS-1TTP21-EL-AL**	1412762	1	
		1x Pg29	**HC-STA-B24-HHFS-1TTP29-EL-AL**	1412763	1	
			without bore hole			
			HC-STA-B24-HHFS-BLANK-EL-AL	1419957	1	
Sleeve housing Height: 60 mm			Cable outlet: lateral			
	1x M25		**HC-STA-B24-HLFS-1STM25-EL-AL**	1412783	1	
	1x M32		**HC-STA-B24-HLFS-1STM32-EL-AL**	1412784	1	
		1x Pg16	**HC-STA-B24-HLFS-1STP16-EL-AL**	1412785	1	
		1x Pg21	**HC-STA-B24-HLFS-1STP21-EL-AL**	1412786	1	
			without bore hole			
			HC-STA-B24-HLFS-BLANK-EL-AL	1419937	1	
Sleeve housing Height: 76 mm			Cable outlet: lateral			
	1x M32		**HC-STA-B24-HHFS-1STM32-EL-AL**	1412757	1	
	1x M40		**HC-STA-B24-HHFS-1STM40-EL-AL**	1412758	1	
		1x Pg21	**HC-STA-B24-HHFS-1STP21-EL-AL**	1412759	1	
		1x Pg29	**HC-STA-B24-HHFS-1STP29-EL-AL**	1412760	1	
			without bore hole			
			HC-STA-B24-HHFS-BLANK-EL-AL	1419957	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Cover plates
From page 664

Connector sets
From page 647

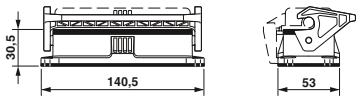
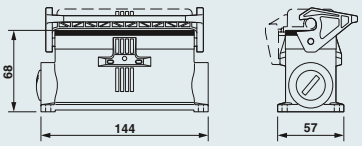
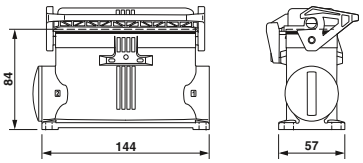
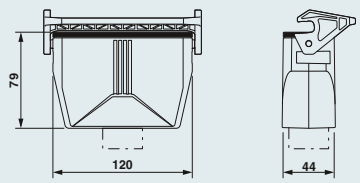
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, metal, supporting base elements with single locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B24-BWS-ELC-AL** With cover **HC-STA-B24-BWSC-ELC-AL**	 1411329 1411330	 1 1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg21 2x M25 2x M32 2x Pg21	Without cover **HC-STA-B24-SLWS-2SSM25-ELC-AL** **HC-STA-B24-SLWS-2SSM32-ELC-AL** **HC-STA-B24-SLWS-2SSP21-ELC-AL** With cover **HC-STA-B24-SLWSC-2SSM25-ELC-AL** **HC-STA-B24-SLWSC-2SSM32-ELC-AL** **HC-STA-B24-SLWSC-2SSP21-ELC-AL**	 1412877 1412878 1412879 1412881 1412882 1412883	 1 1 1 1 1 1	
Box mounting base[1]) **Height: 84.7 mm**	2x M25 2x M32 2x M40 2x M25 2x M32 2x M40	 **HC-STA-B24-SHWS-2SSM25-ELC-AL** **HC-STA-B24-SHWS-2SSM32-ELC-AL** **HC-STA-B24-SHWS-2SSM40-ELC-AL** With cover **HC-STA-B24-SHWSC-2SSM25-ELC-AL** **HC-STA-B24-SHWSC-2SSM32-ELC-AL** **HC-STA-B24-SHWSC-2SSM40-ELC-AL**	 1085185 1082592 1082593 1082595 1082596 1082597	 1 1 1 1 1 1	
Coupling housing **Height: 79 mm**	1x M32 1x M40 1x Pg21 1x Pg29	Cable outlet: top **HC-STA-B24-CHWS-1TTM32-ELC-AL** **HC-STA-B24-CHWS-1TTM40-ELC-AL** **HC-STA-B24-CHWS-1TTP21-ELC-AL** **HC-STA-B24-CHWS-1TTP29-ELC-AL**	 1412746 1412747 1412748 1412749	 1 1 1 1	

Notes:

For further accessories, see from page 658

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

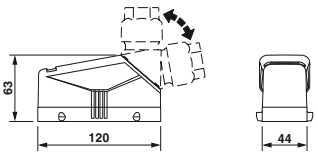
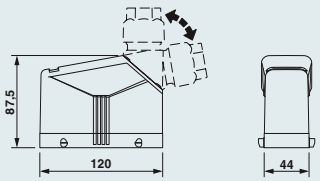
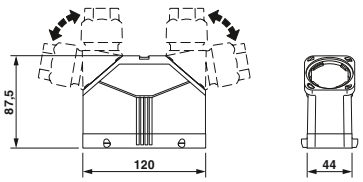
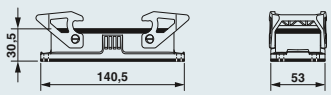
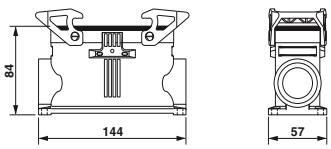
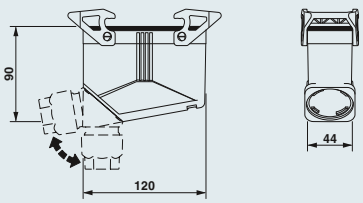
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, plastic, EVO housings, double locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 63 mm** 		**HC-EVO-B24-HLFD-PLBK**	1420935	1	
Sleeve housing **Height: 87.5 mm** 		**HC-EVO-B24-HHFD-PLBK**	1407657	1	
Double sleeve housing **Height: 87.5 mm** 		for double locking latch **HC-EVO-B24-HHFD-2B-PL-BK**	1411497	1	
Panel mounting base **Height: 30.5 mm** 		Without cover **HC-EVO-B24-BWD-PLRBK**	1407661	1	
Box mounting base[1]) **Height: 84 mm** 	2x M25 2x M32 2x M40	Without cover **HC-EVO-B24-SHWD-2SSM25-PLRBK** **HC-EVO-B24-SHWD-2SSM32-PLRBK** **HC-EVO-B24-SHWD-2SSM40-PLRBK**	1421461 1421370 1407665	1 1 1	
Coupling housing **Height: 90 mm** 		**HC-EVO-B24-CHWD-PLRBK**	1407668	1	

Notes:
For further accessories, see from page 654
Marking label: US-EMP (20X9) Order No. 0829439
For coupling housings, visit phoenixcontact.net/products
[1]) One cable entry is sealed with a knockout cover

Accessories

Cable glands
From page 658

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Connector sets
From page 646

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, metal, EVO housings, double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 88 mm**		**HC-EVO-B24-HHFD-EL-AL**	1411472	1	
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B24-BWD-ELC-AL**	1411331	1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg21	Without cover **HC-STA-B24-SLWD-2SSM25-ELC-AL** **HC-STA-B24-SLWD-2SSM32-ELC-AL** **HC-STA-B24-SLWD-2SSP21-ELC-AL**	1412873 1412874 1412875	1 1 1	
Box mounting base[1]) **Height: 84.7 mm**	2x M25 2x M32 2x M40	Without cover **HC-STA-B24-SHWD-2SSM25-ELC-AL** **HC-STA-B24-SHWD-2SSM32-ELC-AL** **HC-STA-B24-SHWD-2SSM40-ELC-AL**	1082603 1082604 1082605	1 1 1	
Coupling housing **Height: 77 mm**	1x M32 1x M40 1x Pg21 1x Pg29	Cable outlet: top **HC-STA-B24-CHWD-1TTM32-ELC-AL** **HC-STA-B24-CHWD-1TTM40-ELC-AL** **HC-STA-B24-CHWD-1TTP21-ELC-AL** **HC-STA-B24-CHWD-1TTP29-ELC-AL**	1412742 1412743 1412744 1412745	1 1 1 1	

Notes:
For further accessories, see from page 658
Marking label: US-EMLP-HA (20X9), Order No. 0830989
[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 660

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Connector sets
phoenixcontact.net/products

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

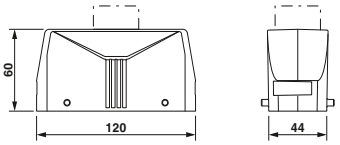
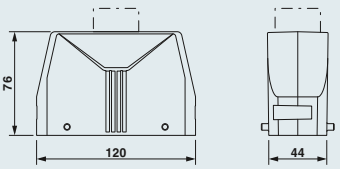
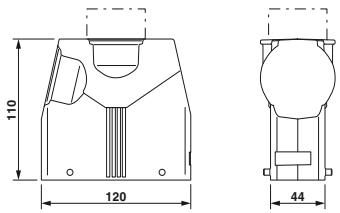
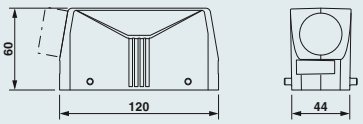
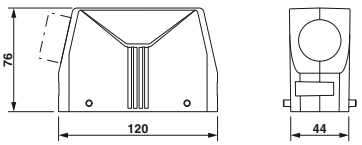
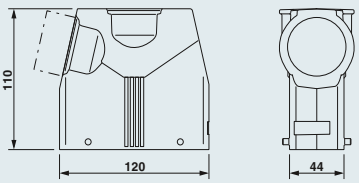
Size B24, metal, sleeve housings for double locking latch

new

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	-
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing Height: 60 mm		Cable outlet: top			
	1x M25	**HC-STA-B24-HLFD-1TTM25-EL-AL**	1412778	1	
	1x M32	**HC-STA-B24-HLFD-1TTM32-EL-AL**	1412779	1	
	1x Pg16	**HC-STA-B24-HLFD-1TTP16-EL-AL**	1412780	1	
	1x Pg21	**HC-STA-B24-HLFD-1TTP21-EL-AL**	1412781	1	
	1x Pg29	**HC-STA-B24-HLFD-1TTP29-EL-AL**	1412782	1	
		without bore hole			
		HC-STA-B24-HLFD-BLANK-EL-AL	1420010	1	
Sleeve housing Height: 76 mm		Cable outlet: top			
	1x M32	**HC-STA-B24-HHFD-1TTM32-EL-AL**	1412754	1	
	1x M40	**HC-STA-B24-HHFD-1TTM40-EL-AL**	1412099	1	
	1x Pg21	**HC-STA-B24-HHFD-1TTP21-EL-AL**	1412755	1	
	1x Pg29	**HC-STA-B24-HHFD-1TTP29-EL-AL**	1412756	1	
		without bore hole			
		HC-STA-B24-HHFD-BLANK-EL-AL	1420011	1	
Sleeve housing Height: 110.8 mm		Cable outlet: top			
	1x M50	**HC-STA-B24-HHFD-1TTM50-EL-AL**	1082554	1	
Sleeve housing Height: 60 mm		Cable outlet: lateral			
	1x M25	**HC-STA-B24-HLFD-1STM25-EL-AL**	1412773	1	
	1x M32	**HC-STA-B24-HLFD-1STM32-EL-AL**	1412774	1	
	1x Pg16	**HC-STA-B24-HLFD-1STP16-EL-AL**	1412775	1	
	1x Pg21	**HC-STA-B24-HLFD-1STP21-EL-AL**	1412776	1	
		without bore hole			
		HC-STA-B24-HLFD-BLANK-EL-AL	1420010	1	
Sleeve housing Height: 76 mm		Cable outlet: lateral			
	1x M32	**HC-STA-B24-HHFD-1STM32-EL-AL**	1412750	1	
	1x M40	**HC-STA-B24-HHFD-1STM40-EL-AL**	1412751	1	
	1x Pg21	**HC-STA-B24-HHFD-1STP21-EL-AL**	1412752	1	
	1x Pg29	**HC-STA-B24-HHFD-1STP29-EL-AL**	1412753	1	
		without bore hole			
		HC-STA-B24-HHFD-BLANK-EL-AL	1420011	1	
Sleeve housing Height: 110.8 mm		Cable outlet: lateral			
	1x M50	**HC-STA-B24-HHFD-1STM50-EL-AL**	1082553	1	

Notes:
For further accessories, see from page 658
Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Cover plates
From page 664

Connector sets
From page 647

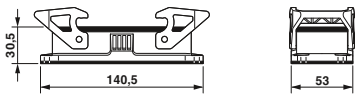
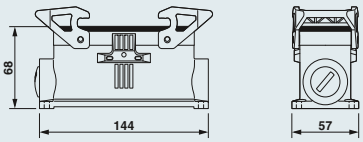
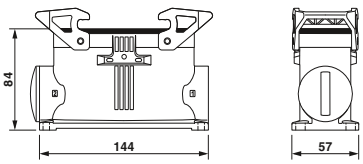
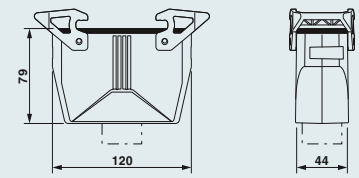
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, metal, base elements with double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		Without cover **HC-STA-B24-BWD-ELC-AL**	1411331	1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg21	Without cover **HC-STA-B24-SLWD-2SSM25-ELC-AL** **HC-STA-B24-SLWD-2SSM32-ELC-AL** **HC-STA-B24-SLWD-2SSP21-ELC-AL**	1412873 1412874 1412875	1 1 1	
Box mounting base[1]) **Height: 84.7 mm**	2x M25 2x M32 2x M40	Without cover **HC-STA-B24-SHWD-2SSM25-ELC-AL** **HC-STA-B24-SHWD-2SSM32-ELC-AL** **HC-STA-B24-SHWD-2SSM40-ELC-AL**	1082603 1082604 1082605	1 1 1	
Coupling housing **Height: 77 mm**	1x M32 1x M40 1x Pg21 1x Pg29	Cable outlet: top **HC-STA-B24-CHWD-1TTM32-ELC-AL** **HC-STA-B24-CHWD-1TTM40-ELC-AL** **HC-STA-B24-CHWD-1TTP21-ELC-AL** **HC-STA-B24-CHWD-1TTP29-ELC-AL**	1412742 1412743 1412744 1412745	1 1 1 1	

Notes:

For further accessories, see from page 658

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

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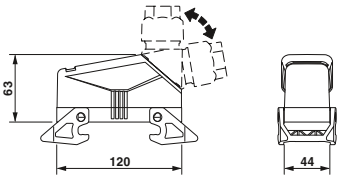
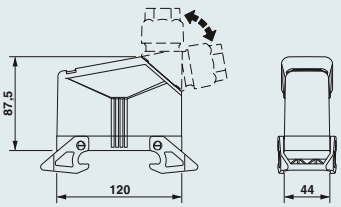
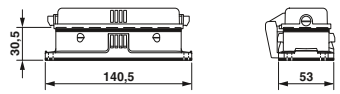
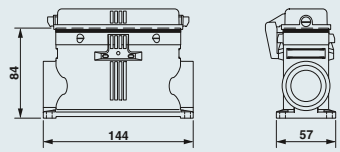
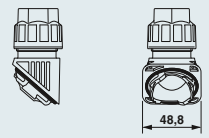
Size B24, plastic, EVO housings, double locking latch

Technical data

General data	
Housing material	PA
Locking latch material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 63 mm** 		**HC-EVO-B24-HLWD-PLBK**	1420936	1	
Sleeve housing **Height: 87.5 mm** 		**HC-EVO-B24-HHWD-PLBK**	1407658	1	
Panel mounting base **Height: 30.5 mm** 		With cover **HC-EVO-B24-BFDC-PLRBK**	1407662	1	
Box mounting base[1] **Height: 84 mm** 	2x M25 2x M32 2x M40	With cover **HC-EVO-B24-SHFDC-2SSM25-PLRBK** **HC-EVO-B24-SHFDC-2SSM32-PLRBK** **HC-EVO-B24-SHFDC-2SSM40-PLRBK**	1421462 1421380 1407666	1 1 1	
Cable gland	**Clamping area** 7 mm ... 13 mm 9 mm ... 17 mm 11 mm ... 21 mm 19 mm ... 28 mm	 **HC-B-G-M20-PLRBK** **HC-B-G-M25-PLRBK** **HC-B-G-M32-PLRBK** **HC-B-G-M40-PLRBK**	 1407669 1407670 1407671 1407672	 1 1 1 1	

Notes:
For further accessories, see from page 654
Marking label: US-EMP (20X9) Order No. 0829439
For coupling housings, visit phoenixcontact.net/products
[1]) One cable entry is sealed with a knockout cover

Accessories

EVO unlocking tools
From page 659

Thread adapters
From page 659

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

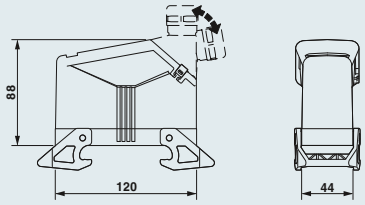
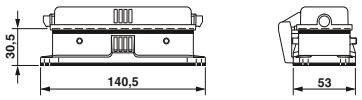
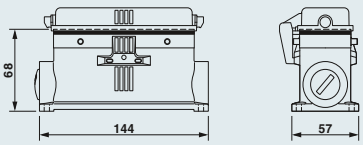
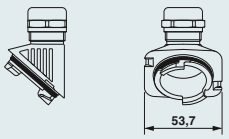
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, metal, EVO housings, double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	Polyamide
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 88 mm**		**HC-EVO-B24-HHWD-EL-AL**	1411474	1	
Panel mounting base **Height: 30.5 mm**		With cover **HC-STA-B24-BFDC-ELC-AL**	1411332	1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg21	With cover **HC-STA-B24-SLFDC-2SSM25-ELC-AL** **HC-STA-B24-SLFDC-2SSM32-ELC-AL** **HC-STA-B24-SLFDC-2SSP21-ELC-AL**	1412869 1412870 1412871	1 1 1	
Cable gland	**Clamping area** 9 mm ... 13 mm 11 mm ... 16 mm 14 mm ... 21 mm 19 mm ... 27 mm	**HC-B-G-M20-EC-AL** **HC-B-G-M25-EC-AL** **HC-B-G-M32-EC-AL** **HC-B-G-M40-EC-AL**	1411439 1411446 1411440 1411441	1 1 1 1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

[1]) Supplied with a plastic sealing cap

Accessories

Thread adapters
From page 660

EMC cable glands
From page 660

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

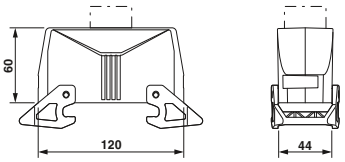
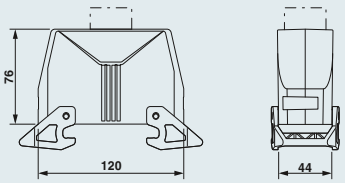
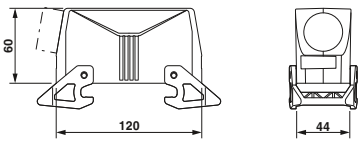
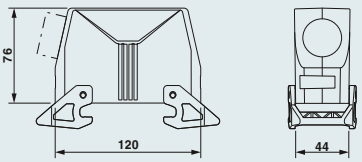
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, metal, sleeve housings with double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	-
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing Height: 60 mm		Cable outlet: top			
	1x M25	**HC-STA-B24-HLWD-1TTM25-EL-AL**	1412799	1	
	1x M32	**HC-STA-B24-HLWD-1TTM32-EL-AL**	1412800	1	
	1x Pg16	**HC-STA-B24-HLWD-1TTP16-EL-AL**	1412801	1	
	1x Pg21	**HC-STA-B24-HLWD-1TTP21-EL-AL**	1412802	1	
	1x Pg29	**HC-STA-B24-HLWD-1TTP29-EL-AL**	1412803	1	
		without bore hole			
		HC-STA-B24-HLWD-BLANK-EL-AL	1420046	1	
Sleeve housing Height: 76 mm		Cable outlet: top			
	1x M32	**HC-STA-B24-HHWD-1TTM32-EL-AL**	1412769	1	
	1x M40	**HC-STA-B24-HHWD-1TTM40-EL-AL**	1412770	1	
	1x Pg21	**HC-STA-B24-HHWD-1TTP21-EL-AL**	1412771	1	
	1x Pg29	**HC-STA-B24-HHWD-1TTP29-EL-AL**	1412772	1	
		without bore hole			
		HC-STA-B24-HHWD-BLANK-EL-AL	1420047	1	
Sleeve housing Height: 60 mm		Cable outlet: lateral			
	1x M25	**HC-STA-B24-HLWD-1STM25-EL-AL**	1412793	1	
	1x M32	**HC-STA-B24-HLWD-1STM32-EL-AL**	1412795	1	
	1x Pg16	**HC-STA-B24-HLWD-1STP16-EL-AL**	1412796	1	
	1x Pg21	**HC-STA-B24-HLWD-1STP21-EL-AL**	1412797	1	
		without bore hole			
		HC-STA-B24-HLWD-BLANK-EL-AL	1420046	1	
Sleeve housing Height: 76 mm		Cable outlet: lateral			
	1x M32	**HC-STA-B24-HHWD-1STM32-EL-AL**	1412764	1	
	1x M40	**HC-STA-B24-HHWD-1STM40-EL-AL**	1412766	1	
	1x Pg21	**HC-STA-B24-HHWD-1STP21-EL-AL**	1412767	1	
	1x Pg29	**HC-STA-B24-HHWD-1STP29-EL-AL**	1412768	1	
		without bore hole			
		HC-STA-B24-HHWD-BLANK-EL-AL	1420047	1	

Notes:

For further accessories, see from page 658

Marking label: US-EMLP-HA (20X9), Order No. 0830989

Accessories

Cable glands
From page 686

Protective covers
From page 654

Replacement latches
phoenixcontact.net/products

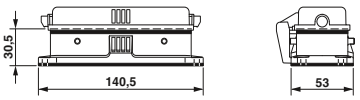
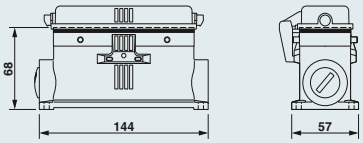
Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Size B24, metal, supporting base elements for double locking latch

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	PA
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	4 / 4X / 12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Panel mounting base **Height: 30.5 mm**		With cover **HC-STA-B24-BFDC-ELC-AL**	1411332	1	
Box mounting base[1]) **Height: 68 mm**	2x M25 2x M32 2x Pg21	With cover **HC-STA-B24-SLFDC-2SSM25-ELC-AL** **HC-STA-B24-SLFDC-2SSM32-ELC-AL** **HC-STA-B24-SLFDC-2SSP21-ELC-AL**	 1412869 1412870 1412871	 1 1 1	

Notes:

For further accessories, see from page 658

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement protective covers
phoenixcontact.net/products

Cover plates
From page 664

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

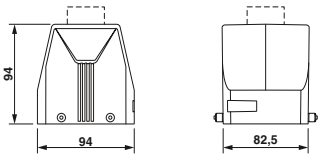
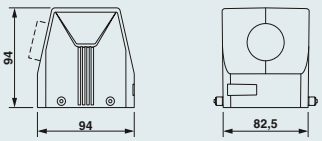
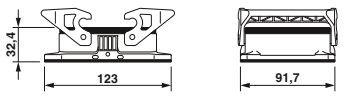
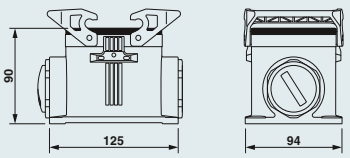
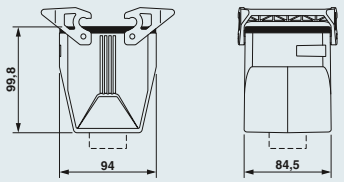
Size B32, metal, housings, double locking latch

new

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	Polyamide
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 94 mm**		Cable outlet: top			
	1x M32	**HC-STA-B32-HHFD-1TTM32-EL-AL**	**1424830**	1	
	1x M40	**HC-STA-B32-HHFD-1TTM40-EL-AL**	**1424831**	1	
	1x M50	**HC-STA-B32-HHFD-1TTM50-EL-AL**	**1424832**	1	
	1x Pg29	**HC-STA-B32-HHFD-1TTP29-EL-AL**	**1424827**	1	
	1x Pg36	**HC-STA-B32-HHFD-1TTP36-EL-AL**	**1424828**	1	
	1x Pg42	**HC-STA-B32-HHFD-1TTP42-EL-AL**	**1424829**	1	
Sleeve housing **Height: 94 mm**		Cable outlet: lateral			
	1x M32	**HC-STA-B32-HHFD-1STM32-EL-AL**	**1424836**	1	
	1x M40	**HC-STA-B32-HHFD-1STM40-EL-AL**	**1424837**	1	
	1x M50	**HC-STA-B32-HHFD-1STM50-EL-AL**	**1424838**	1	
	1x Pg29	**HC-STA-B32-HHFD-1STP29-EL-AL**	**1424833**	1	
	1x Pg36	**HC-STA-B32-HHFD-1STP36-EL-AL**	**1424834**	1	
	1x Pg42	**HC-STA-B32-HHFD-1STP42-EL-AL**	**1424835**	1	
Panel mounting base **Height: 32.4 mm**		Without cover			
		HC-STA-B32-BWD-ELC-AL	**1424845**	1	
Box mounting base[1]) **Height: 90 mm**		Without cover			
	2x M32	**HC-STA-B32-SHWD-2SSM32-ELC-AL**	**1424848**	1	
	2x M40	**HC-STA-B32-SHWD-2SSM40-ELC-AL**	**1424849**	1	
	2x Pg29	**HC-STA-B32-SHWD-2SSP29-ELC-AL**	**1424846**	1	
	2x Pg36	**HC-STA-B32-SHWD-2SSP36-ELC-AL**	**1424847**	1	
Coupling housing **Height: 99.8 mm**		Cable outlet: top			
	1x M32	**HC-STA-B32-CHWD-1TTM32-ELC-AL**	**1424842**	1	
	1x M40	**HC-STA-B32-CHWD-1TTM40-ELC-AL**	**1424843**	1	
	1x M50	**HC-STA-B32-CHWD-1TTM50-ELC-AL**	**1424844**	1	
	1x Pg29	**HC-STA-B32-CHWD-1TTP29-ELC-AL**	**1424839**	1	
	1x Pg36	**HC-STA-B32-CHWD-1TTP36-ELC-AL**	**1424840**	1	
	1x Pg42	**HC-STA-B32-CHWD-1TTP42-ELC-AL**	**1424841**	1	

Notes:

For further accessories, see from page 654

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

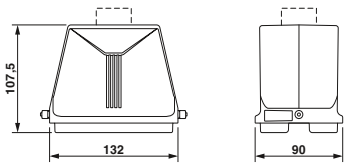
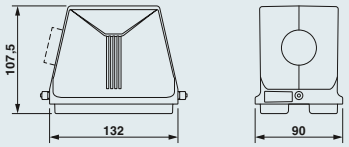
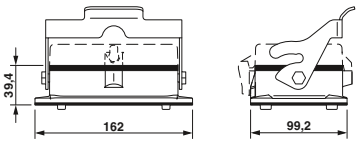
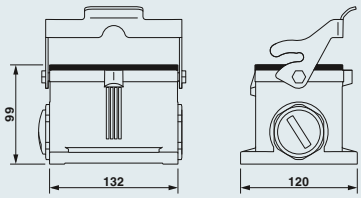
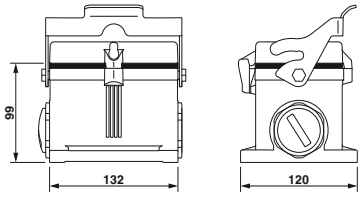
Size B48, metal, housings, single locking latch

new

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Locking latch material	Polyamide
Sealing material	NBR, conductive
IP degree of protection (when plugged in)	IP66 / IP67
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 107.5 mm**		Cable outlet: top			
	1x M32	**HC-STA-B48-HHFS-1TTM32-EM-AL**	1424854	1	
	1x M40	**HC-STA-B48-HHFS-1TTM40-EM-AL**	1424855	1	
	1x M50	**HC-STA-B48-HHFS-1TTM50-EM-AL**	1424856	1	
	1x Pg29	**HC-STA-B48-HHFS-1TTP29-EM-AL**	1424851	1	
	1x Pg36	**HC-STA-B48-HHFS-1TTP36-EM-AL**	1424852	1	
	1x Pg42	**HC-STA-B48-HHFS-1TTP42-EM-AL**	1424853	1	
Sleeve housing **Height: 107.5 mm**		Cable outlet: lateral			
	1x M32	**HC-STA-B48-HHFS-1STM32-EM-AL**	1424860	1	
	1x M40	**HC-STA-B48-HHFS-1STM40-EM-AL**	1424861	1	
	1x M50	**HC-STA-B48-HHFS-1STM50-EM-AL**	1424862	1	
	1x Pg29	**HC-STA-B48-HHFS-1STP29-EM-AL**	1424857	1	
	1x Pg36	**HC-STA-B48-HHFS-1STP36-EM-AL**	1424858	1	
	1x Pg42	**HC-STA-B48-HHFS-1STP42-EM-AL**	1424859	1	
Panel mounting base **Height: 39.4 mm**		Without cover			
		HC-STA-B48-BWS-EMC-AL	1424863	1	
		With cover			
		HC-STA-B48-BWSC-EMC-AL	1424864	1	
Box mounting base[1]) **Height: 99 mm**		Without cover			
	2x M32	**HC-STA-B48-SHWS-2SSM32-EMC-AL**	1424867	1	
	2x M40	**HC-STA-B48-SHWS-2SSM40-EMC-AL**	1424868	1	
	2x Pg29	**HC-STA-B48-SHWS-2SSP29-EMC-AL**	1424865	1	
	2x Pg36	**HC-STA-B48-SHWS-2SSP36-EMC-AL**	1424866	1	
Box mounting base[1]) **Height: 99 mm**		With cover			
	2x M32	**HC-STA-B48-SHWSC-2SSM32-EMC-AL**	1424873	1	
	2x M40	**HC-STA-B48-SHWSC-2SSM40-EMC-AL**	1424874	1	
	2x Pg29	**HC-STA-B48-SHWSC-2SSP29-EMC-AL**	1424869	1	
	2x Pg36	**HC-STA-B48-SHWSC-2SSP36-EMC-AL**	1424872	1	

Notes:

For further accessories, see from page 654

[1]) Supplied with a plastic sealing cap

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Connector sets, EVO housings, plastic, Push-in connection

Technical data

General data	
Housing material	PA
Sealing material	NBR
Inflammability class in acc. with UL 94	V0
Insertion/withdrawal cycles	≥ 500
IP degree of protection (when plugged in)	IP66
NEMA degree of protection (when plugged in)	12
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Pos.	Size	Type	Order No.	Pcs./Pkt.	Dimensions
Connector set	6	B6	Single locking latch, with cover **HC-EVO-B06PT-BWSC-HL-M20-PLRBK**	1407710	1	
Connector set	10	B10	Single locking latch, with cover **HC-EVO-B10PT-BWSC-HL-M25-PLRBK**	1408791	1	
	10	B10	Double locking latch, without cover **HC-EVO-B10PT-BWD-HL-M25-PLRBK**	1407711	1	
Connector set	16	B16	Single locking latch, with cover **HC-EVO-B16PT-BWSC-HH-M25-PLRBK**	1408793	1	
	16	B16	Double locking latch, without cover **HC-EVO-B16PT-BWD-HH-M25-PLRBK**	1407712	1	
Connector set	24	B24	Single locking latch, with cover **HC-EVO-B24PT-BWSC-HH-M32-PLRBK**	1408794	1	
	24	B24	Double locking latch, without cover **HC-EVO-B24PT-BWD-HH-M32-PLRBK**	1407713	1	

Notes:

- For further accessories, see from page 654
- Only operate connectors when there is no load/the power is switched off
- For assembly instructions, see phoenixcontact.net/products
- Connector sets: phoenixcontact.net/webcode/#0523

Accessories

EVO unlocking tools
From page 659

Replacement latches
phoenixcontact.net/products

Replacement seals
phoenixcontact.net/products

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Connector sets, STANDARD housings, metal, Push-in connection

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Sealing material	NBR
Inflammability class in acc. with UL 94	V0
Insertion/withdrawal cycles	≥ 500
IP degree of protection (when plugged in)	IP66 / IP67
NEMA degree of protection (when plugged in)	-
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Pos.	Size	Type	Order No.	Pcs./Pkt.	Dimensions
Connector set, with single locking latch						
	6	B6	Cable outlet: top, with cover **HC-STA-B06PT-BWSC-LT-M20-ELCAL**	1416344	1	
	6	B6	Cable outlet: to the side, with cover **HC-STA-B06PT-BWSC-LS-M20-ELCAL**	1416353	1	
Connector set, with double locking latch						
	10	B10	Cable outlet: top, without cover **HC-STA-B10PT-BWD-LT-M25-ELCAL**	1416346	1	
	10	B10	Cable outlet: to the side, without cover **HC-STA-B10PT-BWD-LS-M25-ELCAL**	1416355	1	
Connector set, with double locking latch						
	16	B16	Cable outlet: top, without cover **HC-STA-B16PT-BWD-LT-M25-ELCAL**	1416349	1	
	16	B16	Cable outlet: to the side, without cover **HC-STA-B16PT-BWD-LS-M25-ELCAL**	1416357	1	
Connector set, with double locking latch						
	24	B24	Cable outlet: top, without cover **HC-STA-B24PT-BWD-LT-M32-ELCAL**	1416352	1	
	24	B24	Cable outlet: to the side, without cover **HC-STA-B24PT-BWD-LS-M32-ELCAL**	1416359	1	

Notes:
For further accessories, see from page 654
Only operate connectors when there is no load/the power is switched off
For assembly instructions, see phoenixcontact.net/products
Connector sets: phoenixcontact.net/webcode/#0523

Accessories

Replacement latches
phoenixcontact.net/products

Replacement seals
phoenixcontact.net/products

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HEAVYCON Compact – contact inserts

Compact series

Connection technology:
– Push-in connection
– Axial screw connection

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off

new

Type		Technical data					
		① HC-COM-Q08-I-PT-...		② HC-COM-Q4/2-I-AT-...			
		Power contacts	Control contacts	Power contacts	Control contacts		
Approvals		-		-			
IEC data							
Rated current	[A]	-	-	-	-		
Overvoltage category		III		III			
Degree of pollution		3		3			
Rated voltage (III/3) contacts	[V]	-	-	-	-		
Rated surge voltage, contacts	[kV]	-	-	-	-		
Connection cross section	[mm²]	-	-	-	-		
UL data							
Rated voltage	[V]	-	-	-	-		
Rated current	[A]	-	-	-	-		
Connection cross section	AWG	-	-	-	-		
CSA / cUL data							
Rated voltage	[V]	-	-	-	-		
Rated current	[A]	-	-	-	-		
Connection cross section	AWG	-	-	-	-		
Material data							
Contact carrier material		PC		PC			
Inflammability class in acc. with UL 94		V0		V0			
Contact material		Copper alloy		Copper alloy			
Contact surface material		-	-	Ag	Ag (alternatively Au)		
Temperature data							
Ambient temperature range	[°C]	-40 ... 125		-40 ... 125			
General data							
Connection method		-	-	-	-		
Stripping length	[mm]	-	-	-	-		
Number of positions		8	0	4	2		
Contact numbering		-	-	-	-		
Insertion/withdrawal cycles		≥ 500		≥ 500			

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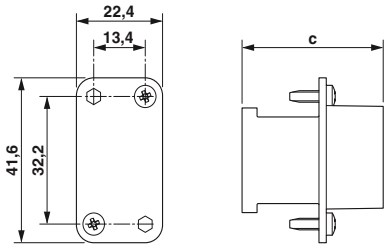
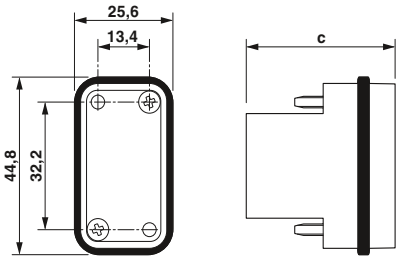
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./Pkt.
Push-in connection							
	8	1 - 8	COM	① **HC-COM-Q08-I-PT-...**	1079553	1079554	1
Axial screw connection							
	4 / 2	1 - 4	COM	② **HC-COM-Q4/2-I-AT-...**	1079558	1079557	1

Dimensions (in mm)



Dimensional drawing: female



Dimensional drawing: male

		a	b	c	d
①	Female Male	45		48.05	
②	Female Male	42		48	

Accessories

Dummy sockets
From page 657

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Compact series

Connection technology:
– Crimp connection

To determine the corresponding housing, see the system cross-reference list on page 502.

Notes:
For accessories, see from page 654
Only operate connectors when there is no load/the power is switched off

new

		Technical data					
Type		① **HC-COM-Q08-I-CT-...**		② **HC-COM-Q4/2-I-CT-...**			
		Power contacts	**Control contacts**	**Power contacts**	**Control contacts**		
Approvals		-		-			
IEC data							
Rated current	[A]	-	-	-	-		
Overvoltage category		III		III			
Degree of pollution		3		3			
Rated voltage (III/3) contacts	[V]	-	-	-	-		
Rated surge voltage, contacts	[kV]	-	-	-	-		
Connection cross section	[mm²]	-	-	-	-		
UL data							
Rated voltage	[V]	-	-	-	-		
Rated current	[A]	-	-	-	-		
Connection cross section	AWG	-	-	-	-		
CSA / cUL data							
Rated voltage	[V]	-	-	-	-		
Rated current	[A]	-	-	-	-		
Connection cross section	AWG	-	-	-	-		
Material data							
Contact carrier material		PC		PC			
Inflammability class in acc. with UL 94		V0		V0			
Contact material		Copper alloy		Copper alloy			
Contact surface material		-	-	Ag	Ag (alternatively Au)		
Temperature data							
Ambient temperature range	[°C]	-40 ... 125		-40 ... 125			
General data							
Connection method		-	-	-	-		
Stripping length	[mm]	-	-	-	-		
Number of positions		8	0	4	2		
Contact numbering		-	-	-	-		
Insertion/withdrawal cycles		≥ 500		≥ 500			

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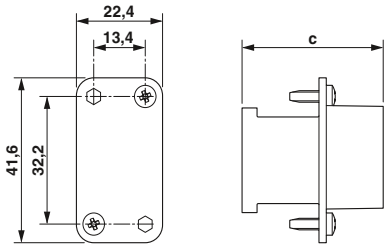
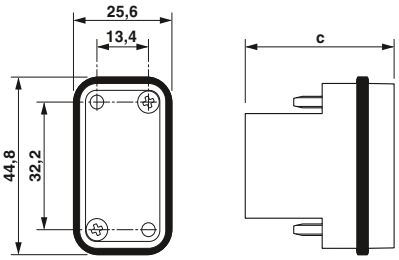
Ordering data

Description	Pos.	Number	Size	Type	Order No. Female	Order No. Male	Pcs./Pkt.
Crimp connection							
	8	1 - 8	COM	① **HC-COM-Q08-I-CT-...**	1079548	1079547	1
Crimp connection							
	4 / 2	1 - 4	COM	② **HC-COM-Q4/2-I-CT-...**	1079555	1079556	1
Turned crimp contacts CK 1,6 Silver-plated			**Cross section mm² / AWG**				
			0.14 - 0.37 / 26 - 22	**CK1,6-ED-0,37... AG**	1663394	1663336	100
			0.5 - 0.5 / 20	**CK1,6-ED-0,50... AG**	1663404	1663349	100
			0.75 - 0.75 / 18	**CK1,6-ED-0,75... AG**	1663417	1663352	100
			0.75 - 1 / 18	**CK1,6-ED-1,00... AG**	1663420	1663365	100
			1.5 - 1.5 / 16	**CK1,6-ED-1,50... AG**	1663433	1663378	100
			2.5 - 2.5 / 14	**CK1,6-ED-2,50... AG**	1663446	1663381	100
Turned crimp contacts CK 2,5 Silver-plated			**Cross section mm² / AWG**				
			0.5 - 0.5 / 20	**CK2,5-ED-0,50... AG**	1663640	1663572	100
			0.75 - 0.75 / 18	**CK2,5-ED-0,75... AG**	1663653	1663585	100
			0.75 - 1 / 18	**CK2,5-ED-1,00... AG**	1663666	1663598	100
			1.5 - 1.5 / 16	**CK2,5-ED-1,50... AG**	1663679	1663608	100
			2.5 - 2.5 / 14	**CK2,5-ED-2,50... AG**	1663682	1663611	100
			4 - 4 / 12	**CK2,5-ED-4,00... AG**	1663705	1663637	100
Turned crimp contacts CK 4,0 Silver-plated			**Cross section mm² / AWG**				
			1.5 - 1.5 / 16	**CK4,0-ED-1,50... AG**	1663271	1663239	25
			2.5 - 2.5 / 14	**CK4,0-ED-2,50... AG**	1663284	1663242	25
			4 - 4 / 12	**CK4,0-ED-4,00... AG**	1663297	1663255	25
			6 - 6 / 10	**CK4,0-ED-6,00... AG**	1663307	1663268	25

Dimensions (in mm)



Dimensional drawing: female



Dimensional drawing: male

		a	b	c	d
①	Female Male	45		48.05	
②	Female Male	42		48	

Accessories

Dummy sockets
From page 657

Crimping tools
From page 670

Crimp contacts, gold-plated
From page 666

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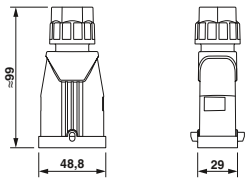
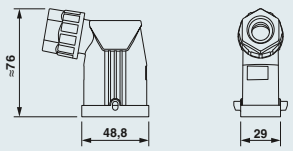
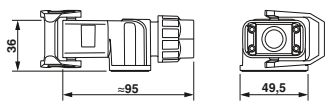
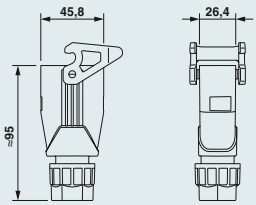
Compact series, plastic housings

new

Technical data

General data	
Housing material	PC
Lock material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP65 / IP66
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 84 mm** 	1x M25	**HC-COM-HHFS-1TGM25-PL-BK**	1012520	1	
Sleeve housing **Height: 84 mm** 	1x M25	**HC-COM-HHFS-1SGM25-PL-BK**	1012581	1	
Panel mounting base **Height: 18.5 mm** 		**HC-COM-BWS-PL-BK**	1012538	1	
Panel mounting base **Height: 41.7 mm** 		**HC-COM-BAWS-PL-BK**	1012433	1	
Box mounting base **Height: 68 mm** 	1x M25	**HC-COM-SHOWS-1SGM25-PL-BK**	1079393	1	
Coupling housing **Height: 68 mm** 	1x M25	**HC-COM-CHWS-1TGM25-PL-BK**	1012521	1	

Notes:

For further accessories, see from page 654

Accessories

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

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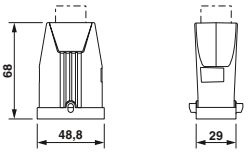
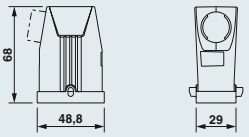
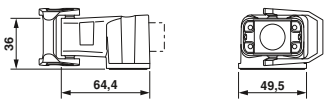
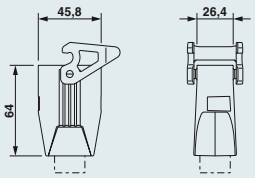
Compact series, metal housings

new

Technical data

General data	
Housing material	Die-cast aluminum, salt water resistant
Lock material	PA
Sealing material	NBR
IP degree of protection (when plugged in)	IP65 / IP66
Ambient temperature (operation)	-40°C ... 125°C

Ordering data

Description	Thread	Type	Order No.	Pcs./Pkt.	Dimensions
Sleeve housing **Height: 68 mm** 	1x M25	**HC-COM-HHFS-1TTM25-EL-AL**	1078590	1	
Sleeve housing **Height: 68 mm** 	1x M25	**HC-COM-HHFS-1STM25-EL-AL**	1078592	1	
Panel mounting base **Height: 19.8 mm** 		**HC-COM-BWS-EL-AL**	1078594	1	
Panel mounting base **Height: 41.7 mm** 		**HC-COM-BAWS-EL-AL**	1078593	1	
Box mounting base **Height: 68 mm** 	1x M25	**HC-COM-SHOWS-1STM25-EL-AL**	1078596	1	
Coupling housing **Height: 68 mm** 	1x M25	**HC-COM-CHWS-1TTM25-EL-AL**	1078595	1	

Notes:

For further accessories, see from page 654

Accessories

Cable glands
From page 686

Replacement seals
phoenixcontact.net/products

Replacement latches
phoenixcontact.net/products

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Protective covers for sleeve housings of the D7 and B series

– For sleeve housing without locking latch
– With lanyard
– With seal

Protective cover with single locking latch

Protective cover with double locking latch

		Technical data		Technical data	
		Plastic, black	Metal	Plastic, black	Metal
General data					
Material, protective cover		PA	Al	PA	Al
Degree of protection		IP66	IP66	IP66	IP66
Ambient temperature (operation)	[°C]	-20 ... 100	-40 ... 125	-20 ... 100	-40 ... 125

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Plastic, black		Metal		Plastic, black		Metal	
Protective cover, for housing sizes:								
D7, for female insert	1419274	1						
D7, for male insert	1419275	1						
B6	1414634	10	1644546	10				
B10	1414635	10	1584512	10	1414638	10	1584541	10
B16	1414636	10	1584525	10	1414639	10	1584554	10
B24	1414637	10	1584538	10	1414640	10	1584567	10

Protective covers for sleeve housings B series

– For sleeve housing with locking latch
– With lanyard
– With seal

Protective cover without double locking latch

		Technical data	
		Plastic, black	Metal
General data			
Material, protective cover		PA	Al
Degree of protection		IP66	IP66
Ambient temperature (operation)	[°C]	-20 ... 100	-40 ... 125

	Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Plastic, black		Metal	
Protective cover, for housing sizes:				
B10	1414631	10	1647750	10
B16	1414632	10	1647763	10
B24	1414633	10	1647776	10

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Protective covers for panel mounting bases of the D7, D and B series

– For panel mounting bases, box mounting bases, and coupling housings with locking latch
– With lanyard
– Without seal

Protective cover without single locking latch

Protective cover without double locking latch

		Technical data		Technical data	
		Plastic, black	Metal	Plastic, black	Metal
General data					
Material, protective cover		PA	Al	PA	Al
Degree of protection		IP66	IP66	IP66	IP66
Ambient temperature (operation)	[°C]	-20 ... 100	-40 ... 125	-20 ... 100	-40 ... 125

	Ordering data				Ordering data			
Description	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	Plastic, black		Metal		Plastic, black		Metal	
Protective cover, for coupling housings:								
D7, for female insert	1419270	1						
D7, for male insert	1419271	1						
D15	1424374	1						
D25	1424401	1						
D50					1424417	1		
B6	1414623	10	1644559	10				
B10	1414625	10	1644562	10	1414628	10	1644575	10
B16	1414626	10	1644588	10	1414629	10	1644591	10
B24	1414627	10	1644601	10	1414630	10	1644614	10
B32					1424850	1		

Protective covers for sleeve housings, panel mounting bases of the B series

– For sleeve housings, panel mounting bases, and coupling housings
– Color: transparent/white
– Without seal

Protective cover with clip locking

		Technical data
General data		
Material, protective cover		PA
Degree of protection		IP20
Ambient temperature (operation)	[°C]	0 ... 20

	Ordering data		
Description	Type	Order No.	Pcs./Pkt.
Protective cover, for housing sizes:			
B6	HC-STA-B06-DC-PL	1421100	5
B10	HC-STA-B10-DC-PL	1421101	5
B16	HC-STA-B16-DC-PL	1421102	5
B24	HC-STA-B24-DC-PL	1421103	5

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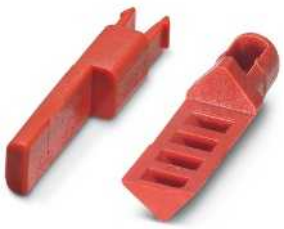
Coding profiles

– Can be coded in seconds, thanks to the coding profiles

HC / HC-S coding profile



HS2/MOD-K coding profile

	Technical data			Technical data		
General data						
Material	PA			PA		
	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Coding profiles, for contact inserts in series:						
HC-B..., HC-B...A-UT..., HC-B...A-DT...	**CP-HC**	1686478	10			
HC-A10..., HC-A16..., HC-BB...	**CP-HC-S**	1410916	10			
Coding profiles, for contact inserts in series:						
HC-Q12...				**HC-Q 12-COD**	1409435	10
HC-A3..., HC-A4...				**HC-MOD-K-CP**	1408562	1
HC-HS2-D7-E...S				**HC-HS 2-CP**	1586280	50

Coding bolts

– Prevent up to 6 plug-in connections from being mismatched

Notes:
For assembly instructions, see phoenixcontact.net/products

Coded bolts

	Technical data		
General data			
Material	Steel, galvanized		
	Ordering data		
Description	Type	Order No.	Pcs./Pkt.
Coding bolt, for contact inserts in series:			
HC-B...	**HC-CB**	1772722	10

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Guide pins, sockets

– Prevent up to 16 plug-in connections from being mismatched

Notes:
For assembly instructions, see phoenixcontact.net/products

Guide pin/guide socket

Technical data

General data

Material	Steel, galvanized

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Guide pin and guide socket, for coding to protect against mismatching and as a guide to prevent accidentally jamming the connector in at an angle			
Guide pin	**HC-CST-MOD**	1636127	10
Guide socket	**HC-CBU-MOD**	1636130	10

Dummy sockets

Prevent connectors of the same type from being mismatched. A dummy socket seals off a female contact. It is then no longer possible to insert a male contact in the same position as the dummy socket.

Notes:
For assembly instructions, see phoenixcontact.net/products

Dummy socket

Dummy socket

Technical data

General data

Material	PA

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Dummy sockets, for contact inserts with turned female contacts of type:			
CK-2,5-ED...	**CK2,5-ED-BB**	1584693	100

Technical data

Copper alloy	

Ordering data

Type	Order No.	Pcs./Pkt.
CK1,6-ED-BB	1645888	50

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Plastic cable glands and plastic thread adapters for EVO housings of the D and EVO-M1 series

Notes:
EVO unlocking tools for EVO plastic housing; see page 659

Plastic cable gland

Plastic thread adapter

		Technical data	Technical data
General data			
Material		PA	PA
Ambient temperature (operation)	[°C]	-40 ... 100	-40 ... 125

		Ordering data			Ordering data		
Description	Thread type	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cable gland, for HEAVYCON EVO plastic housings of the D series and the EVO-M1 sleeve housing, for cable diameters:							
7 mm ... 13 mm	M20	HC-D-G-M20-PLRBK	1411350	1			
9 mm ... 17 mm	M25	HC-D-G-M25-PLRBK	1411351	1			
Thread adapter, for HEAVYCON EVO D series plastic housing							
	M25				HC-D-TA-M25-PLRBK	1411352	1
	Pg16				HC-D-TA-PG16-PLR-BK	1411353	1
	3/4 inch NPT				HC-D-TA-NPT-3/4-PLR-BK	1411354	1

Plastic cable glands for EVO B series housings

Notes:
EVO unlocking tools for EVO plastic housing; see page 659

Plastic cable gland

Plastic cable gland

		Technical data	Technical data
General data			
Material		PA	PA
Ambient temperature (operation)	[°C]	-40 ... 100	-30 ... 100

		Ordering data			Ordering data		
Description	Thread type	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cable gland, for HEAVYCON EVO B series plastic housing, for cable diameter:							
7 mm ... 13 mm	M20	HC-B-G-M20-PLRBK	1407669	1			
9 mm ... 17 mm	M25	HC-B-G-M25-PLRBK	1407670	1			
11 mm ... 21 mm	M32	HC-B-G-M32-PLRBK	1407671	1			
19 mm ... 28 mm	M40	HC-B-G-M40-PLRBK	1407672	1			
Cable gland, for B series HEAVYCON EVO plastic housing, with seal insert for cable diameter:							
without bore hole	M40				HC-B-GM0-M40-PLTBK	1414643	1
4x 10 mm	M40				HC-B-GM4X10-M40-PLTBK	1414644	1
5x 8.5 mm	M40				HC-B-GM5X8,5-M40-PLTBK	1414645	1
8x 6.5 mm	M40				HC-B-GM8X6,5-M40-PLTBK	1414646	1

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Plastic cable glands with bend protection and strain relief for B series EVO housings

Notes:
EVO unlocking tools for EVO plastic housing; see page 659

Plastic cable gland with bend protection

Plastic cable gland with strain relief

		Technical data	Technical data
General data			
Material		PA	PA
Ambient temperature (operation)	[°C]	-40 ... 100	-40 ... 100

		Ordering data			Ordering data		
Description	Thread type	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cable gland, for HEAVYCON EVO B series plastic housing, for cable diameter:							
6 mm ... 13 mm	M20	**HC-B-GB-M20-PLRBK**	1414660	1	**HC-B-GTRS-M20-PLRBK**	1414651	1
9 mm ... 17 mm	M25	**HC-B-GB-M25-PLRBK**	1414661	1	**HC-B-GTRS-M25-PLRBK**	1414652	1
13 mm ... 21 mm	M32	**HC-B-GB-M32-PLRBK**	1414662	1	**HC-B-GTRS-M32-PLRBK**	1414654	1

Plastic thread adapters for B series EVO housings and EVO unlocking tools tool

Notes:
For further conduit adapters, visit phoenixcontact.net/products
For protective hoses for corrugated pipe adapters, see Catalog 3

Plastic thread adapter

EVO unlocking tools

		Technical data	Technical data
General data			
Material		PA	-
Ambient temperature (operation)	[°C]	-40 ... 100	- ... -

		Ordering data			Ordering data		
Description	Thread type	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Thread adapter, for B series HEAVYCON EVO plastic housing							
	M20	**HC-B-TA-M20-PLR-BK**	1414243	1			
	M25	**HC-B-TA-M25-PLR-BK**	1414244	1			
	M32	**HC-B-TA-M32-PLR-BK**	1414245	1			
	M40	**HC-B-TA-M40-PLR-BK**	1414246	1			
	Pg13.5	**HC-B-TA-PG13-PLR-BK**	1414247	1			
	Pg16	**HC-B-TA-PG16-PLR-BK**	1414248	1			
	Pg21	**HC-B-TA-PG21-PLR-BK**	1414249	1			
Water pump pliers, with groove joint, gripping surfaces with dual notching, acc. to VDE ISO 8976, size: 240 mm					**UNIFOX-WP**	1212365	1

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Metal cable glands for EVO B series housings

Metal cable gland for EMC applications

Metal cable gland for multiple cables

		Technical data	Technical data
General data			
Material		Die-cast aluminum, corrosion-resistant	Die-cast aluminum, corrosion-resistant
Ambient temperature (operation)	[°C]	-40 ... 125	-30 ... 100

		Ordering data			Ordering data		
Description	Thread type	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cable gland, for HEAVYCON EVO B series metal housing, for EMC applications, for cable diameter:							
9 mm ... 13 mm	M20	**HC-B-G-M20-EC-AL**	1411439	1			
11 mm ... 16 mm	M25	**HC-B-G-M25-EC-AL**	1411446	1			
14 mm ... 21 mm	M32	**HC-B-G-M32-EC-AL**	1411440	1			
19 mm ... 27 mm	M40	**HC-B-G-M40-EC-AL**	1411441	1			
Cable gland, for HEAVYCON EVO metal housing, for higher strain relief, with NBR seal, for cable diameter:							
without bore hole	M40				**HC-B-GM0-M40-ET-AL**	1414647	1
4x 10 mm	M40				**HC-B-GM4X10-M40-ET-AL**	1414648	1
5x 8.5 mm	M40				**HC-B-GM5X8,5-M40-ET-AL**	1414649	1
8x 6.5 mm	M40				**HC-B-GM8X6,5-M40-ET-AL**	1414650	1

Metal cable glands with bend protection and strain relief for B series EVO housings

Metal cable gland with bend protection

Metal cable gland with strain relief

		Technical data	Technical data
General data			
Material		-	-
Ambient temperature (operation)	[°C]	-40 ... 100	-40 ... 100

		Ordering data			Ordering data		
Description	Thread type	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cable gland, for B series HEAVYCON EVO metal housing, for cable diameter:							
6 mm ... 13 mm	M20	**HC-B-GB-M20-ER-AL**	1414663	1	**HC-B-GTRS-M20-ER-AL**	1414656	1
9 mm ... 17 mm	M25	**HC-B-GB-M25-ER-AL**	1414664	1	**HC-B-GTRS-M25-ER-AL**	1414657	1
13 mm ... 21 mm	M32	**HC-B-GB-M32-ER-AL**	1414665	1	**HC-B-GTRS-M32-ER-AL**	1414658	1
16 mm ... 28 mm	M40	**HC-B-GB-M40-ER-AL**	1414666	1	**HC-B-GTRS-M40-ER-AL**	1414659	1

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Metal thread adapter for B series EVO housings

Metal thread adapter

Technical data

General data		
Material		Die-cast aluminum, corrosion-resistant
Ambient temperature (operation)	[°C]	-40 ... 125

Ordering data

Description	Thread type	Type	Order No.	Pcs./Pkt.
Thread adapter, for B series HEAVYCON EVO metal housings				
	M20	**HC-B-TA-M20-ER-AL**	1414256	1
	M25	**HC-B-TA-M25-ER-AL**	1414257	1
	M32	**HC-B-TA-M32-ER-AL**	1414258	1
	M40	**HC-B-TA-M40-ER-AL**	1414259	1
	Pg13.5	**HC-B-TA-PG13-ER-AL**	1414260	1
	Pg16	**HC-B-TA-PG16-ER-AL**	1414261	1
	Pg21	**HC-B-TA-PG21-ER-AL**	1414262	1
	Pg29	**HC-B-TA-PG29-ER-AL**	1414263	1
	1/2-inch NPT	**HC-B-TA-NPT-1/2-ER-AL**	1414264	1
	3/4 inch NPT	**HC-B-TA-NPT-3/4-ER-AL**	1414265	1
	1/1-inch NPT	**HC-B-TA-NPT-1/1-ER-AL**	1414266	1
	1 1/4 in. NPT	**HC-B-TA-NPT-1 1/4-ER-AL**	1414267	1

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PE screws, PE multipliers

If several PE conductors are led via one contact insert, additional PE connections are required. This is done using an additional PE screw or the PE multiplier.

PE screw

PE multiplier

		Technical data	Technical data
General data			
Material		Steel, galvanized	Brass, nickel-plated
Connection cross section	[mm²]	-	0.5 ... 2.5
Connection cross section	AWG	-	20 ... 14

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
PE screw, for contact inserts in series:						
HC-B..., HC-BB..., HC-DD..., HC-D40..., HC-D64...	**HC-B-PES**	1604997	10			
HC-HS 6...	**HC-HS-PES**	1586219	10			
PE screw, for contact inserts in series:						
HC-A..., HC-D15..., HC-D25...	**HC-A-PES**	1584868	10			
PE multiplier, with 3 PE connections, for contact inserts in series:						
HC-B..., HC-BB..., HC-DD..., HC-D40..., HC-D64...				**HC-B-3PE**	1644326	1

Strain relief clamps

Cable trees with crimp contacts must not put a strain on the engaged contacts with their weight.

The use of strain relief clamps eliminates this type of strain.

Lateral cable outlet

Straight cable outlet

		Technical data	Technical data
General data			
Material		Steel, galvanized	Steel, galvanized

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Strain relief clamps, clamping area of 9 - 19 mm, for contact inserts in series:						
HC-B..., HC-BB..., HC-D40..., HC-D64..., HC-DD..., HC-HV...	**HC-B-ZS**	1685330	10	**HC-B-ZG**	1685327	10

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Replacement bolts and sealing screws

Replacement bolt

Sealing screw

	Technical data	Technical data
General data		
Material	Steel, galvanized	Steel, galvanized

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Replacement bolt, steel, for HEAVYCON HC-B...-TFL... sleeve housing (not EMC housing) in size:						
B48	**HC-B 48-LB ERSBOLZ**	1636114	10			
M3 sealing screw, IP67, for HEAVYCON housing in size:						
D7				**HC-D 7-DS-IP65**	1686229	100

Docking frames

Docking frames ensure that male and female inserts are located in insert systems and contact is made reliably.

Notes:

Due to the floating frame, the mounting panel must be grounded.

Docking frames

		Technical data
General data		
Material		Stainless steel
Insertion/withdrawal cycles		≥ 500
Ambient temperature (operation)	[°C]	-40 ... 125

	Ordering data		
Description	Type	Order No.	Pcs./Pkt.
Docking frame, with 4 flat headed screws with shoulder, for contact inserts in series:			
B6, DD24, BB10, K, M	**HC-B 6-ANDOCK**	1586112	2
B10, DD42, BB18, K, M	**HC-B 10-ANDOCK**	1586125	2
B16, D40, DD72, BB32, K, M	**HC-B 16-ANDOCK**	1586138	2
B24, D64, DD108, BB46, K, M	**HC-B 24-ANDOCK**	1586141	2

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Cover plates

For sealing unused openings in control cabinet manufacturing.

Cover plate, height: 3.5 mm

Cover plate, height: 7 mm

Technical data		Technical data	
General data			
Material	PA	PA	
Color	gray	gray	
Flammability rating in accordance with UL 94	HB	HB	
Ambient temperature (operation) [°C]	-20 ... 100	-20 ... 100	

Ordering data						
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cover plate, for a panel cutout in size:						
B6 (cutout: 35 mm x 52 mm)	**HC-B 6-AP-GY**	1660368	10			
B10 (cutout: 35 mm x 65 mm)	**HC-B 10-AP-GY**	1660371	10			
B16 (cutout: 35 mm x 86 mm)	**HC-B 16-AP-GY**	1660384	10	**HC-B 16-APV-GY**	1661121	10
B24 (cutout: 35 mm x 113 mm)	**HC-B 24-AP-GY**	1660397	10	**HC-B 24-APV-GY**	1661037	10
D15 (cutout: 24 mm x 58 mm)	**HC-D 15-AP-GY**	1660342	10			
D25 (cutout: 24 mm x 74 mm)	**HC-D 25-AP-GY**	1660355	10			

Adapter plates

For changing panel cutouts to different size.

Adapter plate

Adapter plate

Technical data		Technical data	
General data			
Material	PA	PA	
Color	gray	gray	
Flammability rating in accordance with UL 94	HB	HB	
Ambient temperature (operation) [°C]	-20 ... 100	-20 ... 100	

Ordering data						
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Adapter plate, for reduction from a B24 panel cutout to:						
3 x D7 (cutout: 21.5 mm x 21.5 mm)	**HC-B 24-ADP-3D 7-GY**	1661448	10			
Adapter plate, for reduction from a B24 panel cutout to:						
3 x circular connector cutouts (Ø 21 mm)				**HC-B 24-ADP-3RST-GY**	1662175	10

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D-SUB adapter plates, D series

For installing D-SUB connectors in HEAVYCON D series housing.

Notes:
Order D-SUB connectors separately
D-SUB assembly in the adapter plate: front mounting
For D-SUB insert matrix see page 446

Adapter plate for a D-SUB connector

Technical data

General data		
Material		PA
Color		gray
Ambient temperature (operation)	[°C]	-20 ... 100

Ordering data

Description	Type	Order No.	Pcs./Pkt.
D-SUB adapter plate, for equipping HC-D15... housings with **one** D-SUB connector, D-SUB type:			
D-SUB 09	**HC-D 15-ADP/1 DSUB 9**	1661312	2
D-SUB 15	**HC-D 15-ADP/1 DSUB 15**	1775253	2
D-SUB 25	**HC-D 15-ADP/1 DSUB 25**	1775266	2

D-SUB adapter plates, B series

For installing D-SUB connectors in HEAVYCON B series housing.

Notes:
Order D-SUB connectors separately
D-SUB assembly in the adapter plate: front mounting
For D-SUB insert matrix see page 446

Adapter plate for a D-SUB connector

Adapter plate for two D-SUB connectors

Technical data

General data			
Material		PA	PA
Color		gray	gray
Flammability rating in accordance with UL 94		HB	HB
Ambient temperature (operation)	[°C]	-20 ... 100	-20 ... 100

Ordering data

Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
D-SUB adapter plate, for mounting HEAVYCON housings with D-SUB connector, for housing size / D-SUB type:						
B6 / D-SUB 09	**HC-B 6-ADP/1 DSUB 9**	1775457	2	**HC-B 6-ADP/2 DSUB 9**	1775460	2
B6 / D-SUB 15	**HC-B 6-ADP/1 DSUB 15**	1775473	2	**HC-B 6-ADP/2 DSUB 15**	1775486	2
B10 / D-SUB 25	**HC-B 10-ADP/1 DSUB 25**	1775499	2	**HC-B 10-ADP/2 DSUB 25**	1775509	2
B16 / D-SUB 37	**HC-B 16-ADP/1 DSUB 37**	1775512	2	**HC-B 16-ADP/2 DSUB 37**	1775525	2
B16 / D-SUB 50	**HC-B 16-ADP/1 DSUB 50**	1775538	2	**HC-B 16-ADP/2 DSUB 50**	1775541	2

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Crimp contacts

Crimp machines for turned/rolled contacts on request.

Notes:

For voltages less than 5 V and currents less than 5 mA, gold-plated contacts are recommended.

Ø 1.6 mm, turned crimp contacts

Ø 2.5 mm, turned crimp contacts

EAC

EAC

	Technical data		Technical data	
Material data	Hard silver-plated	Hard gold-plated	Hard silver-plated	Hard gold-plated
Contact material	Copper alloy	Copper alloy	Copper alloy	Copper alloy
Stripping length of the individual wire	8 mm	8 mm	7.5 mm (9.5 mm at HC-M-HV...)	7.5 mm (9.5 mm at HC-M-HV...)
Insertion/withdrawal cycles	≥ 500	≥ 500	≥ 500	≥ 500
Ambient temperature (operation)	-40°C ... 125°C	-40°C ... 125°C	-40°C ... 125°C	-40°C ... 125°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Turned female contacts, silver-plated, for wire cross section:						
0.14 mm² ... 0.37 mm² / AWG 26 ... 22	**CK1,6-ED-0,37BU AG**	1663394	100			
0.50 mm² / AWG 20	**CK1,6-ED-0,50BU AG**	1663404	100	**CK2,5-ED-0,50BU AG**	1663640	100
0.75 mm² / AWG 18	**CK1,6-ED-0,75BU AG**	1663417	100	**CK2,5-ED-0,75BU AG**	1663653	100
0.75 mm² ... 1.00 mm² / AWG 18	**CK1,6-ED-1,00BU AG**	1663420	100	**CK2,5-ED-1,00BU AG**	1663666	100
1.50 mm² / AWG 16	**CK1,6-ED-1,50BU AG**	1663433	100	**CK2,5-ED-1,50BU AG**	1663679	100
2.50 mm² / AWG 14	**CK1,6-ED-2,50BU AG**	1663446	100	**CK2,5-ED-2,50BU AG**	1663682	100
3.00 mm² / AWG 12				**CK2,5-ED-3,00BU AG**	1663695	100
4.00 mm² / AWG 12				**CK2,5-ED-4,00BU AG**	1663705	100
6.00 mm² / AWG 10						
10 mm²/AWG 8						
Turned male contacts, silver-plated, for wire cross section:						
0.14 mm² ... 0.37 mm² / AWG 26 ... 22	**CK1,6-ED-0,37ST AG**	1663336	100			
0.50 mm² / AWG 20	**CK1,6-ED-0,50ST AG**	1663349	100	**CK2,5-ED-0,50ST AG**	1663572	100
0.75 mm² / AWG 18	**CK1,6-ED-0,75ST AG**	1663352	100	**CK2,5-ED-0,75ST AG**	1663585	100
0.75 mm² ... 1.00 mm² / AWG 18	**CK1,6-ED-1,00ST AG**	1663365	100	**CK2,5-ED-1,00ST AG**	1663598	100
1.50 mm² / AWG 16	**CK1,6-ED-1,50ST AG**	1663378	100	**CK2,5-ED-1,50ST AG**	1663608	100
2.50 mm² / AWG 14	**CK1,6-ED-2,50ST AG**	1663381	100	**CK2,5-ED-2,50ST AG**	1663611	100
3.00 mm² / AWG 12				**CK2,5-ED-3,00ST AG**	1663624	100
4.00 mm² / AWG 12				**CK2,5-ED-4,00ST AG**	1663637	100
6.00 mm² / AWG 10						
10 mm²/AWG 8						
Turned female contacts, gold-plated, for wire cross section:						
0.14 mm² ... 0.37 mm² / AWG 26 ... 22	**CK1,6-ED-0,37BU AU**	1674969	100	**CK2,5-ED-0,37BU AU**	1585647	100
0.50 mm² / AWG 20	**CK1,6-ED-0,50BU AU**	1674480	100	**CK2,5-ED-0,50BU AU**	1674859	100
0.75 mm² / AWG 18	**CK1,6-ED-0,75BU AU**	1672440	100			
0.75 mm² ... 1.00 mm² / AWG 18	**CK1,6-ED-1,00BU AU**	1674943	100	**CK2,5-ED-1,00BU AU**	1674833	100
1.50 mm² / AWG 16	**CK1,6-ED-1,50BU AU**	1674930	100	**CK2,5-ED-1,50BU AU**	1674820	100
2.50 mm² / AWG 14	**CK1,6-ED-2,50BU AU**	1674985	100	**CK2,5-ED-2,50BU AU**	1674862	100
4.00 mm² / AWG 12				**CK2,5-ED-4,00BU AU**	1674846	100
Turned male contacts, gold-plated, for wire cross section:						
0.14 mm² ... 0.37 mm² / AWG 26 ... 22	**CK1,6-ED-0,37ST AU**	1674901	100	**CK2,5-ED-0,37ST AU**	1585663	100
0.50 mm² / AWG 20	**CK1,6-ED-0,50ST AU**	1672453	100	**CK2,5-ED-0,50ST AU**	1674804	100
0.75 mm² / AWG 18	**CK1,6-ED-0,75ST AU**	1674914	100			
0.75 mm² ... 1.00 mm² / AWG 18	**CK1,6-ED-1,00ST AU**	1674888	100	**CK2,5-ED-1,00ST AU**	1674781	100
1.50 mm² / AWG 16	**CK1,6-ED-1,50ST AU**	1674875	100	**CK2,5-ED-1,50ST AU**	1674778	100
2.50 mm² / AWG 14	**CK1,6-ED-2,50ST AU**	1674927	100	**CK2,5-ED-2,50ST AU**	1674817	100
4.00 mm² / AWG 12				**CK2,5-ED-4,00ST AU**	1674794	100
Turned switch contacts, (male 2 mm lagging), for HC-HV-…, silver-plated, for wire cross section:						
1.00 mm²/ AWG 18				**CK2,5-ED-1,00ST-S AG**	1663857	100
1.50 mm² / AWG 16				**CK2,5-ED-1,50ST-S AG**	1663860	100
2.50 mm² / AWG 14				**CK2,5-ED-2,50ST-S AG**	1663873	100
Punched-rolled female contacts, silver-plated, for wire cross section:						
0.34 mm² ... 1.00 mm² / AWG 22 ... 18						
1.50 mm² ... 2.50 mm² / AWG 16 ... 14						
Punched-rolled male contacts, silver-plated, for wire cross section:						
0.34 mm² ... 1.00 mm² / AWG 22 ... 18						
1.50 mm² ... 2.50 mm² / AWG 16 ... 14						

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Ø 4.0 mm, turned crimp contacts

new

Ø 1.6 mm, punched-rolled crimp contacts, taped

new

Ø 1.6 mm, punched-rolled crimp contacts, single contacts

EAC

Technical data	
Copper alloy	
9 mm (9.6 mm (4 - 6 mm²)/18 mm (10 mm²))	
≥ 500	
-40°C ... 125°C	

Technical data	
Cu alloy, nickel-plated	
4 mm	
≥ 50	
-40°C ... 125°C	

Technical data	
Cu alloy, nickel-plated	
4 mm	
≥ 50	
-40°C ... 125°C	

Ordering data

Type	Order No.	Pcs./Pkt.
CK4,0-ED-1,50BU AG	1663271	25
CK4,0-ED-2,50BU AG	1663284	25
CK4,0-ED-4,00BU AG	1663297	25
CK4,0-ED-6,00BU AG	1663307	25
CK4,0-ED-10,00BU AG	1586183	25
CK4,0-ED-1,50ST AG	1663239	25
CK4,0-ED-2,50ST AG	1663242	25
CK4,0-ED-4,00ST AG	1663255	25
CK4,0-ED-6,00ST AG	1663268	25
CK4,0-ED-10,00ST AG	1586198	25

Ordering data

Type	Order No.	Pcs./Pkt.
CK1,6-BR-1,00BU OIC AG	1004381	7000
CK1,6-BR-2,50BU OIC AG	1004383	5000
CK1,6-BR-1,00ST OIC AG	1004380	7000
CK1,6-BR-2,50ST OIC AG	1004382	5000

Ordering data

Type	Order No.	Pcs./Pkt.
CK1,6-ER-1,00BU OIC AG	1004362	100
CK1,6-ER-2,50BU OIC AG	1004366	100
CK1,6-ER-1,00ST OIC AG	1004360	100
CK1,6-ER-2,50ST OIC AG	1004365	100

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Type J iron and constantan crimp contacts

In hot runner injection molding machines, temperatures are often measured using iron or constantan thermocouples. Iron or constantan elements are used for temperatures up to around 450 C.

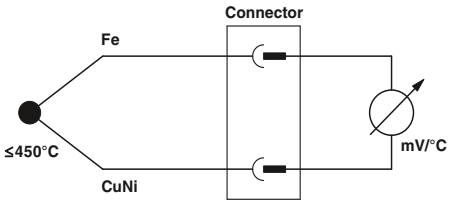
Temperature measurements using iron or constantan elements on the brass crimp contact of a connector cause thermoelectric voltages that falsify the measuring result. The use of iron or constantan crimp contacts is therefore recommended.

Crimp contacts made from iron or constantan can be used in the A/B/BB/HV series contact inserts and in the HC-Q05..., HC-M-06..., HC-M-08..., HC-M-20-... modules.

It is possible to used mixed contact configurations (standard, thermal contacts) for the crimp contact inserts.

Notes:

For crimping pliers, assembly and removal tools, see page 670



Turned crimp contacts, for CK 2,5 crimp contacts: HC-A..., HC-B..., HC-BB..., HC-Q05..., HC-M...

Technical data

Material data		
Contact material	Iron	Copper-nickel (constants)
Contact surface material	Hard gold-plated	-
Stripping length of the individual wire	7.5 mm (9.5 mm at HC-M-HV...)	7.5 mm (9.5 mm at HC-M-HV...)
Insertion/withdrawal cycles	≥ 500	≥ 500
Temperature data		
Ambient temperature (operation)	-40°C ... 125°C	-40°C ... 125°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Turned female contacts, 0.5 mm²			
Iron (Fe), Au surface	**CK2,5-ED-0,5BU FE**	**1585773**	25
Constants (CuNi), uncoated	**CK2,5-ED-0,5BU CUNI**	**1585757**	25
Turned male contacts, 0.5 mm²			
Iron (Fe), Au surface	**CK2,5-ED-0,5ST FE**	**1585760**	25
Constants (CuNi), uncoated	**CK2,5-ED-0,5ST CUNI**	**1585744**	25

FO crimp contacts

Fiber optic crimp contacts (980/1000 µm) are suitable for coupling fiber optics (polymer optical fibers). You can use the following crimp contact carriers:
– VC-D (for turned contacts)
– HC M 12..., HC-M-17..., HC-M-03/04...
– HC-D... (for turned contacts) and
– HC-DD...

The optic fibers are polished, stripped, and then crimped.

Crimp contacts for fiber optic cables, polymer optic fibers (POF)

Technical data

Material data	
Contact material	Nickel silver
Insertion/withdrawal cycles	≥ 500

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Fiber optic contact POF, turned, for VC-D contact carriers			
Female	**CK1,6-ED-BU-POF**	**1885004**	50
Male	**CK1,6-ED-ST-POF**	**1884995**	50
Tools, for fiber optics:			
Crimping pliers	**CRIMPFOX-1,6-ED-POF-N**	**1584839**	1
Polisher	**POLISHER-POF**	**1686122**	1
Polishing strip	**POLFOL 1 MIC-POF**	**1636800**	10
Polishing paper	**POLPAP 1500-POF**	**1636813**	10

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Shield connection

The HEAVYCON D bus contact is used to connect shielded, 2-core bus conductors.

The connection takes up 4 adjacent positions in the contact carrier. The overall shielding braid is also suitable as a T-coupler (two positions for the cable shield).

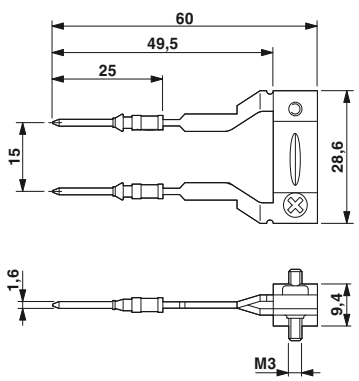
For crimp contact carriers of series HC-D40 / -D64 / HC-M-12

Technical data

Electrical data	
Rated voltage	60 V
Rated current	-
Transmission speed	-
Material specifications for distributor	
Contact material	Copper alloy
Contact surface material	hard-silver plated
Mechanical data	
External cable diameter	6 mm ... 9 mm
Temperature data	
Ambient temperature (operation)	-40°C ... 60°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Shield connection, for two shielded cables, incl. two loose female crimp contacts for PROFIBUS cables.	**HC-D 4-BU-2BUS**	1886139	1
Shield connection, for a shielded line on male contact carriers, incl. two loose crimp contacts for PROFIBUS line	**HC-D 4-ST-1BUS**	1886142	1
Shield connection, for shielded cables on female contact carriers, without loose crimp contacts			
For one bus line	**HC-D 4-1BU**	1886143	1
For two bus lines	**HC-D 4-2BU**	1886140	1
Shield connection, for shielded cables on male contact carriers, without loose crimp contacts			
For one bus line	**HC-D 4-1ST**	1886144	1
For two bus lines	**HC-D 4-2ST**	1886141	1
Crimping pliers			
- For turned contacts; 0.14 ... 4 mm²	**CRIMPFOX-1,6/2,5-ED-4,0**	1687419	1
Assembly tool			
- For contacts CK1,6-ED.../CK2,5-ED.../CK1,6-ER...	**UNIFOX MT-CK 1.6/2.5**	1089092	1



HC-D 4-...BUS

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CRIMPFOX crimping pliers for turned contacts

– The integrated positioning tool ensures that the contacts are perfectly aligned in the die
– Marked die stations for precise processing of the relevant cross sections

Notes:

Spare dies and spare retaining springs can be found in the product area on our website at phoenixcontact.net/products.

Conductor cross section of 0.14 ... 4 mm²

Conductor cross section 6 ... 10 mm²

Technical data

Application range		
Conductor	[mm²] / AWG	0.14 ... 4 / 26 ... 12
Compression		Square crimp

Technical data

Application range		
Conductor	[mm²] / AWG	6 ... 10 / 10 ... 8
Compression		Square crimp

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Crimping pliers, for turned male and female contacts, CK1,6-ED..., CK2,5-ED..., CK4,0-ED...			
- For turned contacts; 0.14 to 4 mm²	**CRIMPFOX-TC 4**	1212113	1
- For CK4,0-ED...6 - 10 mm² turned contacts	**CRIMPFOX-TC 10**	1212114	1

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Crimping pliers, for turned male and female contacts, CK1,6-ED..., CK2,5-ED..., CK4,0-ED...			
- For turned contacts; 0.14 to 4 mm²	**CRIMPFOX-TC 4**	1212113	1
- For CK4,0-ED...6 - 10 mm² turned contacts	**CRIMPFOX-TC 10**	1212114	1

Accessories

Contact removal tool, for crimp contacts			
- For turned and rolled CK-1,6-... contacts	**UNIFOX RT-CK 1.6**	1072069	1
- For turned CK-2,5-... contacts	**UNIFOX RT-CK 2.5**	1072067	1
- For turned CK-4,0-... contacts	**UNIFOX RT-CK 4.0**	1072064	1

Accessories

Contact removal tool, for crimp contacts			
- For turned and rolled CK-1,6-... contacts			
- For turned CK-2,5-... contacts			
- For turned CK-4,0-... contacts	**UNIFOX RT-CK 4.0**	1072064	1

CRIMPFOX universal pliers for accommodating various crimp inserts

– One of the key features of the CRIMPFOX−M crimping pliers is the way the crimp inserts can be quickly replaced without the need for tools

Notes:

For more crimping dies for ferrules, cable lugs, slip-on sleeves, turned contacts, coaxial, RJ45, and RJ11 plugs, visit phoenixcontact.net/products

Basic pliers

Technical data

Application range		
Compression		universal

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Basic pliers, for accommodating dies for various contact types, unlockable pressure lock, lateral entry			
	CRIMPFOX-M	1212072	1

Accessories

Die, for turned male and female contacts			
CK2,5-ED..., CK4,0-ED..., cross section 0.5 - 4 mm²	**CRIMPFOX-M TC 4/DIE**	1212075	1
CK4,0-ED..., cross section 6 - 10 mm²	**CRIMPFOX-M TC 10/DIE**	1212076	1

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CRIMPFOX crimping pliers for rolled contacts

new

Conductor cross section of 0.14 ... 2.5 mm²

Technical data

Application range		
Conductor	[mm²] / AWG	0.14 ... 2.5 / 26 ... 14
Compression		B crimp

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Crimping pliers for CK 1,6-ER... OIC rolled contacts, cross section: 0.14 ... 2.5 mm², unlockable pressure lock, front entry, incl. positioning tool	**CRIMPFOX-P CK 1.6 ER 2.5 OIC-L**	1069228	1

Accessories

Assembly tool - For contacts CK1,6-ED.../CK2,5-ED.../CK1,6-ER...	**UNIFOX MT-CK 1.6/2.5**	1089092	1

CRIMPFOX crimping pliers for coaxial connectors

– The CRIMPFOX−CX 4,2 tool is a pair of crimping pliers for processing coaxial contacts
– The CRIMPFOX−TC MP tool is a pair of crimping pliers for processing D-SUB contacts

Notes:

Spare dies and spare retaining springs can be found in the product area on our website at phoenixcontact.net/products.

For coaxial connectors

0.08 ... 2.5 mm² conductor cross section

Technical data

Application range		
Compression		HEX crimp

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Crimping pliers for coaxial connectors, 1.69 mm, 3.25 mm, 4.52 mm, three marked die stations, unlockable pressure lock, lateral entry, hex crimp	**CRIMPFOX-CX 4,52**	1212094	1

Accessories

Removal tool - For coax contacts HC-M-04...KOAX... - For D-SUB contacts VS-...CD...	**HC-M4-KOAX-EWZ**	1676747	1

Technical data

Application range		
Compression		Four-mandrel crimping

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Crimping pliers, for turned contacts, universal cross section setting, up to a maximum of 2.5 mm², digital display with 0.01 mm increments, unlockable pressure lock, lateral entry, including positioning tool - For turned contacts, four-mandrel crimping	**CRIMPFOX-TC MP**	1212510	1

Accessories

	EWR	1665075	1

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DUPLICON stackable power distribution system

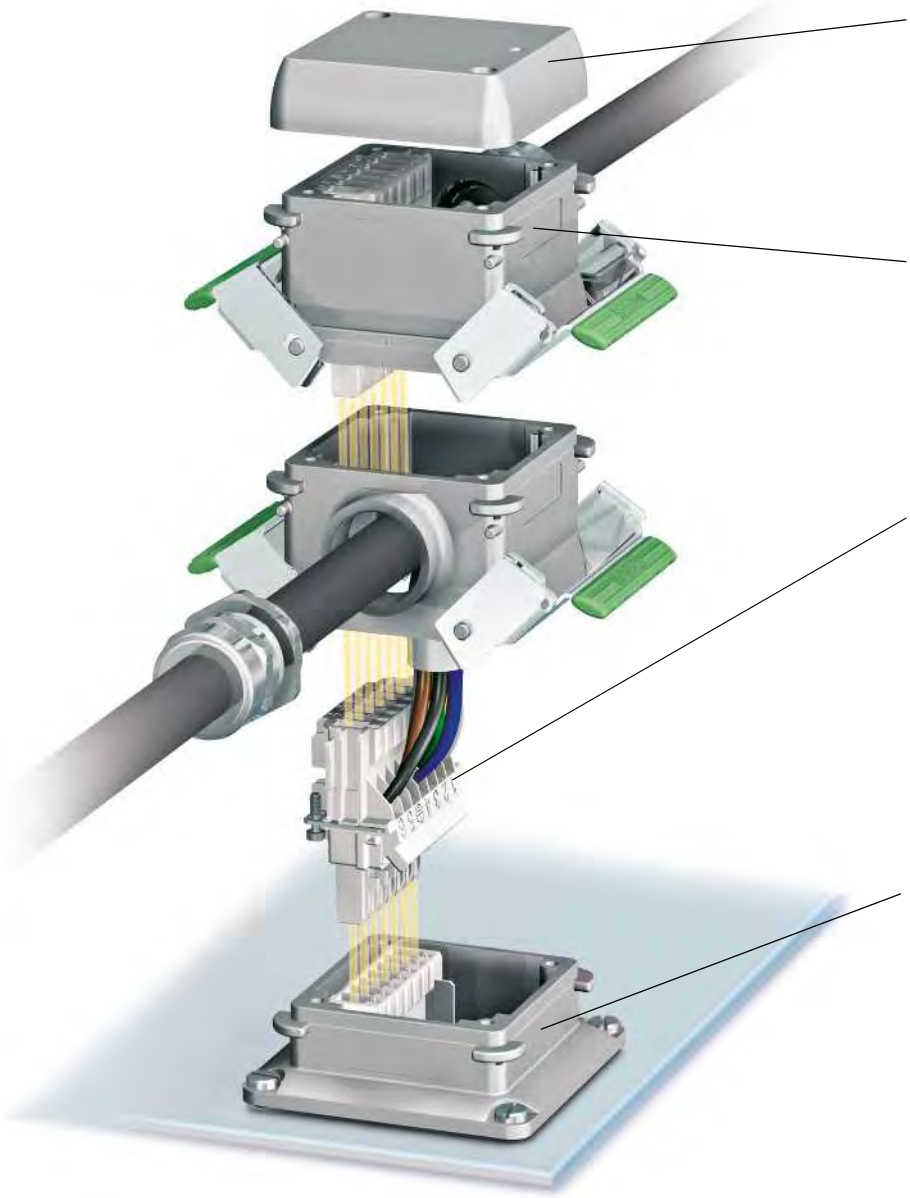
DUPLICON is a comprehensive power distribution system for 6 x 4 mm² and PE conductors (25 A / 400/690 V). The system has a minimum of components and is flexible in terms of handling. The robust metal housing with vibration-proof locking latches qualifies DUPLICON for the harshest operating conditions.

DUPLICON features IP67 degree of protection. The contact inserts have a leading PE contact. The screw connections can be assembled with standard tools. DUPLICON acts as an interface between the control cabinet and the device or actuators and drives.

With its additional connections, DUPLICON provides a broad range of possible applications:
Connection of 24 V, connection of two-wire bus lines for AS-i or PROFIBUS, and connection to the signal network.

Thanks to the plug-in design, all cables can be conveniently assembled in the workshop and quickly connected together in the system. All connections are touch-proof in accordance with DIN VDE 0105 and meet the demands of the BGV A2 accident prevention regulations.

Your web code: #0004



Cover (removable)
Testing possible when inserted, and easy retrofitting of additional connectors

Stackable housing
The square design enables three cable outlet directions

Contact insert
400/690 V / 25 A
6 x 4.0 mm² + PE
0.2 ... 4.0 mm²/AWG 24 ... 12
Leading PE
Touch-proof, IP20
Screw connection

Panel mounting base
Robust for up to 4 DUPLICON stackable connectors

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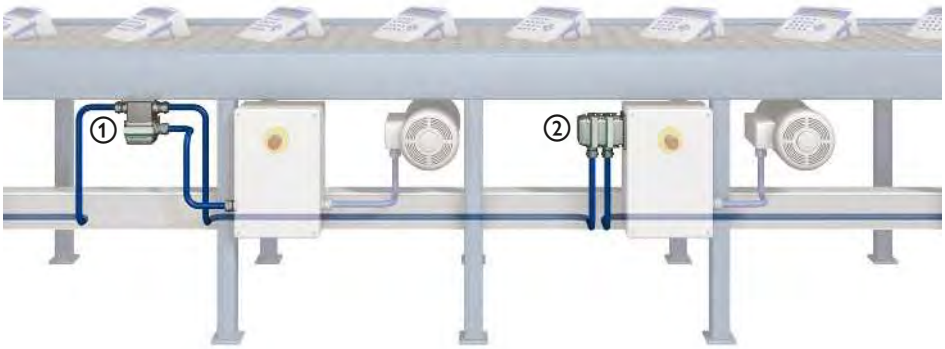
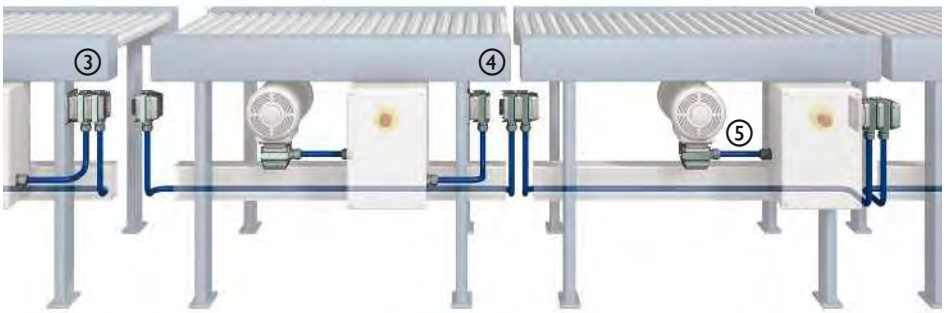
Stationary power distribution



There are two DUPLICON options for stationary power distribution:
① Using a T-box, which is installed permanently next to the power consumer and has a plug-in cable outlet.
② With a stackable device connection. Direct device connection is always the best option, but this requires design-based integration.

The main advantage is the ability to plug in the cables separately. This simplifies startup and also enables the device to be replaced without interruption during subsequent servicing

Modular power distribution



③ You can configure your power distribution in advance, thanks the stackable design. Plug and Play ensures fast and safe startup.
④ During servicing, the main power cable is disconnected from the load without causing any interruption. The system continues to run.

⑤ DUPLICON is also suitable for use as a motor connector.
The square design enables three different cable outlet directions.
The vibration-resistant locking mechanism can withstand the harshest operating conditions.

Cable routing options

With hybrid cables

In the simplest case, one cable is inserted per stackable housing. With the aid of an M25 adapter screw connection, cables with a diameter of up to 21 mm can be connected.

With separate cables

The cable glands with two drill holes allow thin power and 24 V cables to be routed separately into a stackable housing.

With opposing cables

Housings with two cable entries allow cables with larger diameters or combinations, e.g., with AS-i cables or PROFIBUS, to be routed in.

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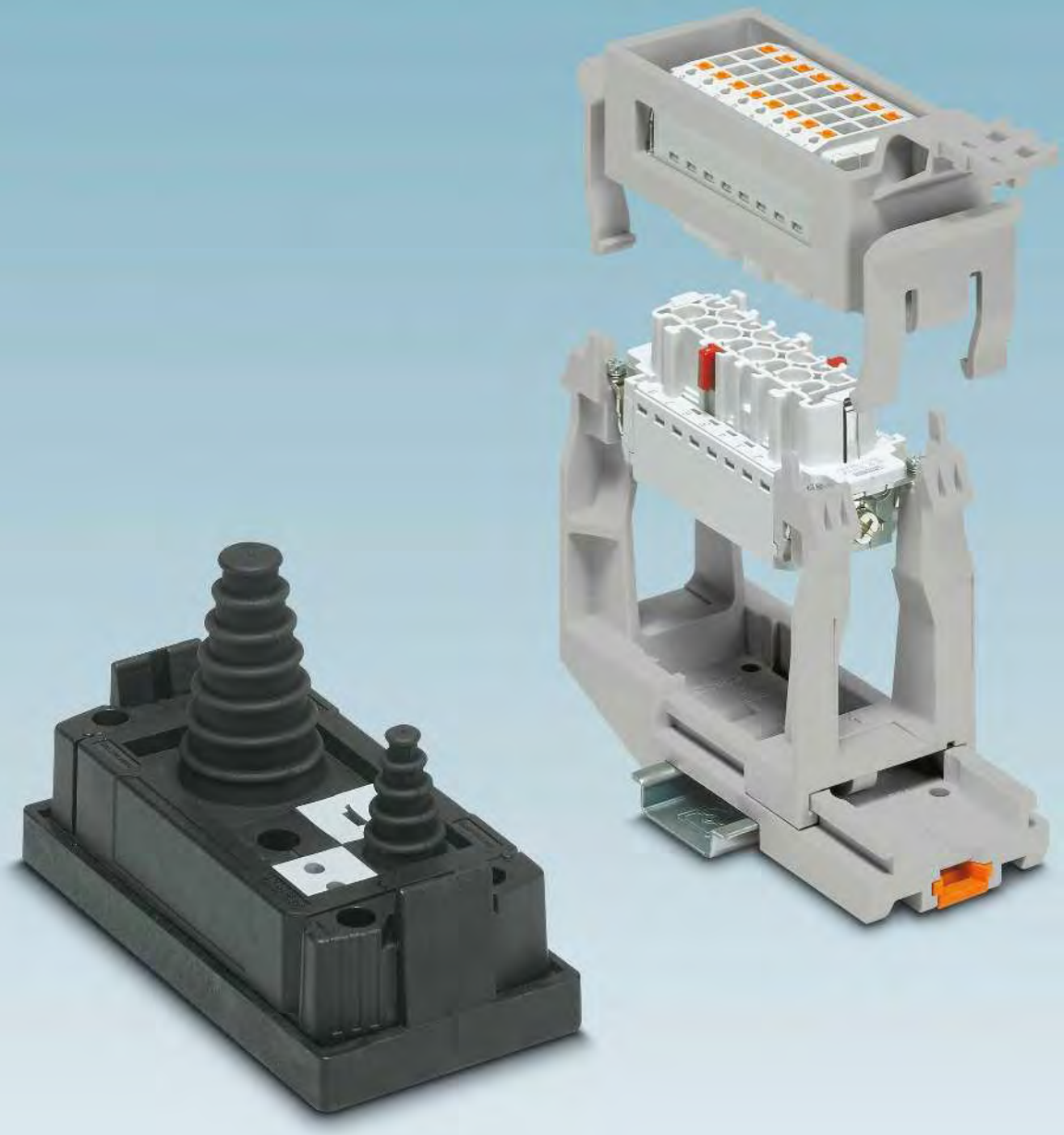

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Installation and mounting material

Phoenix Contact installation and mounting material gives you virtually unlimited possibilities when it comes to laying cables into and out of the control cabinet into the field:

The CES system enables water- and dust-proof cable entry into the control cabinet. Frames with modules that can be flexibly combined or space-saving membrane plates are available for this.

Wherever cables are subjected to high tensile forces, cable glands are an excellent alternative to panel feed-through systems.

With DIN rail mounting frames from Phoenix Contact, you can implement the plug-in connection on the DIN rail. This saves entire marshalling levels in the control cabinet. The frames accommodate pre-assembled contact inserts and can be combined with HEAVYCON EVO sleeve housings.

Space-saving service interfaces simplify maintenance, service, and diagnostics on control cabinets and devices.

Marking material for cables and connectors, matching tools, and protective hoses simplify assembly and provide a clearer overview in control cabinets and systems.

Your web code: #0005

Modular cable entry system	**676**
Multigates cable entry plates	**683**
DIN rail mounting frames	**684**
Cable glands	**686**
Service interfaces	**708**
Marking and labeling	**722**

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Sealing frames for cable sleeves

- Sealing frame with integrated metal reinforcement to protect against deformation
- Only two locking elements are required (screws or latch)
- Suitable for standard panel cutouts
- Snap-on frame for simplifying on-site installation
- Sealing frame with convenient locking latch for tool-free actuation
- Marking for cable sleeve location on the underside of the frame

Notes:

For assembly instructions, see phoenixcontact.net/products

If the panel cutout width is 51 mm, HC industrial connectors and CIF DIN rail mounting frames can also be fed through the panel using the cable entry system (CES).

Sealing frame with locking latch

Technical data

General data		
Material of frames		PA
Material of cable sleeves		-
Degree of protection		IP54
Flammability rating in accordance with UL 94		V0
Temperature range	[°C]	-40 ... 120

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Sealing frame, including flat gasket, for accommodating cable sleeves, **for standard cutout:**			
B10 (cutout: 35 mm x 65 mm), for up to 6 cable sleeves	**CES-B10-HFFS-PLBK**	**0801663**	1
B16 (cutout: 35 mm x 86 mm), for up to 8 cable sleeves	**CES-B16-HFFS-PLBK**	**0801662**	1
B24 (cutout: 35 mm x 113 mm), for up to 10 cable sleeves	**CES-B24-HFFS-PLBK**	**0801661**	1
Pre-assembled sealing frames with **cone-shaped cable sleeves,** for cables with a diameter of 2 mm ... 11 mm, **for standard cutouts:**			
B16 (cutout: 36 mm x 86 mm)			
B24 (cutout: 36 mm x 113 mm)			
Snap-on frame, including integrated seal for mounting panel, for accommodating sealing frames, **for standard cutouts:**			
B10 (cutout: 35 mm x 65 mm)			
B16 (cutout: 35 mm x 86 mm)			
B24 (cutout: 35 mm x 113 mm)			

Accessories

Replacement flat gasket, for sealing frame with **standard cutout:**			
B10 (cutout: 35 mm x 65 mm)	**CES-B10-WRG-BK**	**0801725**	10
B16 (cutout: 35 mm x 86 mm)	**CES-B16-WRG-BK**	**0801726**	10
B24 (cutout: 35 mm x 113 mm)	**CES-B24-WRG-BK**	**0801727**	10
Locking plate, metal, locks an unused snap-up frame, transport protection, **for standard cutouts:**			
B10			
B16			
B24			
Electrician's scissors, high cutting performance, thanks to micro-serrated cutting area, suitable for copper, aluminum (flexible), Kevlar® fibers, and plastic, two-component non-slip soft-grip handles, ergonomic design, adjustable screw joint			
M4 replacement locking screw, with 3 mm Allen screw head, for sealing frame with screw locking			
Bit screwdriver, with 1/4" quick-action chuck, suitable for bits in accordance with DIN 3126-C 6.3 and E 6.3/ISO 1173, magnetic			
Bit screwdriver			
Screw bit, hexagonal, E6.3-1/4" drive, hardened, suitable for holder in accordance with DIN 3126-F 6.3/ISO 1173, size: hex 3 x 50 mm			
Screw bit, size: hex 3 x 50 mm			

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Sealing frame with screw locking

Sealing frame with cone-shaped cable sleeves and screw locking

Snap-on frame

Technical data

PA	
-	
IP54 / IP65	
V0	
-40 ... 120	

Ordering data

Type	Order No.	Pcs./Pkt.
CES-B10-SFFS-PLBK	0801660	1
CES-B16-SFFS-PLBK	0801659	1
CES-B24-SFFS-PLBK	0801658	1

Accessories

CES-B10-WRG-BK	0801725	10
CES-B16-WRG-BK	0801726	10
CES-B24-WRG-BK	0801727	10
CES-SFFS-H	0801728	10
SF-M BH	1212070	5
SF-BIT-HEX 3-50	1212647	5

Technical data

PA	
NBR	
IP54 / IP65	
-	
-40 ... 120	

Ordering data

Type	Order No.	Pcs./Pkt.
CES-B16-8XSRC-BK	1411073	1
CES-B24-10XSRC-BK	1411074	1

Accessories

CUTFOX-ES	1212621	1
CES-SFFS-H	0801728	10
SF-M BH	1212070	5
SF-BIT-HEX 3-50	1212647	5

Technical data

PA	
-	
IP54	
V0	
-20 ... 80	

Ordering data

Type	Order No.	Pcs./Pkt.
CES-B10-SF-PLBK	0801655	1
CES-B16-SF-PLBK	0801651	1
CES-B24-SF-PLBK	0801647	1

Accessories

CES-B10-SFC-M	0801645	10
CES-B16-SFC-M	0801642	10
CES-B24-SFC-M	0801641	10

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Cable sleeves, rubber

Advantages:

– Resistant to oil, fuels, and grease
– Halogen-free

Notes:

The CES cable entry system was developed in accordance with DIN EN 50262 (Cable glands for electrical installations).

Assemble the cable sleeves in accordance with the enclosed assembly instructions.

Cable sleeves, small

Cable sleeves, large

		Technical data	Technical data
General data			
Material		NBR	NBR
Degree of protection		IP54	IP54
Temperature range	[°C]	-40 ... 125	-40 ... 125

		Ordering data			Ordering data		
Description	Color	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cone-shaped cable sleeves, IP65 in sealing frames with screw locking and cable binders, IP54 in sealing frames with locking latch. For cables with a diameter of:							
2 mm ... 11 mm	black	**CES-SRC-BK**	0801718	10			
7 mm ... 24 mm	black				**CES-LRC-BK**	0801719	10
Cable sleeves, IP54, without bore hole, can be used in sealing frames with locking latch and screw locking							
	black	**CES-SRG-BK**	0801670	10	**CES-LRG-BK**	0801671	10
Cable sleeves, small, slotted, can be used in sealing frames with locking latch and screw locking, for cable diameter of:							
1 mm ... 2 mm	black	**CES-SRG-BK-2**	0801635	10			
2 mm ... 3 mm	black	**CES-SRG-BK-3**	0801633	10			
3 mm ... 4 mm	black	**CES-SRG-BK-4**	0801632	10			
4 mm ... 5 mm	black	**CES-SRG-BK-5**	0801630	10			
5 mm ... 6 mm	black	**CES-SRG-BK-6**	0801628	10			
6 mm ... 7 mm	black	**CES-SRG-BK-7**	0801627	10			
7 mm ... 8 mm	black	**CES-SRG-BK-8**	0801625	10			
8 mm ... 9 mm	black	**CES-SRG-BK-9**	0801622	10			
9 mm ... 10 mm	black	**CES-SRG-BK-10**	0801620	10			
10 mm ... 11 mm	black	**CES-SRG-BK-11**	0801618	10			
11 mm ... 12 mm	black	**CES-SRG-BK-12**	0801617	10			
12 mm ... 13 mm	black	**CES-SRG-BK-13**	0801616	10			
13 mm ... 14 mm	black	**CES-SRG-BK-14**	0801615	10			
14 mm ... 15 mm	black	**CES-SRG-BK-15**	1410563	10			
15 mm ... 16 mm	black	**CES-SRG-BK-16**	1410576	10			
16 mm ... 17 mm	black	**CES-SRG-BK-17**	1410589	10			
Cable sleeves, large, slotted, can be used in sealing frames with locking latch and screw locking, for cable diameter of:							
14 mm ... 15 mm	black				**CES-LRG-BK-15**	0801619	10
15 mm ... 16 mm	black				**CES-LRG-BK-16**	0801621	10
16 mm ... 17 mm	black				**CES-LRG-BK-17**	0801624	10
17 mm ... 18 mm	black				**CES-LRG-BK-18**	0801626	10
18 mm ... 19 mm	black				**CES-LRG-BK-19**	0801629	10
19 mm ... 20 mm	black				**CES-LRG-BK-20**	0801631	10
20 mm ... 21 mm	black				**CES-LRG-BK-21**	0801634	10
21 mm ... 22 mm	black				**CES-LRG-BK-22**	0801637	10
22 mm ... 23 mm	black				**CES-LRG-BK-23**	0801638	10
23 mm ... 24 mm	black				**CES-LRG-BK-24**	0801639	10
24 mm ... 25 mm	black				**CES-LRG-BK-25**	0801640	10
25 mm ... 26 mm	black				**CES-LRG-BK-26**	0801643	10
26 mm ... 27 mm	black				**CES-LRG-BK-27**	0801644	10
27 mm ... 28 mm	black				**CES-LRG-BK-28**	0801646	10
28 mm ... 29 mm	black				**CES-LRG-BK-29**	0801648	10
29 mm ... 30 mm	black				**CES-LRG-BK-30**	0801650	10
30 mm ... 31 mm	black				**CES-LRG-BK-31**	0801653	10
31 mm ... 32 mm	black				**CES-LRG-BK-32**	0801654	10
32 mm ... 33 mm	black				**CES-LRG-BK-33**	0801656	10

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Cable sleeves, rubber, special formats

Advantages:

– Resistant to oil, fuels, and grease
– Halogen-free

Notes:
The CES cable entry system was developed in accordance with DIN EN 50262 (Cable glands for electrical installations).
Assemble the cable sleeves in accordance with the enclosed assembly instructions.

Cable sleeves, small, with several bore holes

Cable sleeves, small, for AS interface cables

		Technical data	Technical data
General data			
Material		NBR	NBR
Degree of protection		IP54	IP54
Temperature range	[°C]	-40 ... 125	-40 ... 125

		Ordering data			Ordering data		
Description	Color	**Type**	**Order No.**	Pcs./Pkt.	**Type**	**Order No.**	Pcs./Pkt.
Cable sleeves, with 2 bore holes, small, slotted, can be used in sealing frames with locking latch and screw locking, for cable diameter of:							
2x 2 mm ... 3 mm	black	**CES-SRG-BK-2X3**	1410398	10			
2x 3 mm ... 4 mm	black	**CES-SRG-BK-2X4**	1410408	10			
2x 4 mm ... 5 mm	black	**CES-SRG-BK-2X5**	0801657	10			
2x 5 mm ... 6 mm	black	**CES-SRG-BK-2X6**	0801664	10			
2x 6 mm ... 7 mm	black	**CES-SRG-BK-2X7**	1410084	10			
2x 7 mm ... 8 mm	black	**CES-SRG-BK-2X8**	1410097	10			
2x 8 mm ... 9 mm	black	**CES-SRG-BK-2X9**	1410411	10			
Cable sleeves, with 4 bore holes, small, slotted, can be used in sealing frames with locking latch and screw locking, for cable diameter of:							
4 x 2 mm ... 3 mm	black	**CES-SRG-BK-4X3**	0801665	10			
4 x 3 mm ... 4 mm	black	**CES-SRG-BK-4X4**	0801666	10			
4 x 4 mm ... 5 mm	black	**CES-SRG-BK-4X5**	1410107	10			
4 x 5 mm ... 6 mm	black	**CES-SRG-BK-4X6**	1410152	10			
Cable sleeve, IP54, slotted, for **one AS-I**nterface cable, **cable arrangement:**							
L	black				**CES-SRG-BK-1ASI-L**	1410042	10
R	black				**CES-SRG-BK-1ASI-R**	0801667	10
Cable sleeve, IP54, slotted, for **two AS-I**nterface cables, **cable arrangement:**							
LL	black				**CES-SRG-BK-2ASI-LL**	1410055	10
RR	black				**CES-SRG-BK-2ASI-RR**	0801668	10
LR	black				**CES-SRG-BK-2ASI-LR**	0801669	10

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Cable sleeves, thermoplastic

Advantages:

– Low flammability in accordance with UL 94 V0 of thermoplastic sleeves
– Good resistance to acids and lyes

Notes:

The CES cable entry system was developed in accordance with DIN EN 50262 (Cable glands for electrical installations).

Assemble the cable sleeves in accordance with the enclosed assembly instructions.

Cable sleeves, small

Cable sleeves, large

Technical data

General data		
Material		SEBS
Degree of protection		IP54
Flammability rating in accordance with UL 94		V0
Temperature range	[°C]	-40 ... 80

Technical data

SEBS		
IP54		
V0		
-40 ... 80		

Ordering data

Description	Color	Type	Order No.	Pcs./Pkt.
Cable sleeves, small, slotted, can be used in sealing frames with locking latch and screw locking, for cable diameter of:				
1 mm ... 2 mm	gray	**CES-STPG-GY-2**	0801672	10
2 mm ... 3 mm	gray	**CES-STPG-GY-3**	0801673	10
3 mm ... 4 mm	gray	**CES-STPG-GY-4**	0801674	10
4 mm ... 5 mm	gray	**CES-STPG-GY-5**	0801675	10
5 mm ... 6 mm	gray	**CES-STPG-GY-6**	0801676	10
6 mm ... 7 mm	gray	**CES-STPG-GY-7**	0801677	10
7 mm ... 8 mm	gray	**CES-STPG-GY-8**	0801679	10
8 mm ... 9 mm	gray	**CES-STPG-GY-9**	0801680	10
9 mm ... 10 mm	gray	**CES-STPG-GY-10**	0801682	10
10 mm ... 11 mm	gray	**CES-STPG-GY-11**	0801683	10
11 mm ... 12 mm	gray	**CES-STPG-GY-12**	0801684	10
12 mm ... 13 mm	gray	**CES-STPG-GY-13**	0801685	10
13 mm ... 14 mm	gray	**CES-STPG-GY-14**	0801686	10
14 mm ... 15 mm	gray	**CES-STPG-GY-15**	1410521	10
15 mm ... 16 mm	gray	**CES-STPG-GY-16**	1410534	10
16 mm ... 17 mm	gray	**CES-STPG-GY-17**	1410547	10
Cable sleeves, large, slotted, can be used in sealing frames with locking latch and screw locking, for cable diameter of:				
14 mm ... 15 mm	gray	**CES-LTPG-GY-15**	0801687	10
15 mm ... 16 mm	gray	**CES-LTPG-GY-16**	0801688	10
16 mm ... 17 mm	gray	**CES-LTPG-GY-17**	0801689	10
17 mm ... 18 mm	gray	**CES-LTPG-GY-18**	0801690	10
18 mm ... 19 mm	gray	**CES-LTPG-GY-19**	0801691	10
19 mm ... 20 mm	gray	**CES-LTPG-GY-20**	0801692	10
20 mm ... 21 mm	gray	**CES-LTPG-GY-21**	0801693	10
21 mm ... 22 mm	gray	**CES-LTPG-GY-22**	0801695	10
22 mm ... 23 mm	gray	**CES-LTPG-GY-23**	0801696	10
23 mm ... 24 mm	gray	**CES-LTPG-GY-24**	0801697	10
24 mm ... 25 mm	gray	**CES-LTPG-GY-25**	0801698	10
25 mm ... 26 mm	gray	**CES-LTPG-GY-26**	0801699	10
26 mm ... 27 mm	gray	**CES-LTPG-GY-27**	0801700	10
27 mm ... 28 mm	gray	**CES-LTPG-GY-28**	0801701	10
28 mm ... 29 mm	gray	**CES-LTPG-GY-29**	0801702	10
29 mm ... 30 mm	gray	**CES-LTPG-GY-30**	0801703	10
30 mm ... 31 mm	gray	**CES-LTPG-GY-31**	0801705	10
31 mm ... 32 mm	gray	**CES-LTPG-GY-32**	0801706	10
32 mm ... 33 mm	gray	**CES-LTPG-GY-33**	0801707	10
Cable sleeves, IP54, without bore hole, can be used in sealing frames with locking latch and screw locking				
	gray	**CES-STPG-GY**	0801715	10
		CES-LTPG-GY	0801716	10

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Cable sleeves, thermoplastic, special formats

Advantages:

– Low flammability in accordance with UL 94 V0 of thermoplastic sleeves
– Good resistance to acids and lyes

Notes:

The CES cable entry system was developed in accordance with DIN EN 50262 (Cable glands for electrical installations).

Assemble the cable sleeves in accordance with the enclosed assembly instructions.

Cable sleeves, small, with several bore holes

Cable sleeves, small, for AS interface cables

		Technical data	Technical data
General data			
Material		SEBS	SEBS
Degree of protection		IP54	IP54
Flammability rating in accordance with UL 94		V0	V0
Temperature range	[°C]	-40 ... 80	-40 ... 80

		Ordering data			Ordering data		
Description	Color	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Cable sleeves, with 2 bore holes, small, slotted, can be used in sealing frames with locking latch and screw locking, for cable diameter of:							
2x 2 mm ... 3 mm	gray	**CES-STPG-GY-2X3**	1410424	10			
2x 3 mm ... 4 mm	gray	**CES-STPG-GY-2X4**	1410438	10			
2x 4 mm ... 5 mm	gray	**CES-STPG-GY-2X5**	0801708	10			
2x 5 mm ... 6 mm	gray	**CES-STPG-GY-2X6**	0801709	10			
2x 6 mm ... 7 mm	gray	**CES-STPG-GY-2X7**	1410110	10			
2x 7 mm ... 8 mm	gray	**CES-STPG-GY-2X8**	1410123	10			
2x 8 mm ... 9 mm	gray	**CES-STPG-GY-2X9**	1410440	10			
Cable sleeves, with 4 bore holes, small, slotted, can be used in sealing frames with locking latch and screw locking, for cable diameter of:							
4 x 2 mm ... 3 mm	gray	**CES-STPG-GY-4X3**	0801710	10			
4 x 3 mm ... 4 mm	gray	**CES-STPG-GY-4X4**	0801711	10			
4 x 4 mm ... 5 mm	gray	**CES-STPG-GY-4X5**	1410136	10			
4 x 5 mm ... 6 mm	gray	**CES-STPG-GY-4X6**	1410149	10			
Cable sleeve, IP54, slotted, for **one AS-I**nterface cable, **cable arrangement:**							
L	gray				**CES-STPG-GY-1ASI-L**	1410068	10
R	gray				**CES-STPG-GY-1ASI-R**	0801712	10
Cable sleeve, IP54, slotted, for **two AS-I**nterface cables, **cable arrangement:**							
LL	gray				**CES-STPG-GY-2ASI-LL**	1410071	10
RR	gray				**CES-STPG-GY-2ASI-RR**	0801713	10
LR	gray				**CES-STPG-GY-2ASI-LR**	0801714	10

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Filler plugs, EMC cable catch rails

Notes:
For assembly instructions, see phoenixcontact.net/products

Filler plugs
with a diameter of 2 mm to 17 mm

EMC cable catch rail
for mounting on CES sealing frames

		Technical data	Technical data
General data			
Material		PA	Stainless steel
Degree of protection		IP54	-
Temperature range	[°C]	-20 ... 80	- ... -

	Ordering data						Ordering data					
Description	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.	Order No.	Pcs./ Pkt.
Filler plugs, for sealing unused cable sleeves with a diameter of:												
2 mm / 3 mm / 4 mm	1410220	25	3063921	25	3063934	25						
5 mm / 6 mm / 7 mm	3063947	25	3063950	25	3063963	25						
8 mm / 9 mm / 10 mm	3063976	25	3063989	25	3063992	25						
11 mm / 12 mm / 13 mm	3064001	25	3062016	25	3062029	25						
14 mm / 15 mm / 16 mm	3062032	25	3062045	25	3062058	25						
17 mm	3062061	25										
EMC cable catch rail, for mounting on CES sealing frames												
CES-B16-... Long side							3063507	5				
CES-B24-... Long side							3063510	5				
CES-B16-..., CES-B24-... Short side							3063523	5				

Module plates

For accommodating CES B24 sealing frames and CES Multigates cable feed-throughs.

Pre-assembled for time-saving and easy assembly:
– Partition plates
– Control cabinet bottom

Notes:
For assembly instructions, see phoenixcontact.net/products

Module plate

	Technical data
General data	
Material	Stainless steel 1.4301/AISI 304
Sealing material	NBR
Degree of protection	IP54
Temperature range [°C]	-40 ... 100

	Ordering data		
Description	Type	Order No.	Pcs./Pkt.
B24 module plates, with seal, for the CES B24 sealing frames and the B24 Multigates cable feed-throughs			
3 openings	MD-INB24-3-SZP-S	1415242	1
4 openings	MD-INB24-4-SZP-S	1415243	1

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Multigates cable feed-throughs

- High degree of protection thanks to double membrane sealing
- Quick installation of unassembled cables
- Sealing frame stable in form, thanks to metal reinforcement
- Flame-retardant
- Size: 222 mm x 92 mm

Notes:
Other versions available on request.
For assembly instructions, see phoenixcontact.net/products

CES Multigates cable feed-through, light gray

CES Multigates cable feed-through, black, oil-resistant in accordance with UL 157

Technical data

General data			
Material		TPE-SEBS	TPE-SEBS
Degree of protection		IP66 / IP67	IP66 / IP67
Flammability rating in accordance with UL 94		V0	V0
Temperature range	[°C]	-40 ... 100	-40 ... 100

Ordering data

Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
CES Multigates, cable feed-throughs for cable diameter:						
4 x 8 - 16 mm, 2 x 24 - 54 mm, 1 x 30 - 60 mm	**MC-3/7-MULTI-67-PV-LG**	1415234	1	**MC-3/7-MULTI-67-PVO-BK**	1415235	1
4 x 5 - 7 mm, 4 x 8 - 12 mm, 12 x 10 - 14 mm, 4 x 14 - 20 mm, 1 x 20 - 26 mm	**MC-25-MULTI-65-PV-LG**	1422348	1	**MC-25-MULTI-65-PVO-BK**	1422349	1
4 x 5 - 7 mm, 4 x 8 - 12 mm, 13 x 10 - 14 mm, 4 x 14 - 20 mm, 2 x 20 - 26 mm	**MC-25/27-MULTI-67-PV-LG**	1415236	1	**MC-25/27-MULTI-67-PVO-BK**	1415237	1
2 x 6 - 10 mm, 14 x 7 - 12 mm, 16 x 10 - 14 mm, 2 x 12 - 18 mm, 1 x 17 - 32 mm	**MC-35-MULTI-65-PV-LG**	1422350	1	**MC-35-MULTI-65-PVO-BK**	1422351	1
4 x 6 - 10 mm, 14 x 8-12 mm, 16 x 10 - 14 mm, 2 x 12 - 18 mm, 1 x 17 - 32 mm	**MC-35/37-MULTI-67-PV-LG**	1415240	1	**MC-35/37-MULTI-67-PVO-BK**	1415241	1

B24 Multigates cable feed-throughs

- High degree of protection thanks to double membrane sealing
- Quick installation of unassembled cables
- Sealing frame stable in form, thanks to metal reinforcement
- Flame-retardant
- Size: B24

Notes:
Other versions available on request.
For assembly instructions, see phoenixcontact.net/products

CES B24 Multigates cable feed-through, black

Technical data

General data		
Material		TPE-SEBS
Degree of protection		IP65
Flammability rating in accordance with UL 94		V0
Temperature range	[°C]	-40 ... 90

Ordering data

Description	Type	Order No.	Pcs./Pkt.
CES B24 Multigates, cable feed-throughs for cable diameter:			
3 x 3 - 6 mm, 9 x 3 - 7 mm, 8 x 6 - 9 mm, 4 x 6 - 12 mm, 1 x 10 - 20 mm	**MH-25-MULTI-65-PV-BK**	1424582	1
26 x 3 - 6 mm, 1 x 10 - 20 mm	**MH-27-MULTI-65-PV-BK**	1424583	1
6 x 2 - 6 mm, 2 x 2 - 18 mm, 2 x 2 - 30 mm	**MH-10CL-MULTI-55-PV-BK**	1424584	1

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Plastic DIN rail mounting frames, base frames and top frames

– For pre-assembled contact inserts
– Variable cable laying, thanks to open base frame

Notes:
For assembly instructions, see phoenixcontact.net/products

Base frame

Top frame

		Technical data	Technical data
General data			
Material		PC	PC
Ambient temperature (operation)	[°C]	-40 ... 125	-40 ... 125

		Ordering data			Ordering data		
Description	Size	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
DIN rail mounting frame, base frame, sizes can be variably adjusted	B6 - B24	**HC-CIF-B06-24-BFAFL-PL**	1424338	1			
DIN rail mounting frame, top frame	B6				**HC-CIF-B06-HFWL-PL**	1424334	1
	B10				**HC-CIF-B10-HFWL-PL**	1424335	1
	B16				**HC-CIF-B16-HFWL-PL**	1424336	1
	B24				**HC-CIF-B24-HFWL-PL**	1424337	1

Adapters, strain reliefs, and interlocks for plastic DIN rail mounting frames

Notes:
For assembly instructions, see phoenixcontact.net/products

Adapter for D series contact inserts

Strain relief and interlock, for B series EVO plastic housing

		Technical data	Technical data
General data			
Material		Steel, galvanized	PA
Ambient temperature (operation)	[°C]	-	-

		Ordering data			Ordering data		
Description	Size	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Adapter insert, for D series contact inserts	D15	**HC-CIF-D15-AIWS-SM-NI**	1424340	1			
	D25	**HC-CIF-D25-AIWS-SM-NI**	1424341	1			
Strain relief, for B series EVO plastic housing	B6 - B24				**HC-B-SG-PL-BK**	1424343	1
Interlock, for B series EVO plastic housing	B6 - B24				**HC-CIF-B06-24-AEWL-PL-BK**	1424342	1

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Metal DIN rail mounting frames, base frames

– For pre-assembled contact inserts
– Grounding for DIN rail

Notes:
The aluminum design provides a capacitive PE.
For assembly instructions, see phoenixcontact.net/products

Base frame, without double locking latch, for screw locking

Base frame, with double locking latch

Technical data		
General data		
Material	Cast aluminum, uncoated	Cast aluminum, uncoated
Ambient temperature (operation) [°C]	-40 ... 125	-40 ... 125

Ordering data

Description	Size	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
DIN rail mounting frame, base frame							
	For 2xB6	**HC-CIF-2B6-BFFD-FH-AL**	1404214	1			
	For B10	**HC-CIF-B10-BFFD-FH-AL**	1404219	1	**HC-CIF-B10-BFWD-FH-AL**	1404220	1
	For B16	**HC-CIF-B16-BFFD-FH-AL**	1404216	1	**HC-CIF-B16-BFWD-FH-AL**	1404217	1
	For B24	**HC-CIF-B24-BFFD-FH-AL**	1404211	1	**HC-CIF-B24-BFWD-FH-AL**	1404212	1
Bit screwdriver, with 1/4" quick-action chuck, suitable for bits in accordance with DIN 3126-C 6.3 and E 6.3/ISO 1173, magnetic							
Bit screwdriver		**SF-M BH**	1212070	5	**SF-M BH**	1212070	5
Screw bit, size: hex 3 x 50 mm		**SF-BIT-HEX 3-50**	1212647	5	**SF-BIT-HEX 3-50**	1212647	5

Plastic DIN rail mounting frames, top frames

– Housing made from robust die-cast aluminum

Notes:
The aluminum design provides a capacitive PE.
For assembly instructions, see phoenixcontact.net/products

Top frame, for double locking latch

Technical data		
General data		
Material	Cast aluminum, uncoated	
Ambient temperature (operation) [°C]	-40 ... 125	

Ordering data

Description	Size	Type	Order No.	Pcs./Pkt.
DIN rail mounting frame, top frame, for double locking latch and optionally with locking screws, Allen screw, wrench size 3				
	For 2xB6	**HC-CIF-2B6-HFFD-WH-AL**	1404215	1
	For B10	**HC-CIF-B10-HFFD-WH-AL**	1404221	1
	For B16	**HC-CIF-B16-HFFD-WH-AL**	1404218	1
	For B24	**HC-CIF-B24-HFFD-WH-AL**	1404213	1
Bit screwdriver, with 1/4" quick-action chuck, suitable for bits in accordance with DIN 3126-C 6.3 and E 6.3/ISO 1173, magnetic				
Bit screwdriver		**SF-M BH**	1212070	5
Screw bit, size: hex 3 x 50 mm		**SF-BIT-HEX 3-50**	1212647	5

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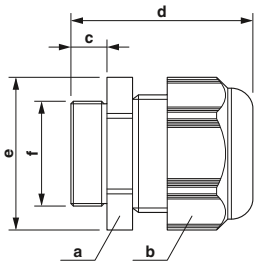
Cable glands

Plastic cable glands, metric, EN 60423

- Material: polyamide 6
- UV-resistant: f1 in accordance with UL 746C
- Cable seal: CR
- Ambient temperature: -20°C ... +100°C
- Degree of protection: IP66/IP68
- Strain relief: integrated in accordance with EN 62444

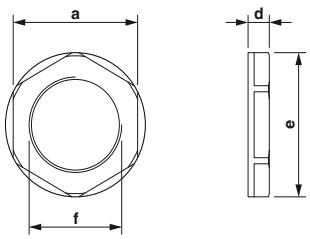


Plastic cable gland

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data					
								Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	[mm]	a	b	c	d	e	f	light gray		silver-gray		black	
M12 x 1.5	3.00 - 6.50	15.00	15.00	8.00	32.00	17.10	M12	1417652	10	1411123	10	1411131	10
M16 x 1.5	4.00 - 8.00	19.00	19.00	8.00	43.00	25.00	M16	1424470	10	1424475	10	1424480	10
M16 x 1.5	5.00 - 10.00	22.00	22.00	10.00	39.00	25.00	M16	1417653	10	1411124	10	1411132	10
M20 x 1.5	6.00 - 12.00	24.00	24.00	10.00	42.00	27.80	M20	1414568	5	1411125	5	1411133	5
M20 x 1.5	10.00 - 14.00	27.00	27.00	10.00	43.00	27.80	M20	1424471	5	1424476	5	1424481	5
M25 x 1.5	11.00 - 17.00	29.00	29.00	8.00	43.00	33.50	M25	1417654	5	1411126	5	1411134	5
M25 x 1.5	13.00 - 18.00	33.00	33.00	10.00	45.50	33.50	M25	1424472	5	1424477	5	1424482	5
M32 x 1.5	15.00 - 21.00	36.00	36.00	10.00	50.00	40.90	M32	1417655	5	1411127	5	1411136	5
M32 x 1.5	18.00 - 25.00	42.00	42.00	15.00	56.00	40.90	M32	1424473	5	1424478	5	1424483	5
M40 x 1.5	19.00 - 28.00	46.00	46.00	10.00	55.00	52.00	M40	1417656	5	1411128	5	1411137	5
M40 x 1.5	22.00 - 32.00	53.00	53.00	18.00	55.00	52.00	M40	1424474	5	1424479	5	1424484	5
M50 x 1.5	30.00 - 36.00	60.00	60.00	18.00	71.00	67.70	M50	1417657	1	1411129	1	1411138	1
M63 x 1.5	34.00 - 44.00	65.00	65.00	18.00	75.00	72.20	M63	1417658	1	1411130	1	1411139	1

Plastic counter nuts, metric, EN 60423

- Material: polyamide 6
- Ambient temperature: -20°C ... +100°C



Plastic counter nut

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data					
								Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
	[mm]	a	b	c	d	e	f	light gray		silver-gray		black	
M12 x 1.5	-	18.00	-	-	5.00	19.50	M12	1417659	10	1411205	10	1411213	10
M16 x 1.5	-	22.00	-	-	5.00	24.20	M16	1417660	10	1411206	10	1411214	10
M20 x 1.5	-	26.00	-	-	6.00	28.60	M20	1414570	5	1411207	5	1411215	5
M25 x 1.5	-	32.00	-	-	6.00	35.00	M25	1417661	5	1411208	5	1411216	5
M32 x 1.5	-	41.00	-	-	7.00	46.10	M32	1417662	5	1411209	5	1411217	5
M40 x 1.5	-	50.00	-	-	7.00	55.30	M40	1417664	5	1411210	5	1411218	5
M50 x 1.5	-	60.00	-	-	8.00	66.10	M50	1417665	5	1411211	5	1411219	5
M63 x 1.5	-	75.00	-	-	8.00	82.50	M63	1417666	5	1411212	5	1411220	5

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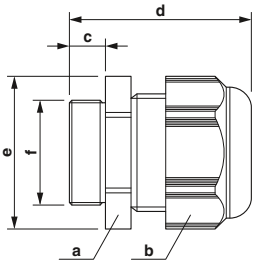
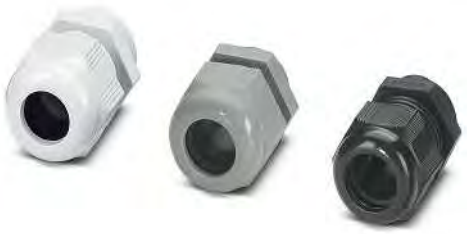
Plastic cable glands, Pg, EN 40430

- Material: polyamide 6
- UV-resistant: f1 in accordance with UL 746C
- Cable seal: CR
- Ambient temperature: -20°C ... +100°C
- Degree of protection: IP66/IP68
- Strain relief: integrated



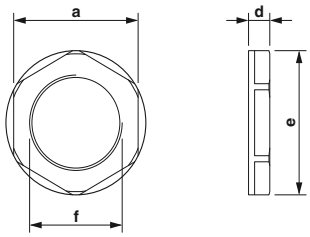


Plastic cable gland

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data					
	[mm]	a	b	c	d	e	f	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
								light gray		silver-gray		black	
Pg7	3.00 - 6.50	15.00	15.00	8.00	32.00	17.10	Pg7	1424485	10	1411140	10	1424495	10
Pg9	4.00 - 8.00	19.00	19.00	8.00	36.00	21.60	Pg9	1424486	10	1411141	10	1424496	10
Pg11	5.00 - 10.00	22.00	22.00	8.00	38.00	25.00	Pg11	1424487	5	1411142	5	1424497	5
Pg13.5	6.00 - 12.00	24.00	24.00	10.00	40.00	27.80	Pg13.5	1424488	5	1411143	5	1424498	5
Pg16	10.00 - 14.00	27.00	27.00	10.00	44.00	30.80	Pg16	1424489	5	1411144	5	1424499	5
Pg21	13.00 - 18.00	33.00	33.00	11.00	49.00	37.80	Pg21	1424490	5	1411145	5	1424500	5
Pg29	18.00 - 25.00	42.00	42.00	11.00	53.00	48.00	Pg29	1424491	5	1411146	5	1424501	5
Pg36	22.00 - 32.00	53.00	53.00	13.00	65.00	60.00	Pg36	1424492	5	1411147	5	1424502	5
Pg42	30.00 - 38.00	60.00	60.00	13.00	65.00	67.70	Pg42	1424493	1	1411149	1	1424503	1
Pg48	34.00 - 44.00	65.00	65.00	14.00	68.00	72.20	Pg48	1424494	1	1411150	1	1424504	1

Plastic counter nuts, Pg, EN 40430

- Material: polyamide 6
- Ambient temperature: -20°C ... +100°C



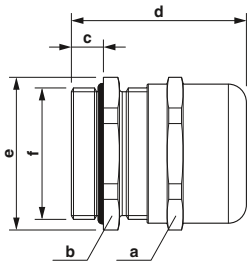
Plastic counter nut

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data					
	[mm]	a	b	c	d	e	f	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
								light gray		silver-gray		black	
Pg7	-	19.00	-	-	5.00	21.00	Pg7	1424548	10	1411221	10	1424558	10
Pg9	-	22.00	-	-	5.00	24.00	Pg9	1424549	10	1411222	10	1424559	10
Pg11	-	24.00	-	-	5.00	26.00	Pg11	1424550	5	1411223	5	1424560	5
Pg13.5	-	27.00	-	-	6.00	29.00	Pg13.5	1424551	5	1411224	5	1424561	5
Pg16	-	30.00	-	-	6.00	33.00	Pg16	1424552	5	1411225	5	1424562	5
Pg21	-	36.00	-	-	7.00	39.00	Pg21	1424553	5	1411226	5	1424563	5
Pg29	-	46.00	-	-	7.00	50.00	Pg29	1424554	5	1411227	5	1424564	5
Pg36	-	60.00	-	-	8.00	66.00	Pg36	1424555	5	1411228	5	1424565	5
Pg42	-	65.00	-	-	8.00	73.00	Pg42	1424556	5	1411229	5	1424566	5
Pg48	-	70.00	-	-	8.00	78.00	Pg48	1424557	5	1411230	5	1424567	5

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Brass cable glands, metric, EN 60423

– Material: brass, nickel-plated
– Cable seal: CR
– O-ring: NBR
– Ambient temperature: -40°C ... +100°C
– Degree of protection: IP66/IP68/IP69
– Strain relief: integrated in accordance with EN 62444



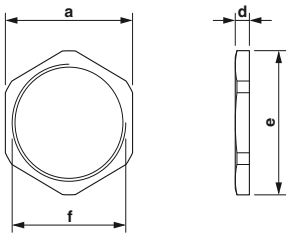
Brass cable gland

Notes:
For alternative clamping ranges, see phoenixcontact.net/products

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Type	Order No.	Pcs./Pkt.
M12 x 1.5	silver	3.00 - 6.50	14.00	14.00	6.00	27.00	15.50	M12	G-INS-M12-S68N-NNES-S	1411160	10
M16 x 1.5	silver	4.00 - 8.00	17.00	18.00	7.00	30.00	22.00	M16	G-INS-M16-T68N-NNES-S	1424526	10
M16 x 1.5	silver	5.00 - 10.00	20.00	20.00	7.00	34.00	22.00	M16	G-INS-M16-S68N-NNES-S	1411162	10
M20 x 1.5	silver	6.00 - 12.00	22.00	22.00	8.00	37.00	24.50	M20	G-INS-M20-S68N-NNES-S	1411163	5
M25 x 1.5	silver	10.00 - 14.00	24.00	27.00	8.00	36.00	30.00	M25	G-INS-M25-S68N-NNES-S	1424527	5
M25 x 1.5	silver	11.00 - 17.00	27.00	27.00	8.00	40.00	30.00	M25	G-INS-M25-M68N-NNES-S	1411165	5
M32 x 1.5	silver	13.00 - 18.00	30.00	34.00	9.00	42.00	37.00	M32	G-INS-M32-S68N-NNES-S	1424528	5
M32 x 1.5	silver	15.00 - 21.00	34.00	34.00	8.00	43.00	37.00	M32	G-INS-M32-M68N-NNES-S	1411166	5
M40 x 1.5	silver	18.00 - 25.00	40.00	43.00	9.00	47.00	48.40	M40	G-INS-M40-S68N-NNES-S	1424529	5
M40 x 1.5	silver	19.00 - 28.00	43.00	43.00	9.00	53.00	48.40	M40	G-INS-M40-M68N-NNES-S	1411167	5
M50 x 1.5	silver	22.00 - 32.00	50.00	55.00	9.00	58.00	64.00	M50	G-INS-M50-M68N-NNES-S	1424530	1
M50 x 1.5	silver	27.00 - 38.00	58.00	58.00	9.00	61.00	64.00	M50	G-INS-M50-L68N-NNES-S	1411168	1
M63 x 1.5	silver	34.00 - 44.00	64.00	68.00	14.00	65.00	70.00	M63	G-INS-M63-L68N-NNES-S	1411169	1
M63 x 1.5	silver	37.00 - 53.00	75.00	75.00	10.00	60.00	70.00	M63	G-INS-M63-E68N-NNES-S	1424531	1

Brass counter nuts, metric, EN 60423

– Material: brass, nickel-plated
– Ambient temperature: -70°C ... +220°C



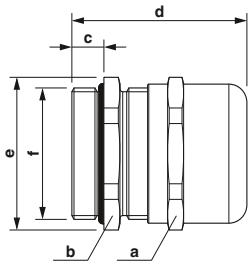
Brass counter nut

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Type	Order No.	Pcs./Pkt.
M12 x 1.5	silver	-	15.00	-	-	2.80	16.50	M12	A-INL-M12-N-S	1411240	100
M16 x 1.5	silver	-	19.00	-	-	2.80	21.00	M16	A-INL-M16-N-S	1411241	100
M20 x 1.5	silver	-	24.00	-	-	3.00	27.00	M20	A-INL-M20-N-S	1411242	100
M25 x 1.5	silver	-	30.00	-	-	3.50	33.50	M25	A-INL-M25-N-S	1411243	100
M32 x 1.5	silver	-	36.00	-	-	4.00	40.00	M32	A-INL-M32-N-S	1411244	100
M40 x 1.5	silver	-	46.00	-	-	5.00	50.00	M40	A-INL-M40-N-S	1411246	50
M50 x 1.5	silver	-	57.00	-	-	5.00	65.00	M50	A-INL-M50-N-S	1411247	25
M63 x 1.5	silver	-	70.00	-	-	6.00	75.00	M63	A-INL-M63-N-S	1411248	25

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Brass cable glands, Pg, EN 40430

– Material: brass, nickel-plated
– Cable seal: CR
– O-ring: NBR
– Ambient temperature: -40°C ... +100°C
– Degree of protection: IP68/IP69
– Strain relief: integrated



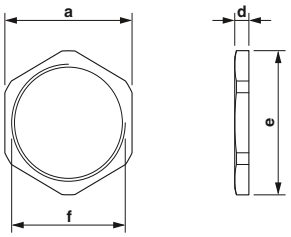
Brass cable gland

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Type	Order No.	Pcs./Pkt.
Pg7	silver	3.00 - 6.50	14.00	14.00	6.00	27.00	15.50	Pg7	G-INS-PG7-S68N-NNES-S	1411170	10
Pg9	silver	4.00 - 8.00	17.00	17.00	6.00	28.00	18.90	Pg9	G-INS-PG9-S68N-NNES-S	1411171	10
Pg11	silver	5.00 - 10.00	20.00	20.00	6.00	21.00	22.00	Pg11	G-INS-PG11-S68N-NNES-S	1411172	5
Pg13.5	silver	6.00 - 12.00	22.00	22.00	6.50	30.00	24.50	Pg13.5	G-INS-PG13,5-S68N-NNES-S	1411173	5
Pg16	silver	10.00 - 14.00	24.00	24.00	6.50	33.00	26.80	Pg16	G-INS-PG16-S68N-NNES-S	1411174	5
Pg21	silver	13.00 - 18.00	30.00	30.00	7.20	38.00	33.00	Pg21	G-INS-PG21-M68N-NNES-S	1411175	5
Pg29	silver	18.00 - 25.00	40.00	40.00	8.00	46.00	44.50	Pg29	G-INS-PG29-M68N-NNES-S	1411176	5
Pg36	silver	22.00 - 32.00	50.00	50.00	9.00	57.00	55.50	Pg36	G-INS-PG36-L68N-NNES-S	1411178	5
Pg42	silver	30.00 - 38.00	58.00	58.00	12.00	60.00	64.00	Pg42	G-INS-PG42-L68N-NNES-S	1411179	1
Pg48	silver	34.00 - 44.00	64.00	64.00	14.00	63.00	70.00	Pg48	G-INS-PG48-L68N-NNES-S	1411181	1

Ordering data

Brass counter nuts, Pg, EN 40430

– Material: brass, nickel-plated
– Ambient temperature: -70°C ... +220°C



Brass counter nut

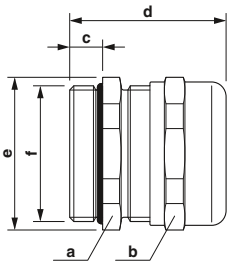
Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Type	Order No.	Pcs./Pkt.
Pg7	silver	-	15.00	-	-	2.80	16.50	Pg7	A-INL-PG7-N-S	1411255	100
Pg9	silver	-	18.00	-	-	2.80	20.00	Pg9	A-INL-PG9-N-S	1411256	100
Pg11	silver	-	21.00	-	-	3.00	24.00	Pg11	A-INL-PG11-N-S	1411257	100
Pg13.5	silver	-	23.00	-	-	3.00	26.00	Pg13.5	A-INL-PG13,5-N-S	1411259	100
Pg16	silver	-	26.00	-	-	3.00	29.00	Pg16	A-INL-PG16-N-S	1411260	100
Pg21	silver	-	32.00	-	-	3.50	36.00	Pg21	A-INL-PG21-N-S	1411262	100
Pg29	silver	-	41.00	-	-	4.00	45.00	Pg29	A-INL-PG29-N-S	1411263	50
Pg36	silver	-	51.00	-	-	5.00	56.00	Pg36	A-INL-PG36-N-S	1411264	50
Pg42	silver	-	60.00	-	-	5.00	65.00	Pg42	A-INL-PG42-N-S	1411265	25
Pg48	silver	-	64.00	-	-	5.50	69.00	Pg48	A-INL-PG48-N-S	1411266	25

Ordering data

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@stevenseng.com - www.stevenengineering.com

Brass EMC cable glands, metric, EN 60423

- Material: brass, nickel-plated
- Cable seal: CR
- O-ring: NBR
- Ambient temperature: -40°C ... +100°C
- Degree of protection: IP66/IP68
- Strain relief: integrated in accordance with EN 62444



EMC

Brass EMC cable gland

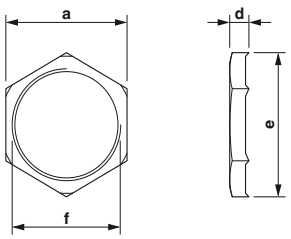
Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M12 x 1.5	silver	4.00 - 6.50	14.00	14.00	6.00	28.00	15.50	M12
M16 x 1.5	silver	5.00 - 10.00	20.00	20.00	7.00	-	22.00	M16
M20 x 1.5	silver	9.00 - 13.00	22.00	22.00	6.00	33.00	24.00	M20
M25 x 1.5	silver	11.00 - 16.00	27.00	27.00	7.00	36.00	30.00	M25
M32 x 1.5	silver	14.00 - 21.00	34.00	34.00	8.00	38.00	36.00	M32
M40 x 1.5	silver	19.00 - 27.00	43.00	43.00	8.00	41.00	46.00	M40
M50 x 1.5	silver	24.00 - 35.00	55.00	55.00	9.00	49.00	60.00	M50
M63 x 1.5	silver	32.00 - 42.00	65.00	65.00	10.00	52.00	70.00	M63

Ordering data

Type	Order No.	Pcs./Pkt.
G-INSEC-M12-S68N-NCRS-S	1411187	10
G-INSEC-M16-S68L-NCRS-S	1077099	10
G-INSEC-M20-S68N-NCRS-S	1411189	5
G-INSEC-M25-S68N-NCRS-S	1411190	5
G-INSEC-M32-M68N-NCRS-S	1411191	5
G-INSEC-M40-M68N-NCRS-S	1411192	5
G-INSEC-M50-L68N-NCRS-S	1411193	1
G-INSEC-M63-L68N-NCRS-S	1411194	1

Brass counter nuts, metric, EN 60423, ribbed

- Material: brass, nickel-plated
- Ambient temperature: -70°C ... +220°C
- Version: ribbed



Brass counter nut

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M12 x 1.5	silver	-	15.00	-	-	4.70	16.50	M12
M16 x 1.5	silver	-	19.00	-	-	4.70	21.00	M16
M20 x 1.5	silver	-	24.00	-	-	4.70	27.00	M20
M25 x 1.5	silver	-	30.00	-	-	5.20	33.50	M25
M32 x 1.5	silver	-	36.00	-	-	5.70	40.00	M32
M40 x 1.5	silver	-	46.00	-	-	6.50	50.00	M40
M50 x 1.5	silver	-	60.00	-	-	6.50	65.00	M50
M63 x 1.5	silver	-	70.00	-	-	7.00	75.00	M63

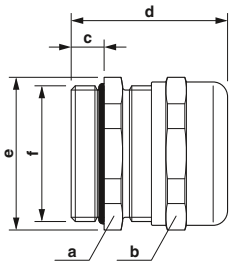
Ordering data

Type	Order No.	Pcs./Pkt.
A-INLE-M12-N-S	1411267	100
A-INLE-M16-N-S	1411268	100
A-INLE-M20-N-S	1411269	100
A-INLE-M25-N-S	1411270	50
A-INLE-M32-N-S	1411271	50
A-INLE-M40-N-S	1411272	50
A-INLE-M50-N-S	1411273	10
A-INLE-M63-N-S	1411274	10

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Brass EMC cable glands, Pg, EN 40430

- Material: brass, nickel-plated
- Cable seal: CR
- O-ring: NBR
- Ambient temperature: -40°C ... +100°C
- Degree of protection: IP66/IP68
- Strain relief: integrated



Brass EMC cable gland

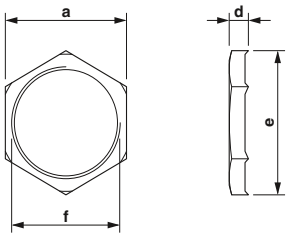
Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
Pg7	silver	3.00 - 6.50	14.00	14.00	6.00	27.00	15.50	Pg7
Pg9	silver	4.00 - 8.00	17.00	17.00	6.00	29.00	18.90	Pg9
Pg11	silver	5.00 - 10.00	20.00	20.00	6.00	30.00	22.00	Pg11
Pg13.5	silver	6.00 - 12.00	22.00	22.00	6.50	30.00	24.50	Pg13.5
Pg16	silver	10.00 - 14.00	24.00	24.00	6.50	33.00	26.80	Pg16
Pg21	silver	13.00 - 18.00	30.00	30.00	7.20	38.00	33.00	Pg21
Pg29	silver	18.00 - 25.00	40.00	40.00	8.00	47.00	44.50	Pg29
Pg36	silver	22.00 - 32.00	50.00	50.00	9.00	57.00	55.50	Pg36
Pg42	silver	30.00 - 38.00	58.00	58.00	12.00	60.00	64.00	Pg42
Pg48	silver	34.00 - 44.00	64.00	64.00	14.00	65.00	70.00	Pg48

Ordering data

Type	Order No.	Pcs./Pkt.
G-INSEC-PG7-S68N-NNES-S	1411195	10
G-INSEC-PG9-S68N-NNES-S	1411196	10
G-INSEC-PG11-S68N-NNES-S	1411197	5
G-INSEC-PG13,5-S68N-NNES-S	1411198	5
G-INSEC-PG16-S68N-NNES-S	1411199	5
G-INSEC-PG21-M68N-NNES-S	1411200	5
G-INSEC-PG29-M68N-NNES-S	1411201	5
G-INSEC-PG36-L68N-NNES-S	1411202	5
G-INSEC-PG42-L68N-NNES-S	1411203	1
G-INSEC-PG48-L68N-NNES-S	1411204	1

Brass counter nuts, Pg, EN 40430, ribbed

- Material: brass, nickel-plated
- Ambient temperature: -70°C ... +220°C
- Version: ribbed



Brass counter nut

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
Pg7	silver	-	15.00	-	-	4.70	16.50	Pg7
Pg9	silver	-	18.00	-	-	4.70	20.00	Pg9
Pg11	silver	-	21.00	-	-	4.70	24.00	Pg11
Pg13.5	silver	-	23.00	-	-	4.70	26.00	Pg13.5
Pg16	silver	-	26.00	-	-	4.70	29.00	Pg16
Pg21	silver	-	32.00	-	-	5.20	36.00	Pg21
Pg29	silver	-	41.00	-	-	5.70	45.00	Pg29
Pg36	silver	-	51.00	-	-	6.50	56.00	Pg36

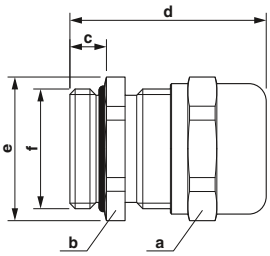
Ordering data

Type	Order No.	Pcs./Pkt.
A-INLE-PG7-N-S	1411275	100
A-INLE-PG9-N-S	1411276	100
A-INLE-PG11-N-S	1411277	100
A-INLE-PG13,5-N-S	1411278	100
A-INLE-PG16-N-S	1411279	100
A-INLE-PG21-N-S	1411280	50
A-INLE-PG29-N-S	1411281	50
A-INLE-PG36-N-S	1411282	50

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Stainless steel cable glands, metric, EN 60423

– Material: stainless steel
– Cable seal: CR
– O-ring: NBR
– Ambient temperature: -40°C ... +100°C
– Degree of protection: IP66/IP68/IP69
– Strain relief: integrated in accordance with EN 62444



Stainless steel cable gland

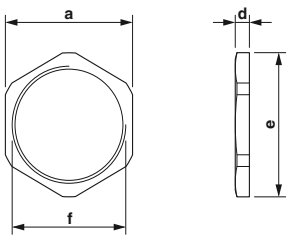
Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M12 x 1.5	silver	3.00 - 6.50	14.00	14.00	6.00	33.50	15.50	M12
M16 x 1.5	silver	5.00 - 10.00	22.00	22.00	7.00	35.00	24.50	M16
M20 x 1.5	silver	6.00 - 12.00	22.00	22.00	8.00	33.00	24.50	M20
M25 x 1.5	silver	11.00 - 17.00	27.00	27.00	8.00	40.00	29.80	M25
M32 x 1.5	silver	15.00 - 21.00	36.00	36.00	8.00	45.00	38.90	M32
M40 x 1.5	silver	19.00 - 28.00	46.00	46.00	9.00	52.50	51.50	M40

Ordering data

Type	Order No.	Pcs./Pkt.
G-INS-M12-M68N-SNES-S	1424541	1
G-INS-M16-M68N-SNES-S	1424542	1
G-INS-M20-M68N-SNES-S	1424543	1
G-INS-M25-M68N-SNES-S	1424544	1
G-INS-M32-M68N-SNES-S	1424545	1
G-INS-M40-M68N-SNES-S	1424546	1

Stainless steel counter nuts, metric, EN 60423

– Material: stainless steel
– Ambient temperature: -70°C ... +220°C



Stainless steel counter nut

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M12 x 1.5	silver	-	15.00	-	-	2.80	16.50	M12
M16 x 1.5	silver	-	19.00	-	-	2.80	20.90	M16
M20 x 1.5	silver	-	24.00	-	-	3.00	27.00	M20
M25 x 1.5	silver	-	30.00	-	-	3.50	33.50	M25
M32 x 1.5	silver	-	36.00	-	-	4.00	40.00	M32
M40 x 1.5	silver	-	46.00	-	-	5.00	50.00	M40
M50 x 1.5	silver	-	55.00	-	-	5.00	65.00	M50
M63 x 1.5	silver	-	70.00	-	-	6.00	75.00	M63

Ordering data

Type	Order No.	Pcs./Pkt.
A-INL-M12-S-S	1425175	10
A-INL-M16-S-S	1425176	10
A-INL-M20-S-S	1411249	10
A-INL-M25-S-S	1411250	10
A-INL-M32-S-S	1411251	5
A-INL-M40-S-S	1411252	5
A-INL-M50-S-S	1411253	2
A-INL-M63-S-S	1411254	1

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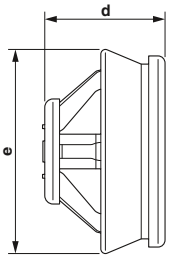
Membrane cable glands

- Material: polypropylene
- For panel thickness of 0.8 mm ... 3.5 mm
- UV-resistant
- Ambient temperature: -40°C ... +65°C
- Degree of protection: IP66/IP67



Membrane cable gland

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M16	light gray	4.00 - 10.00	-	-	8.00	15.00	32.00	M16
M20	light gray	6.00 - 13.00	-	-	8.00	15.00	34.00	M20
M25	light gray	9.00 - 17.00	-	-	8.00	15.00	40.00	M25

Ordering data

Type	Order No.	Pcs./Pkt.
MG-INC-M16-S67L-PTES-LG	1415186	20
MG-INC-M20-S67L-PTES-LG	1415187	20
MG-INC-M25-M67L-PTES-LG	1415188	20

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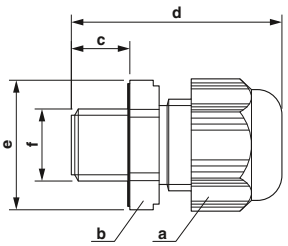
Plastic pressure compensation cable glands, metric, EN 60423

Reduces the formation of condensation
– Material: polyamide
– Cable seal: CR
– Flat gasket: NBR
– Ambient temperature: -20°C ... +100°C
– Degree of protection: IP66/IP67



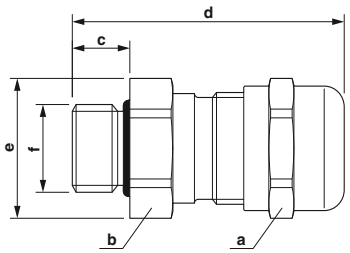
Notes:
For counter nuts, see page 686

Plastic pressure compensation cable gland

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data			
	[mm]	a	b	c	d	e	f	Order No. light gray	Pcs./Pkt.	Order No. black	Pcs./Pkt.
M12 x 1.5	4.00 - 7.00	19.00	19.00	8.00	33.00	-	M12	1424532	5	1424535	5
M16 x 1.5	4.00 - 7.00	19.00	19.00	10.00	35.50	-	M16	1424533	5	1424536	5
M20 x 1.5	6.00 - 11.00	24.00	24.00	10.00	40.00	-	M20	1424534	5	1424537	5

Brass pressure compensation cable glands, metric, EN 60423

Reduces the formation of condensation
– Material: brass, nickel-plated
– Cable seal: CR
– O-ring: NBR
– Ambient temperature: -20°C ... +100°C
– Degree of protection: IP66/IP67



Notes:
For counter nuts, see page 692

Brass pressure compensation cable gland

Thread type	Color	Clamping area	Dimensions [mm]					Thread	Ordering data		
		[mm]	a	b	c	d	e	f	Type	Order No.	Pcs./Pkt.
M12 x 1.5	silver	4.00 - 7.00	17.00	17.00	6.00	36.50	-	M12	G-INVEN-M12-M67N-NNES-S	1424538	1
M16 x 1.5	silver	4.00 - 7.00	17.00	17.00	5.00	32.00	-	M16	G-INVEN-M16-M67N-NNES-S	1424539	1
M20 x 1.5	silver	6.00 - 11.00	22.00	22.00	8.00	35.00	-	M20	G-INVEN-M20-M67N-NNES-S	1424540	1

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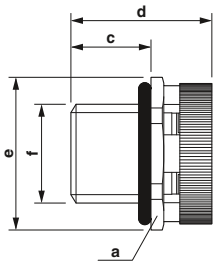
Plastic pressure compensation elements, metric, EN 60423

Reduces the formation of condensation
– Material: polyamide
– O-ring: NBR
– Ambient temperature: -40°C ... +105°C
– Degree of protection: IP66/IP67/IP69

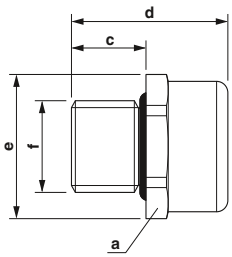


Plastic pressure compensation element

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data			
	[mm]	a	b	c	d	e	f	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
								light gray		black	
M12 x 1.5	-	17.00	-	10.00	17.50	18.50	M12	1415222	5	1415223	5

Stainless steel pressure compensation element, metric, EN 60423

Reduces the formation of condensation
– Material: stainless steel
– O-ring: NBR
– Ambient temperature: -40°C ... +105°C
– Degree of protection: IP66/IP67/IP69



Stainless steel pressure compensation element

Thread type	Color	Clamping area	Dimensions [mm]					Thread	Ordering data		
		[mm]	a	b	c	d	e	f	Type	Order No.	Pcs./Pkt.
M12 x 1.5	silver	-	17.00	-	10.00	21.00	18.50	M12	A-INB-M12-69KN-S-S	1415224	5

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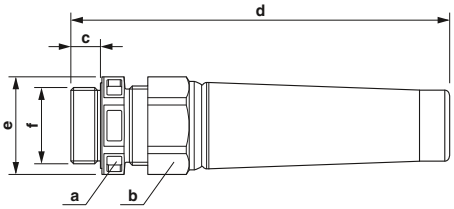
Plastic cable glands with bend protection, metric, EN 60423

– Material: polyamide
– Cable seal: EPDM
– O-ring: EPDM
– Ambient temperature: -40°C ... +100°C
– Degree of protection: IP68/IP69

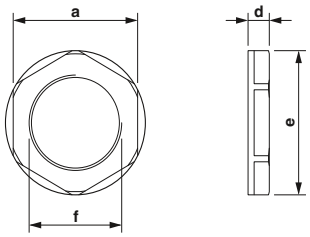


Plastic cable gland with bend protection

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data			
	[mm]	a	b	c	d	e	f	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
								light gray		black	
M12 x 1.5	3.00 - 7.00	16.00	16.00	9.00	72.00	18.00	M12	1415171	10	1415177	10
M16 x 1.5	4.50 - 10.00	20.00	20.00	9.00	82.00	22.00	M16	1415172	10	1415178	10
M20 x 1.5	6.00 - 13.00	24.00	24.00	12.00	103.00	27.00	M20	1415174	10	1415179	10
M25 x 1.5	9.00 - 17.00	29.00	29.00	12.00	113.00	32.00	M25	1415175	10	1415180	10
M32 x 1.5	13.00 - 21.00	36.00	36.00	12.00	138.00	40.00	M32	1415176	5	1415181	5

Plastic counter nuts, metric, EN 60423

– Material: polyamide 6
– Ambient temperature: -20°C ... +100°C



Plastic counter nut

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data			
	[mm]	a	b	c	d	e	f	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
								light gray		black	
M12 x 1.5	-	18.00	-	-	5.00	19.50	M12	1417659	10	1411213	10
M16 x 1.5	-	22.00	-	-	5.00	24.20	M16	1417660	10	1411214	10
M20 x 1.5	-	26.00	-	-	6.00	28.60	M20	1414570	5	1411215	5
M25 x 1.5	-	32.00	-	-	6.00	35.00	M25	1417661	5	1411216	5
M32 x 1.5	-	41.00	-	-	7.00	46.10	M32	1417662	5	1411217	5

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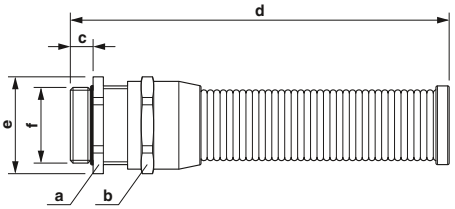
Brass cable glands with bend protection, metric, EN 60423

– Material: brass, nickel-plated
– Cable seal: EPDM
– O-ring: EPDM
– Ambient temperature: -40°C ... +100°C
– Degree of protection: IP68/IP69



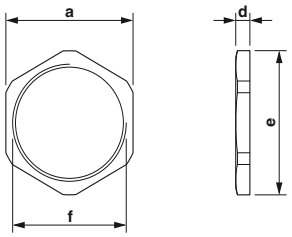
Brass cable gland with bend protection

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Type	Order No.	Pcs./Pkt.
M20 x 1.5	silver	6.00 - 13.00	24.00	24.00	6.00	96.00	27.00	M20	G-INB-M20-S68N-NEPDS-S	1415182	5
M25 x 1.5	silver	9.00 - 17.00	29.00	29.00	7.00	120.00	32.00	M25	G-INB-M25-M68N-NEPDS-S	1415183	5
M32 x 1.5	silver	13.00 - 21.00	36.00	36.00	8.00	146.00	40.00	M32	G-INB-M32-M68N-NEPDS-S	1415184	1
M40 x 1.5	silver	16.00 - 28.00	46.00	46.00	8.00	184.00	51.00	M40	G-INB-M40-M68N-NEPDS-S	1415185	1

Ordering data

Brass counter nuts, metric, EN 60423

– Material: brass, nickel-plated
– Ambient temperature: -70°C ... +220°C



Brass counter nut

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Type	Order No.	Pcs./Pkt.
M20 x 1.5	silver	-	24.00	-	-	3.00	27.00	M20	A-INL-M20-N-S	1411242	100
M25 x 1.5	silver	-	30.00	-	-	3.50	33.50	M25	A-INL-M25-N-S	1411243	100
M32 x 1.5	silver	-	36.00	-	-	4.00	40.00	M32	A-INL-M32-N-S	1411244	100
M40 x 1.5	silver	-	46.00	-	-	5.00	50.00	M40	A-INL-M40-N-S	1411246	50

Ordering data

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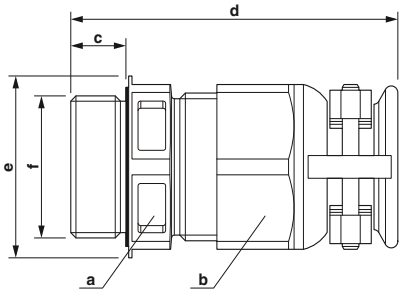
Plastic cable glands with strain relief, metric, EN 60423

– Material: polyamide
– Cable seal: EPDM
– Ambient temperature: -20°C ... +100°C
– Degree of protection: IP68/IP69



Notes:
For counter nuts, see page 686

Plastic cable gland with strain relief

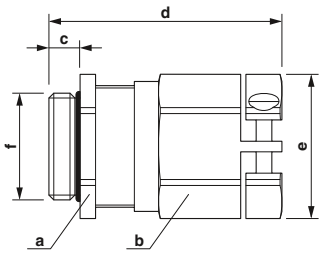
Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M20 x 1.5	jet black	6.00 - 13.00	24.00	24.00	10.00	49.00	27.00	M20
M25 x 1.5	jet black	9.00 - 17.00	29.00	29.00	10.00	51.00	32.00	M25
M32 x 1.5	jet black	13.00 - 21.00	36.00	36.00	12.00	57.00	40.00	M32

Ordering data

Type	Order No.	Pcs./Pkt.
G-INTRO-M20-S68N-PEPDS-BK	1415189	10
G-INTRO-M25-M68N-PEPDS-BK	1415190	10
G-INTRO-M32-M68N-PEPDS-BK	1415191	5

Brass cable glands with strain relief, metric, EN 60423

– Material: brass, nickel-plated
– Cable seal: EPDM
– O-ring: EPDM
– Ambient temperature: -40°C ... +100°C
– Degree of protection: IP68/IP69



Notes:
For counter nuts, see page 688

Brass cable gland with strain relief

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M20 x 1.5	silver	6.00 - 13.00	24.00	24.00	6.00	37.00	27.00	M20
M25 x 1.5	silver	9.00 - 17.00	29.00	29.00	7.00	42.00	32.00	M25
M32 x 1.5	silver	13.00 - 21.00	36.00	36.00	8.00	45.00	40.00	M32
M40 x 1.5	silver	16.00 - 28.00	46.00	46.00	8.00	54.00	51.00	M40

Ordering data

Type	Order No.	Pcs./Pkt.
G-INESR-M20-S68N-NEPDS-S	1415192	5
G-INESR-M25-M68N-NEPDS-S	1415193	5
G-INESR-M32-M68N-NEPDS-S	1415194	1
G-INESR-M40-M68N-NEPDS-S	1415195	1

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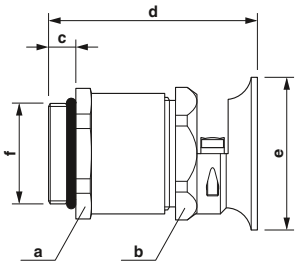
Brass cable glands with bend protection and strain relief, metric, EN 60423

– Material: brass, nickel-plated
– Cable seal: NBR
– O-ring: NBR
– Ambient temperature: -30°C ... +80°C
– Degree of protection: IP65



Notes:
For counter nuts, see page 688

Brass cable gland with cable bend protection and strain relief

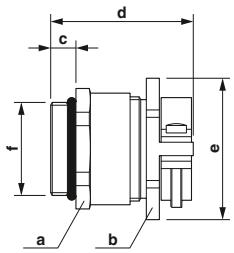
Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M20 x 1.5	silver	7.50 - 15.00	24.00	24.00	6.00	40.00	32.00	M20
M25 x 1.5	silver	10.00 - 19.00	30.00	30.00	7.00	44.00	38.00	M25
M32 x 1.5	silver	18.00 - 27.00	41.00	40.00	8.00	51.00	50.00	M32

Ordering data

Type	Order No.	Pcs./Pkt.
HC-M-KV-T-M20	1646188	10
HC-M-KV-T-M25	1646191	10
HC-M-KV-T-M32	1646201	10

Brass cable glands with strain relief clamp, metric, EN 60423

– Material: brass, nickel-plated
– Cable seal: NBR
– O-ring: NBR
– Ambient temperature: -30°C ... +80°C
– Degree of protection: IP65



Notes:
For counter nuts, see page 688

Brass cable gland with strain relief clamp

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M32 x 1.5	silver	18.00 - 27.00	42.00	40.00	8.00	43.00	47.00	M32
M40 x 1.5	silver	24.00 - 33.00	52.00	50.00	8.00	49.00	56.00	M40

Ordering data

Type	Order No.	Pcs./Pkt.
HC-M-KV-Z-M32	1646162	10
HC-M-KV-Z-M40	1646175	10

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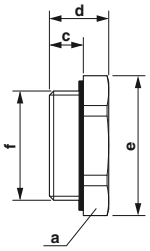
Plastic reducing adapters, metric, EN 60423

– Material: polyamide
– Flat gasket: CR
– Ambient temperature: -20°C ... +100°C

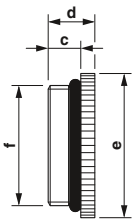


Plastic reducing adapter

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Ordering data Type	Order No.	Pcs./Pkt.
M25 x 1.5 / M20 x 1.5	black	-	-	-	8.00	14.00	32.00	M25 / M20	REDUC-K-KV-M25/M20 BK	1411232	10
M32 x 1.5 / M20 x 1.5	black	-	-	-	10.00	16.00	40.00	M32 / M20	REDUC-K-KV-M32/M20 BK	1410725	10
M32 x 1.5 / M25 x 1.5	black	-	-	-	10.00	16.00	40.00	M32 / M25	REDUC-K-KV-M32/M25 BK	1410712	10
M40 x 1.5 / M25 x 1.5	black	-	-	-	10.00	16.00	50.50	M40 / M25	REDUC-K-KV-M40/M25 BK	1410741	10
M40 x 1.5 / M32 x 1.5	black	-	-	-	10.00	16.00	50.50	M40 / M32	REDUC-K-KV-M40/M32 BK	1410738	10

Brass reducing adapters, metric, EN 60423

– Material: brass, nickel-plated
– O-ring: NBR
– Ambient temperature: -20°C ... +80°C



Brass reducing adapter

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Ordering data Type	Order No.	Pcs./Pkt.
M20 x 1.5 / M16 x 1.5	silver	-	-	-	6.50	9.00	24.00	M20 / M16	REDUC-M-KV-M20/M16	1647611	10
M25 x 1.5 / M20 x 1.5	silver	-	-	-	7.00	10.00	30.00	M25 / M20	REDUC-M-KV-M25/M20	1647624	10
M32 x 1.5 / M25 x 1.5	silver	-	-	-	8.00	11.50	37.00	M32 / M25	REDUC-M-KV-M32/M25	1647637	10
M40 x 1.5 / M32 x 1.5	silver	-	-	-	8.00	11.50	43.00	M40 / M32	REDUC-M-KV-M40/M32	1647640	10

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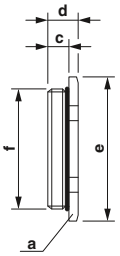
Brass reducing adapters, Pg, EN 40430

– Material: brass, nickel-plated
– O-ring: NBR
– Ambient temperature: -20°C ... +80°C



Brass reducing adapter

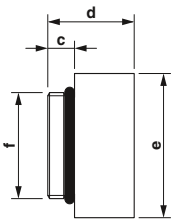
Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
Pg16 / Pg13.5	silver	-	-	-	6.50	9.50	26.70	Pg16 / Pg13.5
Pg21 / Pg16	silver	-	-	-	7.00	10.00	33.50	Pg21 / Pg16
Pg29 / Pg21	silver	-	-	-	8.00	11.50	43.50	Pg29 / Pg21

Ordering data

Type	Order No.	Pcs./Pkt.
A-INR-PG16/13-N-NS-S	**1415216**	10
A-INR-PG21/16-N-NS-S	**1415217**	10
A-INR-PG29/21-N-NS-S	**1415218**	10

Metal extensions

– Material: brass, nickel-plated
– O-ring: NBR
– Ambient temperature: -20°C ... +80°C



Metal extension adapter

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M16 x 1.5 / M20 x 1.5	silver	-	-	-	6.00	17.50	22.00	M16 / M20
M20 x 1.5 / M25 x 1.5	silver	-	-	-	6.50	19.00	27.00	M20 / M25
M25 x 1.5 / M32 x 1.5	silver	-	-	-	6.50	21.00	34.00	M25 / M32
M32 x 1.5 / M40 x 1.5	silver	-	-	-	7.00	23.00	42.00	M32 / M40
Pg13.5 / Pg16	silver	-	-	-	6.50	19.00	24.00	Pg13.5 / Pg16
Pg16 / Pg21	silver	-	-	-	6.50	21.00	30.00	Pg16 / Pg21
Pg21 / Pg29	silver	-	-	-	7.00	23.00	39.00	Pg21 / Pg29

Ordering data

Type	Order No.	Pcs./Pkt.
ENLAR-M-KV-M16/M20	**1647653**	10
ENLAR-M-KV-M20/M25	**1647666**	10
ENLAR-M-KV-M25/M32	**1647679**	10
ENLAR-M-KV-M32/M40	**1647682**	10
A-INE-PG13/16-N-NS-S	**1415219**	10
A-INE-PG16/21-N-NS-S	**1415220**	10
A-INE-PG21/29-N-NS-S	**1415221**	10

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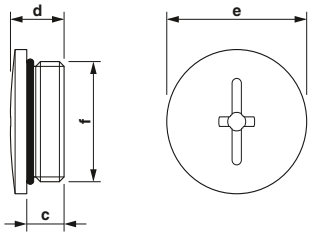
Plastic screw plugs, metric, EN 60423

– Material: polyamide, fiberglass reinforced
– O-ring: EPDM
– Ambient temperature:
  -40°C ... +100°C
– Degree of protection: IP66/IP68

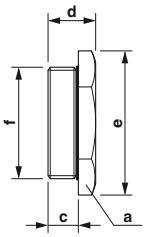


Plastic screw plugs

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data			
	[mm]	a	b	c	d	e	f	Order No. light gray	Pcs./Pkt.	Order No. black	Pcs./Pkt.
M12 x 1.5	-	-	-	6.00	8.00	15.00	M12	1045815	10	1045816	10
M16 x 1.5	-	-	-	6.00	9.00	20.00	M16	1045818	10	1045817	10
M20 x 1.5	-	-	-	6.00	9.50	24.00	M20	1424519	10	1415206	10
M25 x 1.5	-	-	-	8.00	11.50	30.00	M25	1424520	10	1415207	10
M32 x 1.5	-	-	-	8.00	12.00	37.00	M32	1424521	10	1415208	10
M40 x 1.5	-	-	-	8.00	13.00	46.00	M40	1424522	5	1415210	5

Brass screw plugs, metric, EN 60423

– Material: brass, nickel-plated
– O-ring: NBR
– Ambient temperature:
  -20°C ... +80°C
– Degree of protection: IP68



Metal screw plug

Thread type	Color	Clamping area	Dimensions [mm]					Thread	Ordering data		
		[mm]	a	b	c	d	e	f	Type	Order No.	Pcs./Pkt.
M12 x 1.5	silver	-	14.00	-	5.00	7.50	14.00	M12	HC-M-BS-M12	1046636	10
M16 x 1.5	silver	-	18.00	-	5.00	8.00	20.00	M16	HC-M-BS-M16	1646227	10
M20 x 1.5	silver	-	22.00	-	6.00	9.00	24.00	M20	HC-M-BS-M20	1645846	10
M25 x 1.5	silver	-	28.00	-	6.50	10.00	31.50	M25	HC-M-BS-M25	1645859	10
M32 x 1.5	silver	-	35.00	-	7.00	10.50	39.00	M32	HC-M-BS-M32	1645862	10
M40 x 1.5	silver	-	44.00	-	8.00	12.00	50.00	M40	HC-M-BS-M40	1645875	10

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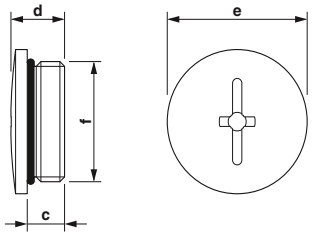
Plastic screw plugs, Pg, EN 40430

– Material: polyamide, fiberglass reinforced
– O-ring: EPDM
– Ambient temperature: -40°C ... +100°C
– Degree of protection: IP65

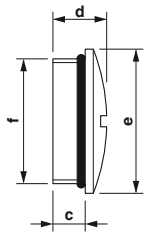


Plastic screw plugs

Thread type	Clamping area	Dimensions [mm]					Thread	Ordering data			
	[mm]	a	b	c	d	e	f	Order No.	Pcs./Pkt.	Order No.	Pcs./Pkt.
								light gray		black	
Pg7	-	-	-	6.00	8.00	15.00	Pg7	1047562	10	1047561	10
Pg9	-	-	-	6.00	9.00	19.00	Pg9	1047273	10	1047272	10
Pg11	-	-	-	6.00	9.00	22.00	Pg11	1047270	10	1047271	10
Pg13.5	-	-	-	6.00	9.50	25.00	Pg13.5	1046792	10	1046790	10
Pg16	-	-	-	6.00	9.50	27.00	Pg16	1424523	10	1415213	10
Pg21	-	-	-	8.00	11.00	33.00	Pg21	1424524	10	1415214	10
Pg29	-	-	-	8.00	12.00	44.00	Pg29	1424525	10	1415215	10

Brass screw plugs, Pg, EN 40430

– Material: brass, nickel-plated
– O-ring: NBR
– Ambient temperature: -20°C ... +80°C
– Degree of protection: IP68



Metal screw plug

Thread type	Color	Clamping area	Dimensions [mm]					Thread	Ordering data		
		[mm]	a	b	c	d	e	f	Type	Order No.	Pcs./Pkt.
Pg7	silver	-	-	-	5.00	7.50	15.00	Pg7	HC-BS-PG7	1046670	10
Pg9	silver	-	-	-	5.00	8.00	18.00	Pg9	HC-BS-PG9	1046669	10
Pg11	silver	-	-	-	4.50	8.00	22.00	Pg11	HC-BS-PG11	1674493	10
Pg13.5	silver	-	-	-	6.00	10.00	24.00	Pg13.5	HC-BS-PG13	1674503	10
Pg16	silver	-	-	-	6.00	10.00	26.00	Pg16	HC-BS-PG16	1674516	10
Pg21	silver	-	-	-	7.00	11.00	30.00	Pg21	HC-BS-PG21	1674529	10
Pg29	silver	-	-	-	7.00	12.00	39.00	Pg29	HC-BS-PG29	1674532	10
Pg36	silver	-	-	-	8.00	13.00	50.00	Pg36	HC-BS-PG36	1674545	10

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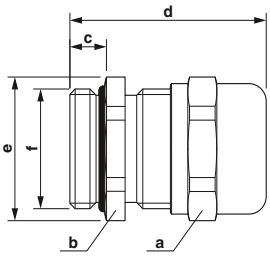
Brass cable glands for one AS-Interface flat cable, metric, EN 60423

– Material: brass, nickel-plated
– Cable seal: TPE
– O-ring: NBR
– Ambient temperature: -20°C ... +100°C
– Degree of protection: IP65

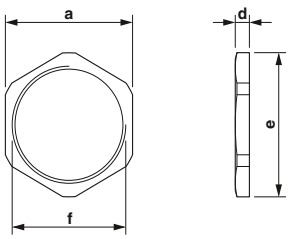


Brass cable gland

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Ordering data Type	Order No.	Pcs./Pkt.
M20 x 1.5	silver	-	22.00	22.00	6.00	33.50	24.00	M20	HC-M-KV-M20(1ASI)	1584017	10
M25 x 1.5	silver	-	27.00	27.00	7.00	36.50	36.00	M25	HC-M-KV-M25(1ASI)	1584020	10

Brass counter nuts, metric, EN 60423

– Material: brass, nickel-plated
– Ambient temperature: -70°C ... +220°C



Brass counter nut

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Ordering data Type	Order No.	Pcs./Pkt.
M20 x 1.5	silver	-	24.00	-	-	3.00	27.00	M20	A-INL-M20-N-S	1411242	100
M25 x 1.5	silver	-	30.00	-	-	3.50	33.50	M25	A-INL-M25-N-S	1411243	100

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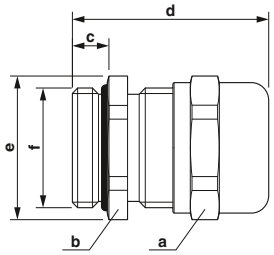
Brass cable glands with seal, metric, EN 60423

Seal with 10 mm and 11 mm drill hole
– Material: brass, nickel-plated
– Cable seal: TPE
– O-ring: NBR
– Ambient temperature: -20°C ... +100°C
– Degree of protection: IP65



Brass cable gland

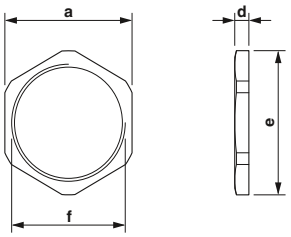
Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M25 x 1.5	silver	9.50 - 10.00	34.00	34.00	7.00	37.00	36.00	M25

Ordering data

Type	Order No.	Pcs./Pkt.
HC-M-KV-M25(1X10/1X11)	1580228	10

Brass counter nuts, metric, EN 60423

– Material: brass, nickel-plated
– Ambient temperature: -70°C ... +220°C



Brass counter nut

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f
M25 x 1.5	silver	-	30.00	-	-	3.50	33.50	M25

Ordering data

Type	Order No.	Pcs./Pkt.
A-INL-M25-N-S	1411243	100

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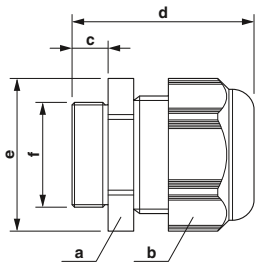
Plastic cable glands for pre-assembled RJ45 cable, metric, EN 60423

– Material: polyamide
– Cable seal: CR
– Ambient temperature: -20°C ... +100°C
– Degree of protection: IP66
– Strain relief: integrated



Plastic cable gland

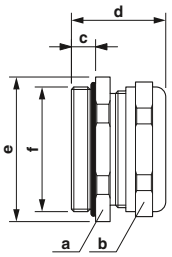
Notes:
For counter nuts, see page 686

Ordering data

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Type	Order No.	Pcs./Pkt.
M25 x 1.5	black	3.00 - 7.00	33.00	33.00	10.00	47.00	37.40	M25	G-CCS-M25-M66N-PNES-BK	1076600	10

Brass cable glands, panel feed-throughs for data connectors

– Screw connection material: brass, nickel-plated
– Pressure screw material: brass, nickel-plated
– O-ring: NBR
– Ambient temperature: -40°C ... +125°C
– Degree of protection: IP65



Brass cable gland with split seal

Ordering data

Thread type	Color	Clamping area [mm]	Dimensions [mm] a	b	c	d	e	Thread f	Type	Order No.	Pcs./Pkt.
M50	silver	7.50 - 8.00	50.00	54.00	10.00	39.00	58.00	M50	KV-M-M50-GD-(8)	1636509	5
M50	silver	9.50 - 10.00	50.00	54.00	10.00	39.00	58.00	M50	KV-M-M50-GD-(10)	1636512	5
M50	silver	5.50 - 6.00	50.00	54.00	10.00	39.00	58.00	M50	KV-M-M50-GD-(2X6)	1636525	5
M50	silver	8.50 - 9.00	50.00	54.00	10.00	39.00	58.00	M50	KV-M-M50-GD-(2X9)	1636538	5

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Sealing plugs

For sealing unused bore holes in multiple grommets and cable glands.

Technical data

General data	
Material	PA
Ambient temperature (operation)	-60°C ... 100°C

Ordering data

Description	Color	Type	Order No.	Pcs./Pkt.
Closing cap				
Ø 3 mm		**SEALING PLUG 3X12 RD**	1400238	10
Ø 5 mm		**SEALING PLUG 5X12 RD**	1400253	10
Ø 6 mm		**SEALING PLUG 6X16 RD**	1400254	10
Ø 7 mm		**SEALING PLUG 7X16 RD**	1400255	10
Ø 8 mm		**SEALING PLUG 8X16 RD**	1400257	10
Ø 9 mm		**SEALING PLUG 9X16 RD**	1400259	10
Ø 10 mm		**SEALING PLUG 10X16 RD**	1400284	10
Ø 12 mm		**SEALING PLUG 12X22 RD**	1400260	10
Ø 13 mm		**SEALING PLUG 13X22 RD**	1400265	10
Ø 14 mm		**SEALING PLUG 14X22 RD**	1400270	10
Ø 17 mm		**SEALING PLUG 17X17 RD**	1421861	10
Ø 20 mm		**SEALING PLUG 20X22 RD**	1421862	10
Ø 25 mm		**SEALING PLUG 25X30 RD**	1421863	10
Ø 28 mm		**SEALING PLUG 28X30 RD**	1421864	10
Ø 35 mm		**SEALING PLUG 35X35 RD**	1421865	10
Ø 48 mm		**SEALING PLUG 48X35 RD**	1425357	5

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EMC mounting frames

– Cover, transparent

EMC mounting frame for one data front plate

EMC mounting frame for two data front plates

	Technical data	Technical data
Technical data		
Housing material	Zinc alloy	Zinc alloy
Flammability rating in accordance with UL 94	V0	V0
Degree of protection	IP65	IP65
Ambient temperature (operation)	-10°C ... 60°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Mounting frame, with metal frame, matt nickel-plated, electrically conductive, transparent cover						
for one data front plate	**VS-SI-EB-EMV-1**	1656482	1			
for two data front plates				**VS-SI-EB-EMV-2**	1656495	1
Control cabinet key, for all popular control cabinets, closures: 5, 6, 7 - 8 mm, square, 7 - 8 mm triangle, 3-5 mm two-way key bit	**USS 4**	1203149	1	**USS 4**	1203149	1

Mounting frames

– Cover, transparent

Mounting frame for one data front plate

Mounting frame for two data front plates

	Technical data	Technical data
Technical data		
Housing material	PBT	PBT
Flammability rating in accordance with UL 94	V0	V0
Degree of protection	IP65	IP65
Ambient temperature (operation)	-30°C ... 70°C	-30°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Mounting frame, with plastic frame, black, PC plastic cover, transparent, closure with 3 mm double bit or with enclosed knob						
for one data front plate	**SI-M1A**	1404493	1			
for two data front plates				**SI-M1B**	1404494	1

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Data front plates

Front plate

Front plate

	Technical data	Technical data
Technical data		
Material front plate	PBT	PBT
Degree of protection	IP20	IP20
Ambient temperature (operation)	-10°C ... 60°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Data front plate, with the following contact inserts:						
2x RJ45 CAT5e (female to female)	**VS-SI-FP-2RJ45-5-MOD-BU/BU**	1657766	1			
Data front plate, unequipped, for accommodating the following contact inserts:						
2x RJ (with shroud)	**VS-SI-FP-2RJ-MOD**	1656631	1			
Data front plate, with the following contact inserts:						
1x RJ45 CAT5e, 1x D-SUB 9 BP				**SI-FP-R1A-D1E**	1404500	1

Data front plates

Front plate

Front plate

	Technical data	Technical data
Technical data		
Material front plate	PBT	PBT
Degree of protection	IP20	IP20
Ambient temperature (operation)	-10°C ... 60°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Data front plate, with the following contact inserts:						
1x RJ45 CAT5e, 1x D-SUB 9	**SI-FP-R1A-D1A**	1404496	1			
Data front plate, with the following contact inserts:						
1x D-SUB 9				**SI-FP-D1A**	1404501	1

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Data front plates

Front plate

Front plate

	Technical data	Technical data
Technical data		
Material front plate	PBT	PBT
Degree of protection	IP20	IP20
Ambient temperature (operation)	-10°C ... 60°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Data front plate, with the following contact inserts: 1x RJ45 CAT5e, 1x USB A 3.0 with 0.7 m cable	**SI-FP-R1A-U1A/0,7**	1404512	1			
Data front plate, with the following contact inserts: 1x RJ45 CAT5e, 1x USB A 3.0 with 0.7 m cable, 1x D-SUB 9				**SI-FP-R1A-D1B-U1A/0,7**	1404504	1

Data front plates

Front plate

Front plate

	Technical data	Technical data
Technical data		
Material front plate	PBT	PBT
Degree of protection	IP20	IP20
Ambient temperature (operation)	-10°C ... 60°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Data front plate, with the following contact inserts: 1x RJ45 CAT5e (female to female), 1x USB A 3.0 (female to female), 1x D-SUB 9 (female to female)	**SI-FP-R1A-U1A-D1A**	1404497	1			
Data front plate, with the following contact inserts: 2x D-SUB 9				**VS-SI-FP-2DSUB9-GC-BU/ST**	1657708	1

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Data front plates

Front plate

Front plate

	Technical data	Technical data
Technical data		
Material front plate	PBT	PBT
Degree of protection	IP20	IP20
Ambient temperature (operation)	-10°C ... 60°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Data front plate, with the following contact inserts: 1x RJ45 CAT5e, 1x USB A 3.0	**SI-FP-R1A-U1A**	1404499	1			
Data front plate, with the following contact inserts: 2x RJ45 CAT5e, 1x USB A 3.0				**SI-FP-2R1A-U1A**	1404506	1

Data front plates

Front plate

	Technical data
Technical data	
Material front plate	-
Degree of protection	IP20
Ambient temperature (operation)	-10°C ... 60°C

	Ordering data		
Description	Type	Order No.	Pcs./Pkt.
Data front plate, without contact inserts	**VS-SI-FP-BP**	1656657	1

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Data front plates

Front plate

Front plate

	Technical data	Technical data
Technical data		
Material front plate	PBT	PBT
Degree of protection	-	-
Ambient temperature (operation)	-10°C ... 60°C	-10°C ... 60°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Data front plate, unequipped, for accommodating the following contact inserts:						
2x D-SUB 9	**VS-SI-FP-2DSUB9**	1656563	1			
2 x D-SUB 15	**VS-SI-FP-2DSUB15**	1656592	1			
2 x D-SUB 25	**VS-SI-FP-2DSUB25**	1656615	1			
Data front plate, unequipped, for accommodating the following contact inserts:						
1x D-SUB 9, 1x D-SUB 15				**VS-SI-FP-DSUB9-DSUB15**	1656576	1
1x D-SUB 9, 1x D-SUB 25				**VS-SI-FP-DSUB9-DSUB25**	1656589	1
1x D-SUB 15, 1x D-SUB 25				**VS-SI-FP-DSUB15-DSUB25**	1656602	1

Inserts for data front plates

Gender changer

	Technical data
Technical data	
Housing material	Steel, yellow chromated
Degree of protection	-
Ambient temperature (operation)	-55°C ... 125°C

	Ordering data		
Description	Type	Order No.	Pcs./Pkt.
D-SUB gender changer			
9-pos., female/female	**VS-09-GC-BU/BU**	1688722	10
15-pos., female/female	**VS-15-GC-BU/BU**	1652664	10
25-pos., female/female	**VS-25-GC-BU/BU**	1652680	10

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Data front plates

Front plate

Front plate

	Technical data	Technical data
Technical data		
Material front plate	Zinc die-cast, nickel-plated	Zinc die-cast, nickel-plated
Degree of protection	IP20 / IP00	IP20 / IP00
Ambient temperature (operation)	-5°C ... 50°C	-5°C ... 50°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Data front plate, with grounding contact socket for Germany, including RJ45 gender changer (female/female, shielded), CAT6$_A$ Spring connection	**VS-FP-SD-D-RJ456A-BUBU**	1054542	1			
Data front plate, with grounding contact socket for France, including RJ45 gender changer (female/female, shielded), CAT6$_A$ Screw connection				**VS-FP-SD-FR-RJ456A-BUBU**	1054543	1

Data front plates and accessories

Front plate

Gender changer, ground strap

	Technical data	Technical data
Technical data		
Material front plate	Zinc die-cast, nickel-plated	-
Degree of protection	IP20 / IP00	IP20
Ambient temperature (operation)	-5°C ... 50°C	-40°C ... 70°C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Data front plate, with grounding contact socket for England, including RJ45 gender changer (female/female, shielded), CAT6$_A$ Screw connection	**VS-FP-SD-GB-RJ456A-BUBU**	1054544	1			
Gender changer						
RJ45 CAT6$_A$, female/female shielded				**VS-GC-RJ456A-BUBU**	1055552	1
USB 3.0, design: A, female/female				**VS-GC-USBA3-A-BUBU**	1055554	1
Ground strap, for functional ground				**VS-ES-100-6**	1055164	1

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Control cabinet sockets

Sockets that can be mounted on DIN rails serve for easy connection of electrical auxiliary devices for assembly, testing, lighting, etc. They enable worldwide use in switchgear, control cabinets, and in simple sub-distributions. Worldwide use makes it essential to offer the sockets with pin connector patterns that are standard in each country, in accordance with the currently applicable standards and regulations. The mounting holes in the sockets mean that, in addition to mounting on a DIN rail in accordance with EN 60715, there is also the option of direct mounting in the service interface. The EO sockets are offered with both the proven screw connection, as well as the modern Push-in connection. The integrated functions such as LED, fuse, switch, circuit breaker or a combination of the functions with each other, offers a wide area of use.

L1, N, and PE are arranged on one side of the socket depending on the connection. You can select the following pin connector patterns for the sockets:

– Type AB, type CF, type D, type E, type G, type I, type J, type K, type L, and type N
– Type E, type G, and type L are also supplied with an integrated shutter system
– The USA versions are offered with integrated circuit breaker in 15 A and 20 A
– Housing color: gray or green

In combination with the EO-SI-FRAME adapter plate, the sockets can also be used in the VS-SI-... / SI-... mounting frames under different IP protection classes.

Notes:

To install a control cabinet socket in a VS-SI-... or SI-... mounting frame, you will need an EO-SI-FRAME adapter plate (see accessories).

Individual socket, Germany, Push-in connection

Technical data

Nominal voltage		250 V AC (50 Hz)
Max. continuous current		16 A
General data		EO-...
Dimensions	W / H / D	45 mm / 75 mm / 60 mm
Connection data rigid/flexible/AWG		0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Degree of protection		IP20
Insulation material		PA
Ambient temperature range		-20°C ... 60°C
Standards/regulations		VDE 0620-1
Flammability rating in accordance with UL 94		V0

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Sockets for the DIN rail, Push-in connection			
Default, gray	**EO-CF/PT**	0804038	5
Default, green	**EO-CF/PT/GN**	0804039	5
Standard, yellow	**EO-CF/PT/YE**	1068067	5
LED display, gray	**EO-CF/PT/LED**	0804040	5
LED display, green	**EO-CF/PT/LED/GN**	0804041	5
LED display, yellow	**EO-CF/PT/LED/YE**	1068075	5
LED display and fuse 5 x 20 mm, 6.3 A, gray	**EO-CF/PT/LED/F**	0804042	5
LED display and fuse 5 x 20 mm, 6.3 A, green	**EO-CF/PT/LED/F/GN**	0804043	5
Switch, gray	**EO-CF/PT/S**	0804045	5
Switch, LED display, gray	**EO-CF/PT/LED/S**	0804046	5
Fuse 5 x 20 mm, 6.3 A, gray	**EO-CF/PT/F**	0804047	5
Fuse 5 x 20 mm, 6.3 A, green	**EO-CF/PT/F/GN**	0804048	5
Socket for the DIN rail, screw connection			
Default, gray	**EO-CF/UT**	0804024	5
Default, green	**EO-CF/UT/GN**	0804025	5
Standard, yellow	**EO-CF/UT/YE**	1068038	5
LED display, gray	**EO-CF/UT/LED**	0804026	5
LED display, green	**EO-CF/UT/LED/GN**	0804027	5
LED display, yellow	**EO-CF/UT/LED/YE**	1068028	5
LED display and fuse 5 x 20 mm, 6.3 A, gray	**EO-CF/UT/LED/F**	0804029	5
LED display and fuse 5 x 20 mm, 6.3 A, green	**EO-CF/UT/LED/F/GN**	0804030	5
Switch, gray	**EO-CF/UT/S**	0804032	5
Switch, LED display, gray	**EO-CF/UT/LED/S**	0804033	5
Fuse 5 x 20 mm, 6.3 A, gray	**EO-CF/UT/F**	0804034	5
Fuse 5 x 20 mm, 6.3 A, green	**EO-CF/UT/F/GN**	0804035	5

Accessories

Adapter plate, for installing a control cabinet socket in a mounting frame, version: VS-SI-... or SI-...	**EO-SI-FRAME**	0804522	1
UniCard, for terminal blocks with a flat marker groove, 64-section, 7 individual labels per strip, for a terminal block width of 8.2 mm, white	**UC-TMF 8**	0818137	10
UniCard, for terminal blocks with a flat marker groove, 32-section, 4 individual labels per strip, for a terminal block width of 16 mm, white	**UC-TMF 16**	0819262	10
Zack marker strip, flat, 10-section, without color print, white	**ZBF 8:UNBEDRUCKT**	0808781	10
Zack marker strip, flat, 5-section, without color print, white	**ZBF 16:UNPRINTED**	0827464	10

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Individual socket, USA, Push-in connection

Individual socket, India, Africa, Push-in connection

Technical data

125 V AC (60 Hz)	
15 A	
EO-...	
45 mm / 75 mm / 57.5 mm	
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	
IP20	
PA	
-20°C ... 60°C	
UL 508	
V0	

Technical data

250 V AC (50 Hz)	
6 A	
EO-...	
45 mm / 75 mm / 57.5 mm	
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	
IP20	
PA	
-20°C ... 60°C	
IS 1293	
V0	

Ordering data

Type	Order No.	Pcs./Pkt.
EO-AB/PT/15	0804165	5
EO-AB/PT/LED/15	0804168	5
EO-AB/PT/LED/F	0804171	5
EO-AB/PT/S/15	0804173	5
EO-AB/PT/LED/S/15	0804174	5
EO-AB/PT/F	0804175	5
EO-AB/UT/15	0804152	5
EO-AB/UT/LED/15	0804155	5
EO-AB/UT/LED/F	0804157	5
EO-AB/UT/S/15	0804159	5
EO-AB/UT/LED/S/15	0804160	5
EO-AB/UT/F	0804161	5

Ordering data

Type	Order No.	Pcs./Pkt.
EO-D/PT	0804009	5
EO-D/PT/GN	0804010	5
EO-D/PT/LED	0804011	5
EO-D/PT/LED/GN	0804012	5
EO-D/UT	0804000	5
EO-D/UT/GN	0804001	5
EO-D/UT/LED	0804003	5
EO-D/UT/LED/GN	0804004	5
EO-D/UT/F	0804005	5
EO-D/UT/F/GN	0804006	5

Accessories

EO-SI-FRAME	0804522	1
UC-TMF 8	0818137	10
UC-TMF 16	0819262	10
ZBF 8:UNBEDRUCKT	0808781	10
ZBF 16:UNPRINTED	0827464	10

Accessories

EO-SI-FRAME	0804522	1
UC-TMF 8	0818137	10
UC-TMF 16	0819262	10
ZBF 8:UNBEDRUCKT	0808781	10
ZBF 16:UNPRINTED	0827464	10

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Control cabinet sockets

To prevent unintentional contact with live components, the type E, G, and L sockets have integrated touch protection (child-proofing). This is enshrined in the respective country standards, such as NF C61-314.

In combination with the EO-SI-FRAME adapter plate, the sockets can also be used in the VS-SI-... / SI-... mounting frames under different IP protection classes.

Notes:

To install a control cabinet socket in a VS-SI-... or SI-... mounting frame, you will need an EO-SI-FRAME adapter plate (see accessories).

Individual socket, Italy, Push-in connection with shutter

Technical data

Nominal voltage		250 V AC (50 Hz)
Max. continuous current		16 A
General data		EO-...
Dimensions	W / H / D	45 mm / 75 mm / 57.5 mm
Connection data rigid/flexible/AWG		0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Degree of protection		IP20
Insulation material		PA
Ambient temperature range		-20°C ... 60°C
Standards/regulations		CEI 23-50
Flammability rating in accordance with UL 94		V0

Ordering data

Description	Color	Type	Order No.	Pcs./Pkt.
Sockets for the DIN rail, Push-in connection				
Default, gray		**EO-L/PT/SH**	0804132	5
Default, green		**EO-L/PT/SH/GN**	0804133	5
LED display, gray		**EO-L/PT/SH/LED**	0804134	5
LED display, green		**EO-L/PT/SH/LED/GN**	0804135	5
Switch, gray				
Switch, LED display, gray				
Socket for the DIN rail, screw connection				
Default, gray		**EO-L/UT/SH**	0804126	5
Default, green		**EO-L/UT/SH/GN**	0804127	5
LED display, gray		**EO-L/UT/SH/LED**	0804128	5
LED display, green		**EO-L/UT/SH/LED/GN**	0804129	5
Switch, gray				
Switch, LED display, gray				

Accessories

Adapter plate, for installing a control cabinet socket in a mounting frame, version:				
VS-SI-... or SI-...		**EO-SI-FRAME**	0804522	1
UniCard, for terminal blocks with a flat marker groove, 64-section, 7 individual labels per strip, for a terminal block width of 8.2 mm				
	white	**UC-TMF 8**	0818137	10
UniCard, for terminal blocks with a flat marker groove, 32-section, 4 individual labels per strip, for a terminal block width of 16 mm				
	white	**UC-TMF 16**	0819262	10
Zack marker strip, flat, 10-section, without color print				
	white	**ZBF 8:UNBEDRUCKT**	0808781	10
Zack marker strip, flat, 5-section, without color print				
	white	**ZBF 16:UNPRINTED**	0827464	10

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**Individual socket, France,
Push-in connection with shutter**

**Individual socket, Great Britain,
Push-in connection with shutter**

Technical data	
250 V AC (50 Hz)	
16 A	
EO-...	
45 mm / 75 mm / 57.5 mm	
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	
IP20	
PA	
-20°C ... 60°C	
NF C61-314	
V0	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
EO-E/PT/SH	0804020	5
EO-E/PT/SH/GN	0804021	5
EO-E/PT/SH/LED	0804022	5
EO-E/PT/SH/LED/GN	0804023	5
EO-E/UT/SH	0804016	5
EO-E/UT/SH/GN	0804017	5
EO-E/UT/SH/LED	0804018	5
EO-E/UT/SH/LED/GN	0804019	5

Accessories		
EO-SI-FRAME	0804522	1
UC-TMF 8	0818137	10
UC-TMF 16	0819262	10
ZBF 8:UNBEDRUCKT	0808781	10
ZBF 16:UNPRINTED	0827464	10

Technical data	
250 V AC (50 Hz)	
13 A	
EO-...	
45 mm / 75 mm / 57.5 mm	
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	
IP20	
PA	
-20°C ... 60°C	
BS 1363-1/-2	
V0	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
EO-G/PT/SH	0804063	5
EO-G/PT/SH/GN	0804064	5
EO-G/PT/SH/LED	0804065	5
EO-G/PT/SH/LED/GN	0804066	5
EO-G/PT/SH/S	0804069	5
EO-G/PT/SH/LED/S	0804070	5
EO-G/UT/SH	0804051	5
EO-G/UT/SH/GN	0804052	5
EO-G/UT/SH/LED	0804053	5
EO-G/UT/SH/LED/GN	0804054	5
EO-G/UT/SH/S	0804058	5
EO-G/UT/SH/LED/S	0804059	5

Accessories		
EO-SI-FRAME	0804522	1
UC-TMF 8	0818137	10
UC-TMF 16	0819262	10
ZBF 8:UNBEDRUCKT	0808781	10
ZBF 16:UNPRINTED	0827464	10

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Control cabinet sockets

The sockets can be operated independently of the control cabinet circuit. In the event of an error, this enables the use of current-operated external measurement devices that are necessary for fault analysis. An LED display advises of the voltage connected to the socket.

In combination with the EO-SI-FRAME adapter plate, the sockets can also be used in the VS-SI-... / SI-... mounting frames under different IP protection classes.

Notes:

To install a control cabinet socket in a VS-SI-... or SI-... mounting frame, you will need an EO-SI-FRAME adapter plate (see accessories).

Individual socket, Brazil, South Africa, Push-in connection

Technical data

Nominal voltage		250 V AC (50 Hz ... 60 Hz)
Max. continuous current		20 A
General data		EO-...
Dimensions	W / H / D	45 mm / 75 mm / 57.5 mm
Connection data rigid/flexible/AWG		0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Degree of protection		IP20
Insulation material		PA
Ambient temperature range		-20°C ... 60°C
Standards/regulations		NBR 14136
Flammability rating in accordance with UL 94		V0

Ordering data

Description	Color	Type	Order No.	Pcs./Pkt.
Socket for DIN rail, Push-in connection, 10 A				
Default, gray		**EO-N/PT**	0804146	5
Default, green		**EO-N/PT/GN**	0804147	5
LED display, gray		**EO-N/PT/LED**	0804148	5
LED display, green		**EO-N/PT/LED/GN**	0804149	5
Socket for DIN rail, screw connection, 20 A				
Default, gray		**EO-N/UT**	0804139	5
Default, green		**EO-N/UT/GN**	0804140	5
LED display, gray		**EO-N/UT/LED**	0804142	5
LED display, green		**EO-N/UT/LED/GN**	0804143	5

Accessories

Adapter plate, for installing a control cabinet socket in a mounting frame, version:				
VS-SI-... or SI-...		**EO-SI-FRAME**	0804522	1
UniCard, for terminal blocks with a flat marker groove, 64-section, 7 individual labels per strip, for a terminal block width of 8.2 mm				
	white	**UC-TMF 8**	0818137	10
UniCard, for terminal blocks with a flat marker groove, 32-section, 4 individual labels per strip, for a terminal block width of 16 mm				
	white	**UC-TMF 16**	0819262	10
Zack marker strip, flat, 10-section, without color print				
	white	**ZBF 8:UNBEDRUCKT**	0808781	10
Zack marker strip, flat, 5-section, without color print				
	white	**ZBF 16:UNPRINTED**	0827464	10

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Individual socket, China, Australia, Push-in connection

Individual socket, Switzerland, Push-in connection

Individual socket, Denmark, Push-in connection

Technical data

250 V AC (50 Hz)	250 V AC (50 Hz)	250 V AC (50 Hz)
10 A	16 A	16 A
EO-...	EO-...	EO-...
45 mm / 75 mm / 57.5 mm	45 mm / 75 mm / 57.5 mm	45 mm / 75 mm / 57.5 mm
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
IP20	IP20	IP20
PA	PA	PA
-20°C ... 60°C	-20°C ... 60°C	-20°C ... 60°C
GB 2099.1 and GB 1002	SEV 1011	SR 107-2-D1
V0	V0	V0

Ordering data

Type	Order No.	Pcs./Pkt.
EO-I/UT	0804087	5
EO-I/UT/GN	0804088	5
EO-I/UT/LED	0804089	5
EO-I/UT/LED/GN	0804090	5

Type	Order No.	Pcs./Pkt.
EO-J/PT	0804105	5
EO-J/PT/GN	0804106	5
EO-J/PT/LED	0804107	5
EO-J/PT/LED/GN	0804108	5
EO-J/UT	0804099	5
EO-J/UT/GN	0804100	5
EO-J/UT/LED	0804101	5
EO-J/UT/LED/GN	0804102	5

Type	Order No.	Pcs./Pkt.
EO-K/PT	0804119	5
EO-K/PT/GN	0804120	5
EO-K/PT/LED	0804121	5
EO-K/PT/LED/GN	0804122	5
EO-K/UT	0804113	5
EO-K/UT/GN	0804114	5
EO-K/UT/LED	0804115	5
EO-K/UT/LED/GN	0804116	5

Accessories

EO-SI-FRAME	0804522	1
UC-TMF 8	0818137	10
UC-TMF 16	0819262	10
ZBF 8:UNBEDRUCKT	0808781	10
ZBF 16:UNPRINTED	0827464	10

Accessories

EO-SI-FRAME	0804522	1
UC-TMF 8	0818137	10
UC-TMF 16	0819262	10
ZBF 8:UNBEDRUCKT	0808781	10
ZBF 16:UNPRINTED	0827464	10

Accessories

UC-TMF 8	0818137	10
UC-TMF 16	0819262	10
ZBF 8:UNBEDRUCKT	0808781	10
ZBF 16:UNPRINTED	0827464	10

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Service sockets

Service socket

Technical data	
Technical data	
Housing material	PA
Ambient temperature (operation)	-40°C ... 70°C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Service socket, with the following contact inserts:			
RJ45 CAT6$_A$	**SI-RND-R1A**	**1425186**	1
USB A 3.0	**SI-RND-U1A**	**1425185**	1

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RJ45 patch cables

Notes:

For accessories, see page: 388

Ethernet

RJ45 patch cable for IP20 applications

Technical data

	FL CAT5 PATCH 0,3	FL CAT6 PATCH 0,3
Cable, properties		
External diameter	5.50 mm	5.50 mm
Single wire, material	Cu litz wire	Cu litz wire
Single wires, quantity	8	8
Single wire, cross section	0.14 mm²	0.14 mm²
Outer sheath, material	LSFROH	LSFROH
Smallest bending radius, fixed installation	30 mm	30 mm
Shielding	SF/UTP	S/FTP
Male connector		
Contact resistance	≤ 0.003 Ω (IEC 60603-7)	≤ 0.003 Ω (IEC 60603-7)
General data		
Ambient temperature (operation)	-10°C ... 60°C	-10°C ... 60°C

Ordering data

Description	Length of cable	Type	Order No.	Pcs./Pkt.
Patch cable, CAT5, preassembled				
	0.3 m	**FL CAT5 PATCH 0,3**	2832250	10
	0.5 m	**FL CAT5 PATCH 0,5**	2832263	10
	1 m	**FL CAT5 PATCH 1,0**	2832276	10
	1.5 m	**FL CAT5 PATCH 1,5**	2832221	10
	2 m	**FL CAT5 PATCH 2,0**	2832289	10
	3 m	**FL CAT5 PATCH 3,0**	2832292	10
	5 m	**FL CAT5 PATCH 5,0**	2832580	10
	7.5 m	**FL CAT5 PATCH 7,5**	2832616	10
	10 m	**FL CAT5 PATCH 10,0**	2832629	10
Patch cable, CAT6, preassembled				
	0.3 m	**FL CAT6 PATCH 0,3**	2891181	10
	0.5 m	**FL CAT6 PATCH 0,5**	2891288	10
	1 m	**FL CAT6 PATCH 1,0**	2891385	10
	1.5 m	**FL CAT6 PATCH 1,5**	2891482	10
	2 m	**FL CAT6 PATCH 2,0**	2891589	10
	3 m	**FL CAT6 PATCH 3,0**	2891686	10
	5 m	**FL CAT6 PATCH 5,0**	2891783	10
	7.5 m	**FL CAT6 PATCH 7,5**	2891880	10
	10 m	**FL CAT6 PATCH 10**	2891877	10
	12.5 m	**FL CAT6 PATCH 12,5**	2891369	5
	15 m	**FL CAT6 PATCH 15,0**	2891372	5
	20 m	**FL CAT6 PATCH 20,0**	2891576	5
Patch cable, $CAT6_A$, pre-assembled, outer sheath color: water blue				
	0.3 m	**NBC-R4AC1/0,3-94G/R4AC1-BU**	1413158	1
	0.5 m	**NBC-R4AC1/0,5-94G/R4AC1-BU**	1413159	1
	1 m	**NBC-R4AC1/1,0-94G/R4AC1-BU**	1413160	1
	2 m	**NBC-R4AC1/2,0-94G/R4AC1-BU**	1413161	1
	3 m	**NBC-R4AC1/3,0-94G/R4AC1-BU**	1413162	1
	5 m	**NBC-R4AC1/5,0-94G/R4AC1-BU**	1413163	1
	10 m	**NBC-R4AC1/10,0-94G/R4AC1-BU**	1413164	1
	15 m	**NBC-R4AC1/15,0-94G/R4AC1-BU**	1413165	1
	20 m	**NBC-R4AC1/20,0-94G/R4AC1-BU**	1413166	1

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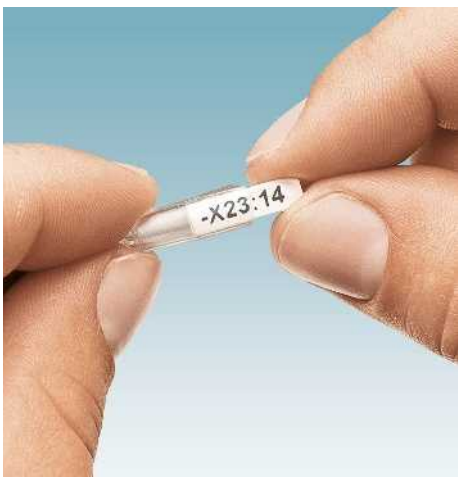

Cable marking

The cables are supplied with marking collars. The marking is implemented by means of insert strips that can be marked and is protected by the carrier. Subsequent marking is therefore possible.

Distributor box marking

High-quality marking materials are available for the individual marking of distributor boxes.

Connector marking

Marking materials ranging from adhesive labels to high-quality engraved labels are available for marking heavy-duty connectors.

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Cable markers

Markers can be fitted using cable binders almost regardless of cable diameter. The large marking area provides enough space for comprehensive marking.

Cable marker labels

Cable marker labels consist of a marking field and a transparent film that protects the marking against abrasion and dirt.

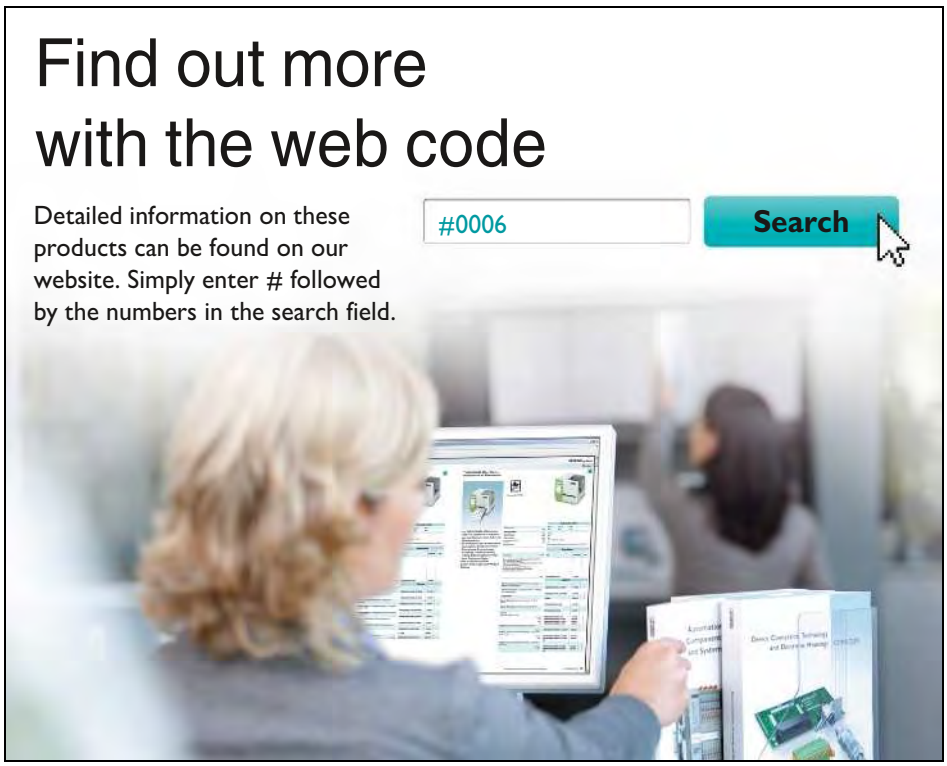
Plastic cable markers

Plastic cable markers are suitable for bundling and marking cables. The marking is protected against dirt and can be replaced.

Cable protection systems

We have the right solution for your application. Select from our comprehensive range of plastic and metal protective hoses. Protective hose screw connections with tool-free quick mounting function and various IP protection classes round off the range of products.

Your web code: #0572



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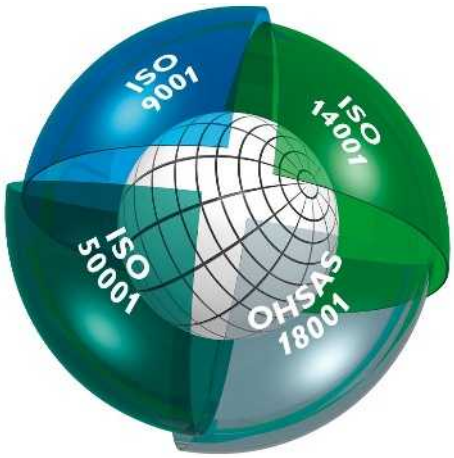
Quality in quantity



Integrated management system

The objective of the Phoenix Contact integrated management system is to integrate all requirements pertaining to products, processes, and the organization.

Statutory and regulatory requirements, as well as those of international standards and our customers, are met and, in some cases, even exceeded in all phases of the product lifecycle.

The Phoenix Contact management system is monitored by internationally recognized independent bodies each year to ensure that quality, environmental protection, energy efficiency, and occupational safety have been integrated in conformance with the relevant requirements. Certification in accordance with international standards ISO 9001, ISO 14001, ISO 50001, and BS OHSAS 18001 is the result of our corporate philosophy of meeting the needs of our customers, staff, and environment as best as possible. This serves as the basis for innovative products with the familiar high Phoenix Contact quality standard, actively practiced environmental protection through efficient production and products that conserve resources, and responsibility in the field of occupational health and safety. It goes without saying that we integrate all further requirements of standards, international approvals or special customer requirements into our company processes.

The result of this system is a building block for the success of the Phoenix Contact Group as well as its products and services.

CE marking

CE marking was introduced as an important instrument for the free movement of goods and services within the single European market. By applying the mark to a product, the manufacturer confirms its compliance with all EU directives applicable to this product. The EU directives describe the product characteristics with regard to device safety and the avoidance of risks. They have been incorporated in national legislation.

Compliance with the requirements is a **condition for placing the product on the market within the EU**.

Where applicable, our products currently fall within the scope of the following directives in particular:

– 2014/35/EU
Electrical equipment designed for use within certain voltage limits (Low Voltage Directive)
– 2014/30/EU
Electromagnetic compatibility (EMC Directive)
– 2014/32/EU
Measuring instruments
– 2006/42/EC
Safety of machinery (Machinery Directive)
– 2014/34/EU
Equipment and protective systems intended for use in potentially explosive atmospheres (ATEX Directive)
– 2014/53/EU
Radio equipment (RED)
– 2011/65/EU
Restriction of the use of certain hazardous substances (RoHS Directive)
– 2012/19/EU
Waste electrical and electronic equipment (WEEE Directive)

The standards used as the basis for the aforelisted directives have been at the heart of our development standard for some time as a way of ensuring compliance with European directives. The numbers of the directives indicate their version at the time of publication. In the event of changes to directives and/or standards, our products will undergo conformity assessment again in good time and a new declaration of conformity will be issued promptly. The current declarations for each product can also be found in our download area.

Among the aforelisted European directives, the EMC Directive plays a particularly important role. It uses a directive enshrined in national legislation as the basis for defining electromagnetic compatibility as a fundamental device property.
European legislation therefore places great emphasis on the electromagnetic compatibility of devices and systems as a basic prerequisite for the error-free operation of machines and systems. As an international leader in the field of surge protection, Phoenix Contact has extensive expertise in EMC. This expertise and the experience gained over many years in the development and application of industrial interface and communication technology have resulted in an extremely high standard of quality for our products when it comes to electromagnetic compatibility.
Our independent laboratory, Phoenix Testlab, was founded in order to share this expertise with other companies. Phoenix Testlab GmbH is an accredited service company, which carries out EMC testing in compliance with European standards. At Phoenix Testlab, devices are also tested with regard to their electrical safety, mechanical influences, and their behavior in relation to environmental influences. Phoenix Testlab is also a notified body in accordance with EMC Directive 2014/30/EU and Radio Equipment Directive (RED) 2014/53/EU. As a certification body (TCB, FCB, and RCB), Phoenix Testlab is also able to approve these products for the markets in the USA, Canada, and Japan.

Standards and regulations

All relevant standards and regulations are used as the basis for the development and maintenance of our products.

International standards are subject to continuous changes as a result of harmonization and new developments. In line with this process, the current version of all standards that are relevant to our products is documented in the product area on our website at **phoenixcontact.net/products**.

Online product information service on the world wide web

Phoenix Contact is continuously extending its product range.

Within the scope of our product monitoring obligation, all products are subject to an improvement process.

The Internet is an ideal platform to quickly communicate new product developments and improvements to the market.

You can quickly access the relevant Phoenix Contact website for your region via phoenixcontact.com. There you will always find an up-to-date overview of products, solutions, and services from Phoenix Contact. This includes technical documents such as data sheets and user manuals, current driver and demo software, and a direct link to the relevant contact person.

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Connection cross section

IEC 60947-7-1/-2

The connection capacity for connectors is documented in the technical data. The connection capacity defines the conductor cross section that can be connected for conductors in rigid (single and multi-stranded) or flexible (fine-stranded) versions. Cross section ranges are also specified for the use of ferrules. Furthermore, ranges where two conductors in rigid and flexible versions are to be simultaneously connected are also listed.

Phoenix Contact connectors are designed so that copper wires can be connected untreated. "Special treatment" or the use of ferrules is not required. "Special treatment" includes tin-plating the litz wires of a conductor, using cable lugs, bending the eyes, etc. However, it does not include straightening the conductor before inserting it into the terminal block or twisting a multi-stranded conductor in order to stabilize the ends.

If ferrules are nevertheless used as splicing protection for flexible conductors, the connection capacity of the flexible conductor is reduced by around one level. Conductors may not be soldered ("soldering all litz wires of a conductor together").

The use of Phoenix Contact CRIMPFOX crimping tools to crimp ferrules is recommended in all cases.

Structure and dimensions of connecting cables

Cross section	Single-stranded		Multi-stranded		Fine-stranded		American Wire Gauge [AWG]						
	Diameter max. dimension	Number of wires	Diameter max. dimension	Number of wires (Minimum number)	Diameter max. dimension	Number of wires (Guide value)	Gauge No.	Rigid wires*			Flexible wires*		
[mm²]							AWG	[Ø mm]	[circ. mils]	[mm²]	[Ø mm]	[circ. mils]	[mm²]
0.2	0.5	1	-	-	-	-	24	0.51	404	0.21	-	-	-
0.5	0.9	1	1.1	7	1.1	16	20	0.81	1022	0.52	0.97	1111	0.56
0.75	1.0	1	1.2	7	1.3	24	18	1.02	1620	0.82	1.16	1600	0.82
1	1.2	1	1.4	7	1.5	32	(17)	1.15	2050	1.04	-	-	-
-	-	-	-	-	-	-	16	1.29	2580	1.31	1.50	2580	1.32
1.5	1.5	1	1.7	7	1.8	30	(15)	1.45	3260	1.65	-	-	-
-	-	-	-	-	-	-	14	1.63	4110	2.08	1.85	4100	2.09
2.5	1.9	1	2.2	7	2.3	50	(13)	1.83	5180	2.63	-	-	-
-	-	-	-	-	-	-	12	2.05	6530	3.31	2.41	6500	3.32
4	2.4	1	2.7	7	2.9	56	(11)	2.30	8230	4.17	-	-	-
-	-	-	-	-	-	-	10	2.59	10380	5.26	2.95	10530	5.37
6	2.9	1	3.3	7	3.9	84	(9)	2.91	13100	6.63	-	-	-
-	-	-	-	-	-	-	8	3.26	16510	8.37	3.73	16625	8.48
10	3.7	1	4.2	7	5.1	80	(7)	3.67	20800	10.56	4.15	20820	10.55
-	-	-	-	-	-	-	6	4.12	26240	13.30	4.67	26250	13.39
16	4.6	1	5.3	7	6.3	126	(5)	4.62	33100	16.77	5.24	33100	16.77
-	-	-	-	-	-	-	4	5.19	41740	21.15	5.90	41650	21.24
25	-	-	6.6	7	7.8	196	3	5.83	52600	26.67	6.61	52630	26.67
35	-	-	7.9	7	9.2	276	2	6.54	66360	33.62	7.42	66150	33.74
-	-	-	-	-	-	-	1	7.35	83690	42.41	8.33	83706	42.69
50	-	-	9.1	19	11	396	1/0	8.25	105600	53.51	9.35	104640	53.36
70	-	-	11	19	13.1	360	2/0	9.27	133100	67.44	10.52	132300	67.47

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Tightening torque for terminal block screws

DIN EN 60947-1

Table 4 of the standard specifies the tightening torque to demonstrate the mechanical strength of screw connections / screw terminal blocks.

These torques are sufficient for securely connecting conductors with Phoenix Contact terminal blocks.

The adjacent table lists recommended tightening torques that differ from those in this standard and will ensure gas-tight connections that remain stable in the long term.

Phoenix Contact torque screwdrivers can be set to the corresponding torques.

Extract from DIN EN 60947-1/ EN 60947-1, Table 4

The torque in accordance with IEC/EN and the recommended tightening torque for Phoenix Contact terminal blocks are specified.

Head screw with slot	
Thread	**Torque**
	[Nm]
M1.6	0.1*
M2.0	0.2*
M2.5 (M2.6)	0.4*
M 3	0.5*
M 4	1.2*
M4.5	1.8*
M 5	2.0*
M 6	2.5*
M 8	3.5*
M 10	4.0* / 10**
M 12	14**
M 14	19**
M 16	25**
M 20	36**
M 24	50**

* Valid for nuts and screws tightened with screwdrivers.
** Valid for nuts and screws that can be tightened with tools other than screwdrivers.

Note:

Subject to changes that serve the purpose of technical progress.

Current carrying capacity

The standard IEC 60947-7-1 / EN 60947-7-1 / DIN VDE 0611-1 specifies the test currents for the individual conductor cross sections listed in the adjacent table. The corresponding currents are listed with the connection data for the individual terminal blocks. The type testing of terminal blocks is based on this data.

The current carrying capacity of connectors in accordance with DIN EN 61984 is dependent on the number of positions and is to be found in the product-specific documentation.

Test currents in accordance with IEC 60947-7-1/EN 60947-7-1, Table 5

Rated cross section	[mm²]	0.2	0.5	0.75	1.0	1.5	2.5	4	6	10	16
Test current	[A]	4	6	9	13.5	17.5	24	32	41	57	76

Rated cross section	[mm²]	25	35	50	70	95	120	150	185	240	300
Test current	[A]	101	125	150	192	232	269	309	353	415	520

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Touch protection

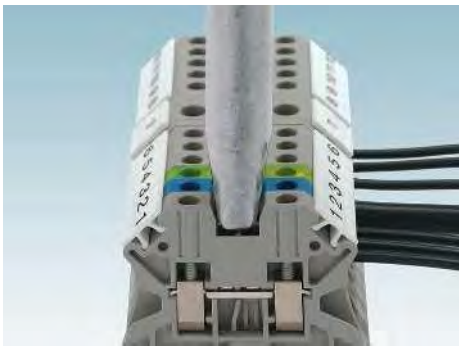
IEC 60529 / DIN EN 50274

Electrical installations and systems must also afford service technicians a high level of safety. This applies for all measurements and testing as well as for servicing.

BGV A3 prescribes the voltage-free state of the affected low-voltage system or system parts up to 1000 V AC and 1500 V DC when working in the vicinity of live parts. To prevent electric shock, live parts must be secured against direct contact through the use of covers or barriers.

In electrical systems that are only accessible to electrically skilled persons or electrically instructed persons, contact inserts for heavy-duty connectors from Phoenix Contact provide touch protection based on EN 50274. During testing based on EN 50274, the test probes are led from the operating direction to the test object. Electrical contact between the test probes and live parts is not permitted with a test force of 20 N for proof of touch-proof safety and 20 N for back of hand safety.

More detailed information is provided in the product documentation.



Touch-proof safety
Test finger with 12.5 mm diameter

Back of hand safety
Test ball with 50 mm diameter

Color designations

Color	Code
White	WH
Red	RD
Blue	BU
Green	GN
Yellow	YE
Gray	GY
Brown	BN
Orange	OG
Black	BK
Turquoise	TQ
Ivory	IV
Beige	BE
Olive	OL
Beige	BE

EMC: Class A product:

In accordance with statutory regulations, our products are indicated with this footnote if they are intended for use in industrial environments. This means that the permitted limit values for residential applications may be exceeded in the event of conducted and emitted disturbance variables. In such cases, the operator may have to take additional safety measures in order to ensure electromagnetic compatibility in residential applications.

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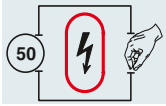
Degrees of protection in accordance with DIN EN 60529

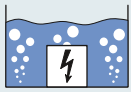
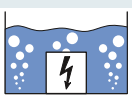
Definition:

The IP (Ingress Protection) degree of protection in accordance with DIN EN 60529 is defined by two digits (e.g. IP54), the meaning of which is explained in the following tables.

Degree of protection against access to dangerous parts and against rigid foreign objects

First digit	Short description	Example	Definition
0	Not protected		
1	Protected against rigid foreign objects		Protected against touching dangerous parts with the back of the hand. Protection against ingress of rigid foreign objects of Ø >50 mm.
2	Protected against rigid foreign objects of Ø 12.5 mm or more		Protected against touching dangerous parts with a finger. Protection against ingress of rigid foreign objects of Ø >12.5 mm.
3	Protected against rigid foreign objects of Ø 2.5 mm or more		Protected against touching dangerous parts with a tool. Protection against ingress of rigid foreign objects of Ø >2.5 mm.
4	Protected against rigid foreign objects of Ø 1 mm or more		Protected against touching dangerous parts with a wire. Protection against ingress of rigid foreign objects of Ø >1 mm.
5	Protected against dust		Protected against touching dangerous parts with a wire. The ingress of dust is not completely prevented, but dust may not enter in amounts sufficient to impair the satisfactory operation of the device or its safety.
6	Dust-proof		Protected against touching dangerous parts with a wire. No ingress of dust.

Degree of protection against water

Second digit	Short description	Example	Definition
0	Not protected		
1	Protected against dripping water		Vertically falling drops shall have no effect.
2	Protected against dripping water if the housing is inclined at an angle of up to 15°		Vertically falling drops shall have no effect if the housing is inclined at an angle of up to 15° either side of the perpendicular.
3	Protected against spray water		Water that is sprayed at an angle of up to 60° either side of the perpendicular shall have no harmful effect.
4	Protected against splash water		Water that splashes against the housing from any direction shall have no harmful effect.
5	Protected against jet water		Water that is directed as a jet against the housing from any direction has no harmful effect.
6	Protected against powerful jet water		Water that is directed as a strong jet against the housing from any direction shall have no harmful effect.
7	Protected against the effect of temporary submersion in water		Water may not penetrate in a harmful quantity when the housing is temporarily submerged in water under standardized pressure and time conditions.
8	Protected against the effect of continuous submersion in water		Water may not penetrate in a harmful quantity when the housing is submerged in water continuously under conditions to be agreed between the manufacturer and user.
9K	Protected against water during high-pressure and jet-stream cleaning		Water that is directed against the housing under extremely high pressure from any direction shall have no harmful effect. (Example: IP69K in accordance with DIN 40050 Part 9)

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For safety reasons, electrical equipment must be protected against external influences. This is the task of the housing, which protects electrical equipment against contact, ingress of solid objects, dust, and moisture.

The following table contains possible combinations of degrees of protection in accordance with DIN EN 60529 which can be practically applied to housing.

Touch protection	Foreign object protection	Protection against water	No protection	Protection against vertically falling dripping water	Protection against dripping water if the housing is inclined at an angle of up to 15°	Protection against spray water from all directions, even when inclined at an angle of up to 60°	Protection against splash water from all directions	Protection against jet water from all directions	Protection against powerful jet water from all directions	Protection against temporary submersion	Protection against the effects of continuous submersion in water	Protected against water during high-pressure and jet-stream cleaning (DIN 40050-9)
		IPx0	**IPx1**	**IPx2**	**IPx3**	**IPx4**	**IPx5**	**IPx6**	**IPx7**	**IPx8**	**IPx9K**	
No touch protection	No protection against solid foreign objects	**IP0x**	IP00									
Back of hand safety	Protection against solid foreign objects >50 mm Ø	**IP1x**	IP10	IP11	IP12							
Touch-proof	Protection against solid foreign objects >12.5 mm Ø	**IP2x**	IP20	IP21	IP22	IP23						
Protection against touching with tools, wires, etc. >2.5 mm Ø	Protection against solid foreign objects >2.5 mm Ø	**IP3x**	IP30	IP31	IP32	IP33						
Protection against touching with tools, wires, etc. >1 mm Ø	Protection against solid foreign objects >1.5 mm Ø	**IP4x**	IP40	IP41	IP42	IP43	IP44					
Protection against touching with tools, wires, etc. >1 mm Ø	Protection against harmful dust accumulations inside the device	**IP5x**	IP50				IP54	IP55				
Protection against touching with tools, wires, etc. >1 mm Ø	No ingress of dust	**IP6x**	IP60					IP65	IP66	IP67	IP68	IP69K

Connector safety requirement and test

DIN EN 61984

Dimensioning of creepage distances for connectors with a degree of protection of IP54 or higher.

For a connector with a degree of protection of at least IP54 in accordance with IEC 60529, isolating parts (air clearances and creepage distances) within the encapsulation may be rated for a low pollution degree.

This also applies to plug-in connectors in which the encapsulation is assured by the connector housing and which are only separated for testing and maintenance purposes.

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Quality features of insulation material

Our insulating housings are made from various thermoplastic materials. Depending on the application, the best-suited material is selected based on its electrical and mechanical properties.

All plastics used by Phoenix Contact are RoHS-compliant.

All plastics used at Phoenix Contact have been listed with UL (Underwriters Laboratories Inc.) in the USA.

Behavior of plastics under the influence of temperature (operating temperatures)

All plastics undergo thermal aging when they are subjected to heat over long periods. This process causes changes in the mechanical and electrical properties of the material. External influences, e.g., radiation, additional mechanical, chemical or electrical stresses, amplify this effect. All characteristics included in the table have been determined based on samples, which provides a good means of drawing comparisons between different plastics. However, applying these characteristics to an evaluation of molded plastic parts is only possible to a limited extent, and can only give the designer a rough guide when it comes to selecting a plastic material. This catalog uses the electrical RTI in accordance with UL 746B as an assessment criterion for temperature resistance.

Insulation materials

Polyamide: PA and PA-GF

Polyamide has excellent electrical, mechanical, and chemical properties even at high operating temperatures. Brief peak temperatures of up to approximately 200°C are permitted as a result of heat aging stabilization. The absorption of water makes the plastic stranded and resistant to breakage, even at low temperatures.

Fiber-reinforced polyamides feature greater rigidity and hardness and can be used at temperatures higher than those of non-reinforced materials.

Polyamide for high-temperature applications: PA HT and PA-GF HT

Special types of polyamide resistant to high temperatures are used in non-reinforced and fiberglass-reinforced versions for reflow applications. These high-temperature polyamides combine the excellent electrical properties of polyamides and the requirements of the reflow soldering process for temperature resistance.

Liquid crystal polymers: LCP GF

LCPs combine high temperature stability with excellent dimensional stability and creepage resistance for products used in reflow processes. LCPs have exceptional mechanical properties across a wide temperature range as well as a very low thermal expansion.

Polyester: PBT and PBT-GF

We use thermoplastic polyester in non-reinforced and fiberglass-reinforced versions for special applications that require increased dimensional and form stability.

In addition to the high operating temperature, the material is characterized by excellent mechanical stability, hardness, and excellent notched impact strength. PBT does not absorb moisture from its surroundings. PBT is therefore particularly suitable for strips, for example, which are soldered onto PCBs.

Polycarbonate: PC

Polycarbonate combines many advantages such as rigidity, impact strength, transparency, dimensional stability, good insulation properties, and resistance to heat.

The amorphous material only absorbs moisture to a very limited degree, and is used for items such as large, rigid electronic component housings.

In its transparent form, polycarbonate is particularly suitable for use as a material for cover profiles or marking materials.

Acrylonitrile butadiene styrene: ABS

We use ABS for products that must have good impact and notched impact properties in addition to high mechanical stability and rigidity. The products are also characterized by their special surface quality and hardness.

ABS is suitable for coating metal surfaces, e.g., nickel.

Polyvinyl chloride: PVC

While most thermoplastic materials are processed with injection molding using ready-to-use molding and extrusion material, PVC is processed as a granulate in the extruder. This is why it is used in our profile products. PVC is also self-extinguishing without flame protection and has high mechanical strength but is also notch-sensitive.

Polyoxymethylene: POM

Polyoxymethylene is a technical material that combines high rigidity with mechanical stability, excellent elastic properties, high toughness, dimensional accuracy, and exceptional sliding friction behavior.

Polyethylene: PE

Polyethylene is characterized by excellent chemical resistance and electrical insulation properties. PE is thermoplastic and can therefore be processed by almost all methods. Furthermore, PE has excellent toughness even at low temperatures and a good elongation at break.

Polypropylene: PP

PP has higher rigidity, hardness, and stability and is more heat-resistant than PE. However, PP is not as tough at low temperatures.

Thermoplastic polyurethane: TPU and TPU-GF

TPU is characterized by excellent electrical properties, a good surface feel, a high degree of flexibility over a wide temperature range, and high resistance to wear. Thermoplastic polyurethanes are also elastic and low-temperature impact resistant.

In contrast to non-reinforced materials, fiberglass-reinforced TPU is characterized by high rigidity and hardness.

Cross-linked ethylene-propylene-diene polymer/polypropylene: PP/EPDM

PP/EPDM is a polymer blend of PP and cross-linked EPDM. PP/EPDM is a rubber-like material that can be processed using thermoplastic methods. PP/EPDM combines high temperature resistance, a low compression set, good resistance to abrasion, and good resistance to chemicals.

Acrylonitrile butadiene styrene rubber: NBR

NBR is a rubber with excellent resistance to aging. It also features excellent resistance to abrasion and has a low plastic flow. Its elasticity is lower than other rubbers.

Fluorinated rubber: FPM

FPM rubbers are characterized by very high temperature resistance, but behave less favorably at low temperatures than other rubbers.

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Chlorine-butadiene rubber: CR

CR rubber stands out against other rubbers with its excellent resistance to weather and ozone.

Properties	Standard	Unit	PA	PA GF	PA HT	PA GF HT	PBT	PBT GF	LCP GF	PC	ABS	PVC	POM	PP	PE
RTI elec[1])	UL 746B	°C	≥105	≥105	≥105	≥105	≥105	≥105	≥130	≥105	≥ 80	≥ 50	≥ 105	65	50
Minimum temperature for use (without mechanical load)		°C	-40	-40	-40	-40	-40	-40	-40	-40	-40	-15	-40	-40	-40
Electric strength	IEC 60243-1 / DIN VDE 0303-21	kV/mm	25	18	20	33	28	40	50	30	41	40	35	30	50
Resistance to creepage CTI...	IEC 60112 / DIN VDE 0303-1	-	600	400	[3]250	225	600	225	175	175	600	600	600		
Resistance to creepage CTI...M	IEC 60112 / DIN VDE 0303-1	-	550	250			600	225		175	600	600	600		
Flammability rating	UL 94	HB – V0	V2, V0	HB, V0	V0	V0	V0	V0	V0	V2, V0		V0	HB	HB	HB
Termite resistance and resistance to tropical conditions			Good	Good			Good			Good					

[1]) Where "≥" is shown, higher temperatures are possible, but not recommended due to increased aging of plastics and insufficient current carrying capacity.

Properties	Standard	Unit	TPU	TPU GF	EPDM/ PP
RTI elec	UL 746B	°C	50	50	100
Minimum temperature for use (without mechanical load)		°C	-40	-40	-40
Electric strength	IEC 60243-1 / DIN VDE 0303-21	kV/mm	30	37	
Resistance to creepage CTI...	IEC 60112 / DIN VDE 0303-1	-	600	600	600
Resistance to creepage CTI...M	IEC 60112 / DIN VDE 0303-1	-	600		
Flammability rating	UL 94	HB – V0	V2	HB	HB
Chemical resistance	See table for resistance to chemicals				

Properties	Standard	Unit	NBR	FPM	CR
Operating temperature		°C	≤100	≤200	≤100
Minimum temperature for use (without mechanical load)		°C	-40	-25	-40
Electric strength	IEC 60243-1 / DIN VDE 0303-21	kV/cm	Not relevant as these are sealing materials		
Resistance to creepage CTI...	IEC 60112 / DIN VDE 0303-1	-			
Resistance to creepage CTI...M	IEC 60112 / DIN VDE 0303-1	-			
Flammability rating	UL 94	HB – V0			

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Resistance to chemicals

- Not resistant
0 Moderately resistant
+ Good resistance

Chemicals	Concentration in %	Temperature in °C	Plastics: PA 66 / PA 6	PA 66 GF	PA 46 GF	PC GF	POM	NBR	PP	EPDM	PBT	PUR	PUR irradiated*	PVC-P (soft)	PE-LD	TPU	FPM (Viton)	CR (neoprene)
Acetaldehyde			0	0	0	-	0	-	-	0		+	+	+	0	0	-	0
Acetone		20	+				+	-	+	+	0	0	0	-	+	-	-	0
Acetate			+	+	+	0	0	-	+	0	0	+	+	-	-	-	-	-
Acetophenone			+	+	+	0	0	-	+	0	0	+	+	-	-	-	-	-
Aldehyde			0	0	0	-	0	-	-	0		+	+	+	0	-	0	0
Formic acid			-	-	0	0	+	-	+	+	+	0	0	-	+	0	0	+
Amines			+	+	+	-	0	-	-	0	+	+	+	+	0	-	-	-
Alcohols			0	0	0	0	+	0	+	+	+	+	+	-	+	+	0	+
Ammonia	10	20	+				+	0	+	+	+	+	+	0	+	0	-	+
Benzaldehyde			0	0	0	-	0	-	-	0		+	+	+	0	0	-	0
Gasoline		20	+	+	+	0	+	0	0	-	+	+	+	-	-	-	+	-
Benzol		50	+	+	+	+	0	-	0	-	+	0	0	-	0	-	0	-
Benzophenone		20	+	+	+	0	0	-	+	0	0	+	+	-	-	-	+	-
Boracic acid	100	20	0				0	+		+	+	0	0	0	+	+	+	+
Brake fluid		100	+				+	-		+	+	-	-	0	+	-	-	-
Butyric acid			-	-	0	0	+	0	+	+	+	0	0	+	+	-	0	0
Cyclohexanone			+	+	+	0	0	-	+	0	0	+	+	-	-	-	-	-
Diesel oil			+				+	+	+	-	+	+	+	-	+	-	+	-
Diethylamine			+	+	+	-	0	-	-	0	+	+	+	+	-	-	-	-
Dimethylamine			+	+	+	-	0	-	-	0	+	+	+	+	0		-	-
Glacial acetic acid		50		-	-	-	-	-	0	+	-	-	-	-	+	-	-	-
Acetic acid	20		-	-	0	0	+	-	+	+	+	0	0	0	+	-	-	0
Esters			+	+	+	0	-	-	-	0	+			-	+	-	-	-
Ethanol			0	0	0	0	+	0	+	+	+	+	+	-	+	+	+	+
Ether			+	+	+	-	0	-	0	0	+	+	+	-	0	+	-	-
Greases			+	+	+	+	+	+	0	0				0	+	-	+	0
Formaldehyde			0	0	0	-	0	-	-	0		+	+	+	0	0	+	0
Gear oil		100	+				+	+		-	+	+	+	+	+	-	+	-
Halogens (fluorine, chlorine, bromine, iodine)			-	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
Hydraulic oil		20	+				0	+		-	+	+	+	-	+	-	+	-
Potassium hydroxide solution			+	+	+	-	+	0	+		-	+	+	+	+	0	+	-
Kerosene		20	+				+				+	+	+	-	0	-	+	-
Ketones			+	+	+	0	0	-	+	0	0	+	+	-	-	-	-	-
Hydrocarbons, aliphatic			+	+	+	+	+	+	0	0	+	+	+	-	+	+	+	-
Hydrocarbons, aromatic			+	+	+	-	0	-	0	0	0	+	+	-	-	-	+	-
Hydrocarbons, chlorinated			0	0	0	-	+	-	-	-	0	-	-	-	-	-	+	-
Hydrocarbons, unsaturated chlorinated			0	0	0	-	+	-	-	-	0	0	0	-	-	-	+	-
Fuels			+	+	+	0	+	0	0	-	+	+	+	-	-	-	+	-
Alkalis, weak			+	+	+	-	+	0	+	+	+	+	+	+	+	0	+	0
Alkalis, strong			0	-	-	-	+	-	+		+	-	-	+	0	0	-	-
Inorganic salt solutions			+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	
Machine oil			+				+				+	+	+	0	+	-	+	-
Metal chloride			+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Metal sulfate			+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Metal nitrate			+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Methanol			0	0	0	0	+	0	+	+	+	+	+	-	+	+	-	+
Methylamine			+	+	+	-	0	-	-	0	+	+	+	+	+	0	0	-
Lactic acid	10	20	+				+	+	+	+	+	+	+	-	+	+	+	+
Mineral oil			+	+	+		+	+	+	-	+	+	+	-	+	-	+	-
Motor oil		120	+	+	+	0	+	+	+	-	+	+	+	-	+	-	+	-
Sodium hydroxide solution	50	50	0	0	+	-	+	+	+	+	-	+	+	+	+	0	0	0
Nitrobenzene			0				0	-		0	+	-	-	-	0	+	0	-
Ozone			0	0	0	-	0	-	+	+	+	0	0	+	+	0	+	-
Propyl alcohol			0	0	0	0	+	0	+	+	+	+	+	-	+	+	+	+
Nitric acid	30	20	-	0	-	0	-	-	+	0	0	0	0	-	+	-	+	-
Hydrochloric acid		20	-				-	0	+	0	0	-	-	-	+	0	+	0
Sulfuric acid	50	50	-	0	-	0	-	-	+	+	-	0	0	+	+	0	+	-
Salt water		20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Turpentine			0	0	0	+	-	+	-	-	+	0	0	-	-	-	+	-
UV resistance			+	+	+	0	0	-	-		+	+	+	0	0	+	+	
Detergent alkalis	2	100	0				+	+		+	+	+	+	-	+	+	+	0
Water (dist.)		20												+				
Water, cold			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Water, hot			-	-	-	-	+	+	+	+	-	+	+	+	+	0	+	0
Citric acid	10		+				+	+	+	+	+			+	+	+	+	+

* The irradiated PUR version is generally more resistant than the non-irradiated version. This cannot be quantified and must be checked in individual cases.

The information in the table has been gathered from the recommendations of our plastic suppliers.

Since individual operating conditions can also affect the usability of each product, this information should be used as a guide only.

For applications where no prior experience exists, we recommend that the user carries out preliminary tests.

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Insulation coordination for electrical equipment in low-voltage systems

Rating of air clearances and creepage distances in accordance with DIN EN 60664-1 / VDE 0110-1.

This part of the standard is based on IEC 60664. It contains the specifications for insulation coordination for equipment in low-voltage systems. This part is applicable for equipment for use up to an altitude of up to 2000 m above sea level. This basic safety standard is primarily aimed at technical committees. If suitable product directives are not available for a piece of equipment, the standard can be applied at the responsibility of the user. International and European product standards are cited in this catalog. These standards contain specifications for insulation coordination in accordance with DIN EN 60664 / VDE 0110-1.

Insulation coordination

Insulation coordination includes the selection of electrical insulation properties for equipment depending on the intended application and ambient conditions. Separate requirements must be applied for air clearances and creepage distances and for fixed insulation. The surge voltages to be expected, the characteristics of surge protective devices, and the pollution levels at the intended site must be considered when dimensioning clearances. Clearances are to be dimensioned in accordance with the external or internal surge voltages to be expected. Different overvoltages, grouped into categories, with a numerical value that determines an impulse withstand voltage, determine the required clearance directly. These overvoltage categories (I to IV) are used for equipment that is directly supplied by low-voltage grids. They are primarily based on a statistical study. Definitions of the individual categories are listed below as an extract of the DIN EN 60664 / VDE 0110-1 standards.

The clearances can be calculated in accordance with Table 2, Minimum clearances, depending on the homogeneity level of the field between the electrodes (case A – non-homogeneous field, case B – homogeneous field).

Clearances in accordance with case A are capable of withstanding the assigned impulse voltages under all conditions. Equipment rated in accordance with case a can therefore be used without further testing. Clearance values in accordance with case B are based on ideal conditions. Clearance values falling between case A and case B must be verified via an impulse voltage test.

The voltages present, the properties of the insulation materials, the pollution levels to be expected, and safety measures against pollution are considered when dimensioning creepage distances.

The effect of pollution is considered when determining the air clearances and creepage distances in accordance with three degrees of severity (pollution degree 1 to 3).

The creepage distances are based on the rated voltage, which is derived from the working voltage or nominal mains voltage. The minimum creepage distances are assigned to the rated voltages in accordance with the pollution degree in Table 4.

If the respective product descriptions do not contain any additional specifications, the products listed in this catalog are rated for overvoltage category III and pollution degree 3 in accordance with this provision (DIN EN 60664-1 / VDE 0110-1).

Overvoltage categories I to IV

– Equipment in **overvoltage category IV** can be used at the terminal point of the installation.
  Note: Examples of this kind of equipment include electricity meters and primary overcurrent protection devices.
– Equipment in **overvoltage category III** can be used in fixed installations and in cases where there are special requirements on the reliability and availability of the equipment.
  Note: Examples of this kind of equipment include switches in fixed installations and equipment for industrial use that is permanently connected to the fixed installation.
– Equipment in **overvoltage category II** is energy-consuming equipment fed by the fixed installation.
  Note: Examples of this kind of equipment include household appliances, portable tools, other domestic appliances, and similar devices.
– Equipment in **overvoltage category I** can be connected to circuits in which measures have been taken to limit the transient overvoltages to a suitably low value.

Pollution degrees 1 to 4

The following four pollution degrees have been defined for the micro-environment in order to determine air clearances and creepage distances:

– Pollution degree 1
  No pollution or only dry, non-conductive pollution occurs. The pollution does not have an effect.
– Pollution degree 2
  Only non-conductive pollution occurs. However, temporary conductivity due to condensation is to be expected.
– Pollution degree 3
  Conductive pollution occurs or dry, non-conductive pollution which becomes conductive, since condensation is to be expected.
– Pollution degree 4
  Permanent conductivity occurs, caused by conductive dust, rain or moisture.

Insulation material

DIN EN 60664 / VDE 0110-1 classifies insulation materials into four groups depending on their CTI values obtained using solution A in accordance with IEC 60112.
Insulation material group I: 600 ≤ CTI
Insulation material group II:
400 ≤ CTI ≤ 600
Insulation material group III a:
175 ≤ CTI < 400
Insulation material group III b:
100 ≤ CTI < 175.

The comparative tracking index of the creepage distance formation must have been determined based on suitable samples using test solution A in accordance with DIN IEC 60112.

The proof tracking index of the creepage distance formation (PTI) is used as proof of the creepage current properties of insulation materials.

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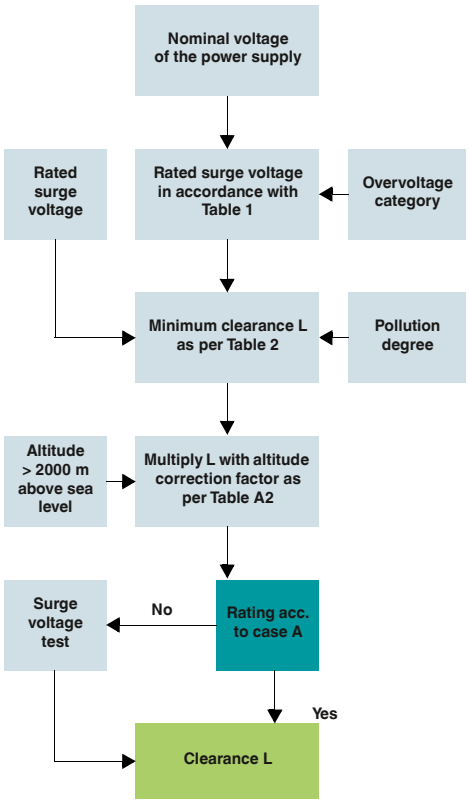
Dimensioning of clearances

Schematic for determining clearances



Rated surge voltages for equipment that is directly supplied by the low-voltage network (extract from Table 1)

Nominal voltage of the power supply system [1] (mains) as per IEC 60038 [3]		Conductor-neutral conductor voltage derived from the total nominal AC voltage or nominal DC voltage	Rated surge voltage [2] [V]			
Three-phase	Single-phase		Overvoltage category [4]			
[V]	[V]	[V]	I	II	III	IV
	120 to 240	50	330	500	800	1500
		100	500	800	1500	2500
		150	800	1500	2500	4000
230/400 277/480		300	1500	2500	4000	6000
400/690		600	2500	4000	6000	8000
1000		1000	4000	6000	8000	12000

[1]) Refer to Annex B for application in existing deviating low-voltage networks and their nominal voltages.

[2]) Equipment with this rated surge voltage may be used in systems in accordance with IEC 60364-4-443.

[3]) The slash, i.e., /, indicates a three-phase four-conductor system. The lower value is the conductor-to-neutral-conductor voltage, whereas the higher value is the conductor-to-conductor voltage. When only one value is specified, it refers to a three-phase three-conductor system, and indicates the conductor-to-conductor voltage.

[4]) Refer to 2.2.2.1.1 for an explanation of overvoltage categories.

Minimum clearances for transient overvoltages (extract from Table 2)

Required impulse withstand voltage [1] [5]	Condition A Non-homogeneous field (refer to 3.15)			Condition B Homogeneous field (refer to 3.14)		
	Pollution degree [6]			Pollution degree [6]		
	1	2	3	1	2	3
[kV]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
0.33 [2])	0.01	0.2 [3]) [4])	0.8 [4])	0.01	0.2 [3]) [4])	0.8 [4])
0.40	0.02			0.02		
0.5 [2])	0.04			0.04		
0.60	0.06			0.06		
0.80 [2])	0.10			0.10		
1.0	0.15			0.15		
1.2	0.25	0.25		0.2		
1.5 [2])	0.5	0.5		0.3	0.3	
2.0	1.0	1.0	1.0	0.45	0.45	
2.5 [2])	1.5	1.5	1.5	0.6	0.6	
3.0	2.0	2.0	2.0	0.8	0.8	
4.0 [2])	3	3	3	1.2	1.2	1.2
5.0	4	4	4	1.5	1.5	1.5
6.0 [2])	5.5	5.5	5.5	2	2	2
8.0 [2])	8	8	8	3	3	3
10	11	11	11	3.5	3.5	3.5
12 [2])	14	14	14	4.5	4.5	4.5
15	18	18	18	5.5	5.5	5.5
20	25	25	25	8	8	8
25	33	33	33	10	10	10
30	40	40	40	12.5	12.5	12.5
40	60	60	60	17	17	17
50	75	75	75	22	22	22
60	90	90	90	27	27	27
80	130	130	130	35	35	35
100	170	170	170	45	45	45

[1]) This voltage is:
– For function insulation: the highest surge voltage expected for the clearance
– For basic insulation, if influenced directly or considerably by transient overvoltages from the low-voltage network: the rated surge voltage of the equipment
– For a different basic insulation: the highest surge voltage possible in the circuit.

[2]) Preferred values

[3]) For PCBs, the values of pollution degree 1 are applicable, except that no deviation below the value of 0.04 mm is permitted, as specified in Table 4.

[4]) Minimum clearances for pollution degrees 2 and 3 are based on the corresponding creepage distances. This resistance is reduced due to the effects of humidity.

[5]) Values can be interpolated for parts or circuits within equipment that are subjected to surge voltages.

[6]) The distances for pollution degree 4 are equal to those for pollution degree 3, except that the minimum clearance is 1.6 mm.

Altitude correction factors (extract from Table A.2)

Altitude [m]	Normal air pressure [kPa]	Multiplication factor for distances
2000	80.0	1.00
3000	70.0	1.14
4000	62.0	1.29
5000	54.0	1.48
6000	47.0	1.70
7000	41.0	1.95
8000	35.5	2.25
9000	30.5	2.62
10,000	26.5	3.02
15,000	12.0	6.67
20,000	5.5	14.50

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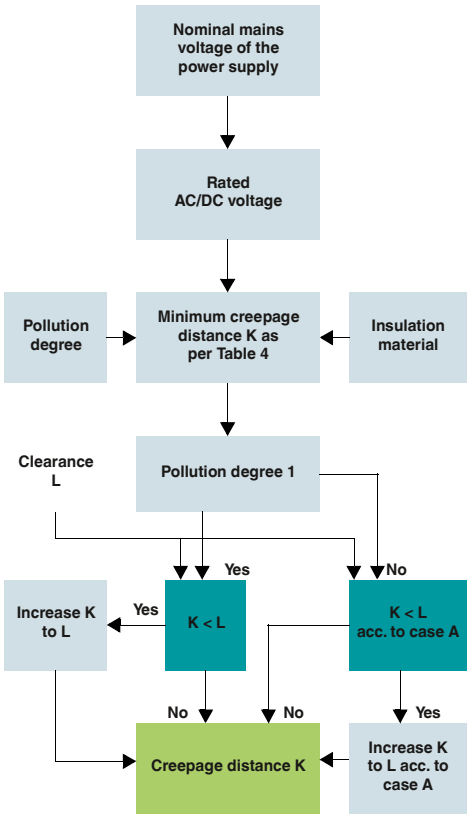
Dimensioning of creepage distances

Schematic for determining creepage distances



Single-phase three or two-conductor AC or DC voltage systems (extract from Table 3 a)

Nominal voltage of the power supply system (mains) *)	Voltages for Table 4	
	For conductor-to-conductor insulation 1) All systems	For conductor-to-ground insulation 1) Three-conductor systems center point grounded
[V]	[V]	[V]
12.5	12.5	–
24 25	25	–
30	32	–
42 48 50 **)	50	–
60	63	–
30-60	63	32
100 **)	100	–
110 120	125	–
150 **)	160	–
220	250	–
110-220 220-240	250	125
300 **)	320	–
220-440	500	250
600 **)	630	–
480-960	1000	500
1000 **)	1000	–

1) Conductor-to-ground insulation levels for non-grounded systems or those grounded through impedance correspond to conductor-to-conductor insulation levels as the operating voltage of every conductor to ground can, in practice, reach the conductor-to-conductor voltage. This is based on the fact that the actual voltage to ground is determined by the insulation resistance and capacitive reactance of each conductor to ground. Therefore, a low (but permissible) insulation resistance of a conductor can practically ground this and raise the two others to conductor-to-conductor voltage to ground.
*) Refer to 2.2.1 for correlation with the rated voltage.
**) These values correspond to the values in Table 1.

Three-phase four or three-conductor AC voltage systems (extract from Table 3 b)

Nominal voltage of the power supply system (mains) *)	Voltages for Table 4		
	For conductor-to-conductor insulation All systems	Insulation for conductor to ground	
		Three-phase four-conductor systems with grounded neutral conductor 2)	Three-phase three-conductor systems non-grounded 1) or conductor grounded
[V]	[V]	[V]	[V]
60	63	32	63
110/120/127	125	80	125
150 **)	160	–	160
208	200	125	200
220/230/240	250	160	250
300 **)	320	–	320
380/400/415	400	250	400
440	500	250	400
480/500	500	320	500
575	630	400	630
600 **)	630	–	630
660/690	630	400	630
720/830	800	500	800
960	1000	630	1000
1000 **)	1000	–	1000

1) Conductor-to-ground insulation levels for non-grounded systems or those grounded through impedance correspond to conductor-to-conductor insulation levels as the operating voltage of every conductor to ground can, in practice, reach the conductor-to-conductor voltage. This is based on the fact that the actual voltage to ground is determined by the insulation resistance and capacitive reactance of each conductor to ground. Therefore, a low (but permissible) insulation resistance of a conductor can practically ground this and raise the two others to conductor-to-conductor voltage to ground.
2) For equipment designed for use in three-phase four-conductor and three-phase three-conductor systems, grounded as well as non-grounded, only the values for three-conductor systems may be used.
*) Refer to 2.2.1 for correlation with the rated voltage.
**) These values correspond to the values in Table 1.

Creepage distances to prevent failures occurring due to creepage (extract from Table 4)

Voltage 1) r.m.s. value	Minimum creepage distances								
	Printed circuits								
	Pollution degree		Pollution degree						
	1	2	1	2			3		
	All insulation material groups	All insulation material groups except III b	All insulation material groups	Insulation material group			Insulation material group		
				I	II	III	I	II	III 2)
[V]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	0.025	0.04	0.08	0.4	0.4	0.4	**1.00**	**1.00**	**1.00**
12.5	0.025	0.04	0.09	0.42	0.42	0.42	**1.05**	**1.05**	**1.05**
16	0.025	0.04	0.10	0.45	0.45	0.45	**1.10**	**1.10**	**1.10**
20	0.025	0.04	0.110	0.48	0.48	0.48	**1.20**	**1.20**	**1.20**
25	0.025	0.04	0.125	0.5	0.5	0.5	**1.25**	**1.25**	**1.25**
32	0.025	0.04	0.140	0.53	0.53	0.53	**1.30**	**1.30**	**1.30**
40	0.025	0.04	0.16	0.56	0.8	1.1	**1.4**	**1.6**	**1.8**
50	0.025	0.04	0.18	0.6	0.85	1.2	**1.5**	**1.7**	**1.9**
63	0.040	0.63	0.20	0.63	0.9	1.25	**1.6**	**1.8**	**2.0**
80	0.063	0.10	0.22	0.67	0.95	1.3	**1.7**	**1.9**	**2.1**
100	0.10	0.16	0.25	0.71	1.0	1.4	**1.8**	**2.0**	**2.2**
125	0.16	0.25	0.28	0.75	1.05	1.5	**1.9**	**2.1**	**2.4**
160	0.25	0.4	0.32	0.8	1.1	1.6	**2.0**	**2.2**	**2.5**
200	0.40	0.63	0.42	1.0	1.4	2.0	**2.5**	**2.8**	**3.2**
250	0.56	1.0	0.56	1.25	1.8	2.5	**3.2**	**3.6**	**4.0**
320	0.75	1.6	0.75	1.6	2.2	3.2	**4.0**	**4.5**	**5.0**
400	1.0	2.0	1.00	2.0	2.8	4.0	**5.0**	**5.6**	**6.3**
500	1.3	2.5	1.30	2.5	3.6	5.0	**6.3**	**7.1**	**8.0**
630	1.8	3.2	1.80	3.2	4.5	6.3	**8.0**	**9**	**10.0**
800	2.4	4.0	2.40	4.0	5.6	8.0	**10.0**	**11**	**12.5**
1000	3.2	5.0	3.20	5.0	7.1	10	**12.5**	**14**	**16.0**
1250			4.20	6.3	9	12.5	**16**	**18**	**20**
1600			5.60	8	11	16	**20**	**22**	**25**
2000			7.50	10	14	20	**25**	**28**	**32**
2500			10	12.5	18	25	**32**	**36**	**40**
3200			12.5	16	22	32	**40**	**45**	**50**
4000			16	20	28	40	**50**	**56**	**63**
5000			20	25	36	50	**63**	**71**	**80**
6300			25	32	45	63	**80**	**90**	**100**
8000			32	40	56	80	**100**	**110**	**125**
10,000			40	50	71	100	**125**	**140**	**160**

1) This voltage is:
a) For function insulation: the working voltage.
b) For basic and additional insulation of a circuit supplied directly by the low-voltage network: either the voltage selected from Table 3 a or 3 b on the basis of the rated voltage of the equipment or the rated insulation voltage.
c) For basic and additional insulation of systems, equipment, and internal circuits which are not supplied directly from the mains: the highest r.m.s. value of the voltage that, within the bounds of the rated data, can occur in the system, the equipment or the internal circuit, when supplied with rated voltage and in the case of the most unfavorable combination of operating conditions.

2) With pollution degree 3, insulation material group III b is not recommended for use if voltages are greater than 630 V.

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Certification authorities and marks

Certification authorities and approvals		Country code
CB scheme	IECEE CB Scheme (in combination with certifying body)	International
CCA	CENELEC Certification Agreement (CCA inspection report) (in combination with certifying body)	EU
	Canadian Standards Association (CSA)	CA
	Canadian Standards Association (CSA) - CSA approval for the USA -	US
	Canadian Standards Association (CSA) combined logo - CSA approval for Canada and the USA -	CA US
LISTED	Underwriters Laboratories Inc. (UL)	US
c LISTED	Underwriters Laboratories Inc. (UL) - UL approval for Canada -	CA
c LISTED US	Underwriters Laboratories Inc. (UL) combined logo - UL approval for the USA and Canada -	US CA
	INSIEME PER LA QUALITA'E LA SICUREZZA	IT
EAC	Eurasian Conformity	EAEU
KEMA KEUR	DEKRA Certification B.V.	NL
ÖVE	Österreichischer Verband für Elektrotechnik	AT
SEV	Eurofins Electrosuisse Product Testing AG SEV certification scheme	CH
DVE VDE	Verband Deutscher Elektrotechniker e.V. (VDE) – Approval of drawings – Reports with production monitoring	DE
	Berufsgenossenschaft (BG) GS – Geprüfte Sicherheit (tested safety)	DE
Intertek	Intertek ETL Listed - Approval for the USA -	US
Intertek	Intertek ETL Listed - Approval for Canada -	CA
Intertek	Intertek ETL Listed - Approval for the USA and Canada -	US CA
TÜV	TÜV Rheinland Industrie Service GmbH	DE
	China Compulsory Certification	CN
	Korean Certification Mark	KR

Explosion protection		Country code
IEC IECEx	International Electrotechnical Commission	International
Ex	ATEX Directive	EU
	Canadian Standards Association (CSA)	CA
US	Canadian Standards Association (CSA) - CSA approval for the USA -	US
C US	Canadian Standards Association (CSA) combined logo - CSA approval for Canada and the USA -	CA US
LISTED	Underwriters Laboratories Inc. (UL)	US
c LISTED	Underwriters Laboratories Inc. (UL) - UL approval for Canada -	CA
c LISTED US	Underwriters Laboratories Inc. (UL) combined logo - UL approval for the USA and Canada -	US CA
FM APPROVED	FM Approvals	US
c FM APPROVED	FM Approvals - FM approval for Canada -	CA
c FM US APPROVED	FM Approvals - FM approval for the USA and Canada -	US CA
EAC Ex	Eurasian Conformity for Ex-products	EAEU
KCS	Korean Certification Mark for Ex-products	KR
INMETRO	National Institute of Metrology, Standardization and Industrial Quality	BR
Ex NEPSI	National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation	CN
CIDET	Corp. Centro de Investigación y Desarrollo Tecnólogico del Sector Eléctrico	CO

Marine classification societies		Country code
DNV·GL MARITIME	DNV GL - MARITIME	DE
BUREAU VERITAS	Bureau Veritas	FR
Lloyd's Register	Lloyd's Register of Shipping	GB
ClassNK	Nippon Kaiji Kyokai	JP
	Polski Rejestr Statków	PL
	Russian Maritime Register of Shipping	RU
KR KOREAN REGISTER	Korean Register of Shipping	KR
ABS	American Bureau of Shipping	US
RINA 1861	Registro Italiano Navale	IT

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HC-CIF-2B6-HFFD-WH-AL	1404215	685
HC-CIF-B06-24-AEWL-PL-BK	1424342	684
HC-CIF-B06-24-BFAFL-PL	1424338	684
HC-CIF-B06-HFWL-PL	1424334	684
HC-CIF-B10-BFFD-FH-AL	1404219	685
HC-CIF-B10-BFWD-FH-AL	1404220	685
HC-CIF-B10-HFFD-WH-AL	1404221	685
HC-CIF-B10-HFWL-PL	1424335	684
HC-CIF-B16-BFFD-FH-AL	1404216	685
HC-CIF-B16-BFWD-FH-AL	1404217	685
HC-CIF-B16-HFFD-WH-AL	1404218	685
HC-CIF-B16-HFWL-PL	1424336	684
HC-CIF-B24-BFFD-FH-AL	1404211	685
HC-CIF-B24-BFWD-FH-AL	1404212	685
HC-CIF-B24-HFFD-WH-AL	1404213	685
HC-CIF-B24-HFWL-PL	1424337	684
HC-CIF-D15-AIWS-SM-NI	1424340	684
HC-CIF-D25-AIWS-SM-NI	1424341	684
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HC-COM-BAWS-PL-BK	1012433	652
HC-COM-BWS-EL-AL	1078594	653
HC-COM-BWS-PL-BK	1012538	652
HC-COM-CHWS-1TGM25-PL-BK	1012521	652
HC-COM-CHWS-1TTM25-EL-AL	1078595	653
HC-COM-HHFS-1SGM25-PL-BK	1012581	652
HC-COM-HHFS-1STM25-EL-AL	1078592	653
HC-COM-HHFS-1TGM25-PL-BK	1012520	652
HC-COM-HHFS-1TTM25-EL-AL	1078590	653
HC-COM-SHOWS-1SGM25-PL-BK	1079393	652
HC-COM-SHOWS-1STM25-EL-AL	1078596	653
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HC-D 4-2BU	1886140	669
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HC-D 40-A-TWIN-PEL-M	1580150	537
HC-D 40-A-TWIN-PER-F	1580163	537
HC-D 40-A-TWIN-PER-M	1580176	537
HC-D 40-A-UT-PEL-F	1584253	537
HC-D 40-A-UT-PEL-M	1584240	537
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HC-EVO-B06-CHWS-PLRBK	1407625	598
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HC-EVO-B06-SHWSC-2SSM20-PLRBK	1421329	598
HC-EVO-B06-SHWSC-2SSM25-PLRBK	1421244	598
HC-EVO-B06-SHWSC-2SSM32-PLRBK	1407624	598
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HC-EVO-B10-BWD-PLRBK	1407634	608
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HC-EVO-B10-BWSC-PLRBK	1407633	604
HC-EVO-B10-CHWD-PLRBK	1407641	608
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HC-EVO-B10-HHFD-2B-PL-BK	1411495	608
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HC-EVO-B16-SHWSC-2SSM32-PLRBK	1421364	618
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HC-EVO-B24-CHWD-PLRBK	1407668	636
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HC-EVO-B24-HHFD-2B-PL-BK	1411497	636
HC-EVO-B24-HHFD-EL-AL	1411472	637
HC-EVO-B24-HHFD-PLBK	1407657	636
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HC-EVO-B24-SHFDC-2SSM32-PLRBK	1421380	640
HC-EVO-B24-SHFDC-2SSM40-PLRBK	1407666	640
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HC-EVO-B24-SHWD-2SSM40-PLRBK	1407665	636
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SAC-3P-M12FR-2L/.../...	1696730	188
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SAC-3P-M12FS SH/.../...	1697441	193
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SAC-3P-M12FS/.../...	1696688	188
SAC-3P-M12MR SH/.../...	1697438	193
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SAC-3P-M12MR-M 8FR/.../...	1696905	188
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SAC-3P-M12MR-M12FR B/.../...	1696824	188
SAC-3P-M12MR-M12FR SH/.../...	1536078	193
SAC-3P-M12MR-M12FR-2LB/.../...	1696837	188
SAC-3P-M12MR-M12FS B/.../...	1696811	188
SAC-3P-M12MR-M12FS SH/.../...	1536065	193
SAC-3P-M12MR-M12FS-2L/.../...	1524763	188
SAC-3P-M12MR/ 0,3-961/M12FR VA	1419126	430
SAC-3P-M12MR/ 0,3-961/M12FS VA	1419110	430
SAC-3P-M12MR/ 0,5-961/M12FR VA	1419127	430
SAC-3P-M12MR/ 0,5-961/M12FS VA	1419111	430
SAC-3P-M12MR/ 1,0-961/M12FR VA	1419128	430
SAC-3P-M12MR/ 1,0-961/M12FS VA	1419112	430
SAC-3P-M12MR/ 1,5-800	1456899	192
SAC-3P-M12MR/ 1,5-PUR SH	1682689	193
SAC-3P-M12MR/ 2,0-961 VA	1419097	430
SAC-3P-M12MR/ 2,0-961/M12FR VA	1419129	430
SAC-3P-M12MR/ 2,0-961/M12FS VA	1419113	430
SAC-3P-M12MR/ 3,0-800	1456909	192
SAC-3P-M12MR/ 3,0-PUR SH	1682692	193
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SAC-3P-M12MR/ 5,0-961 VA	1419098	430
SAC-3P-M12MR/ 5,0-961/M12FR VA	1419130	430
SAC-3P-M12MR/ 5,0-961/M12FS VA	1419114	430
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SAC-3P-M12MR/0,3-PUR/M 8FS	1668878	188
SAC-3P-M12MR/0,3-PUR/M12FR B	1668632	188
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SAC-3P-M12MR/0,3-PVC/M 8FR	1415538	190
SAC-3P-M12MR/0,3-PVC/M 8FS	1415534	190
SAC-3P-M12MR/0,6-PUR/M 8FR	1668920	188
SAC-3P-M12MR/0,6-PUR/M 8FS	1668881	188
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SAC-3P-M12MR/0,6-PUR/M12FS B	1668564	188
SAC-3P-M12MR/0,6-PVC/M 8FR	1415539	190
SAC-3P-M12MR/0,6-PVC/M 8FS	1415535	190
SAC-3P-M12MR/1,5-PUR	1668137	188
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SAC-3P-M12MR/1,5-PUR/M12FR B	1668658	188
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SAC-3P-M12MR/1,5-PVC/M 8FR	1415540	190
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SAC-3P-M12MR/10,0-961/M12FR VA	1419131	430
SAC-3P-M12MR/10,0-961/M12FS VA	1419115	430
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SAC-3P-M12MR/10,0-PUR SH	1500677	193
SAC-3P-M12MR/10,0-PVC	1414450	190
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SAC-3P-M12MR/15,0-961/M12FR VA	1419132	430
SAC-3P-M12MR/15,0-961/M12FS VA	1419116	430
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SAC-3P-M12MR/20,0-961/M12FR VA	1419133	430
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SAC-3P-M12MRS/ 5,0-PVC PE	1411642	288
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SAC-3P-M12MS/ 2,0-961/M12FS VA	1419105	430
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SAC-3P-M12MS/0,3-PVC/M 8FS	1415525	190
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SAC-3P-M12MS/0,6-PUR/M 8FS	1668807	188
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SAC-3P-M12MS/1,5-PUR/M 8FR-2L	1694907	188
SAC-3P-M12MS/1,5-PUR/M 8FS	1668810	188
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SAC-3P-M12MS/15,0-961/M12FS VA	1419108	430
SAC-3P-M12MS/20,0-961 VA	1419096	430
SAC-3P-M12MS/20,0-961/M12FR VA	1419125	430
SAC-3P-M12MS/20,0-961/M12FS VA	1419109	430
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SAC-3P-M12Y-2XM12FR B/.../...	1697373	250
SAC-3P-M12Y-2XM12FR-2LB/.../..	1697386	250
SAC-3P-M12Y-2XM12FR/.../...	1506419	250
SAC-3P-M12Y-2XM12FS B/.../...	1697360	250
SAC-3P-M12Y-2XM12FS/.../...	1699766	250
SAC-3P-M12Y/2X0,3-PUR/M 8FR	1671373	250
SAC-3P-M12Y/2X0,3-PUR/M 8FR-2L	1671412	250
SAC-3P-M12Y/2X0,3-PUR/M 8FS	1671331	250
SAC-3P-M12Y/2X0,3-PUR/M12FR B	1668991	250
SAC-3P-M12Y/2X0,3-PUR/M12FR2LB	1669039	250
SAC-3P-M12Y/2X0,3-PUR/M12FS B	1668959	250
SAC-3P-M12Y/2X0,6-PUR/M 8FR	1671386	250
SAC-3P-M12Y/2X0,6-PUR/M 8FR-2L	1671425	250
SAC-3P-M12Y/2X0,6-PUR/M 8FS	1671344	250
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SAC-3P-M12Y/2X0,6-PUR/M12FR2LB	1669042	250
SAC-3P-M12Y/2X0,6-PUR/M12FS B	1668962	250
SAC-3P-M12Y/2X1,5-PUR	1669686	250
SAC-3P-M12Y/2X1,5-PUR/M 8FR	1671399	250
SAC-3P-M12Y/2X1,5-PUR/M 8FR-2L	1671438	250
SAC-3P-M12Y/2X1,5-PUR/M 8FS	1671357	250
SAC-3P-M12Y/2X1,5-PUR/M12FR B	1669013	250
SAC-3P-M12Y/2X1,5-PUR/M12FR2LB	1669055	250
SAC-3P-M12Y/2X1,5-PUR/M12FS B	1668975	250
SAC-3P-M12Y/2X10,0-PUR	1694473	250
SAC-3P-M12Y/2X3,0-PUR	1669699	250
SAC-3P-M12Y/2X3,0-PUR/M 8FR	1671409	250
SAC-3P-M12Y/2X3,0-PUR/M 8FR-2L	1671441	250
SAC-3P-M12Y/2X3,0-PUR/M 8FS	1671360	250
SAC-3P-M12Y/2X3,0-PUR/M12FR B	1669026	250
SAC-3P-M12Y/2X3,0-PUR/M12FR2LB	1669068	250
SAC-3P-M12Y/2X3,0-PUR/M12FS B	1668988	250
SAC-3P-M12Y/2X5,0-PUR	1669754	250
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SAC-4P-M 8MS/1,5-PUR	1681787	194
SAC-4P-M 8MS/1,5-PUR/M 8FR	1682207	194
SAC-4P-M 8MS/1,5-PUR/M 8FS	1682168	194
SAC-4P-M 8MS/1,5-PVC	1415542	196
SAC-4P-M 8MS/1,5-PVC/M 8FR	1415573	196
SAC-4P-M 8MS/1,5-PVC/M 8FS	1415558	196
SAC-4P-M 8MS/10,0-PUR	1694143	194
SAC-4P-M 8MS/10,0-PUR SH	1521847	199
SAC-4P-M 8MS/10,0-PVC	1415545	196
SAC-4P-M 8MS/3,0-PUR	1681790	194
SAC-4P-M 8MS/3,0-PUR/M 8FR	1682210	194
SAC-4P-M 8MS/3,0-PUR/M 8FS	1682171	194
SAC-4P-M 8MS/3,0-PVC	1415543	196
SAC-4P-M 8MS/3,0-PVC/M 8FR	1415574	196
SAC-4P-M 8MS/3,0-PVC/M 8FS	1415560	196
SAC-4P-M 8MS/5,0-PUR	1681800	194
SAC-4P-M 8MS/5,0-PVC	1415544	196
SAC-4P-M 8SIFR-2L/.../...	1511954	186
SAC-4P-M 8SIFR/.../...	1513392	186
SAC-4P-M 8SIFS/.../...	1513389	186
SAC-4P-M12FR FF VA/.../...	1431351	435
SAC-4P-M12FR SH/.../...	1697496	199
SAC-4P-M12FR-3L/.../...	1696992	194
SAC-4P-M12FR/.../...	1696989	194
SAC-4P-M12FS FF VA/.../...	1431348	435
SAC-4P-M12FS SH/.../...	1697483	199
SAC-4P-M12FS-2L/.../...	1696976	194
SAC-4P-M12FS/.../...	1696963	194
SAC-4P-M12MR FF VA/.../...	1431335	435
SAC-4P-M12MR SH/.../...	1697470	199
SAC-4P-M12MR-M 8FS/.../...	1507874	194
SAC-4P-M12MR-M12FR FF VA/...	1431393	435
SAC-4P-M12MR-M12FR SH/.../...	1536117	199
SAC-4P-M12MR-M12FR-3L/.../...	1697056	194
SAC-4P-M12MR-M12FR/.../...	1697043	194
SAC-4P-M12MR-M12FS FF VA/...	1431377	435
SAC-4P-M12MR-M12FS SH/.../...	1536104	199
SAC-4P-M12MR-M12FS/.../...	1697030	194
SAC-4P-M12MR/ 1,5-800	1457128	198
SAC-4P-M12MR/ 1,5-PUR SH	1682870	199
SAC-4P-M12MR/ 3,0-800	1457131	198
SAC-4P-M12MR/ 3,0-PUR SH	1682883	199
SAC-4P-M12MR/ 5,0-800	1457144	198
SAC-4P-M12MR/ 5,0-PUR SH	1682896	199
SAC-4P-M12MR/.../...	1696950	194
SAC-4P-M12MR/0,3-PUR/M 8FR	1671551	194
SAC-4P-M12MR/0,3-PUR/M12FR	1668713	194
SAC-4P-M12MR/0,3-PUR/M12FR-3L	1668755	194
SAC-4P-M12MR/0,3-PUR/M12FS	1668593	194
SAC-4P-M12MR/0,3-PVC/M 8FR	1415667	196
SAC-4P-M12MR/0,3-PVC/M12FR	1415642	196
SAC-4P-M12MR/0,3-PVC/M12FR-3L	1415646	196
SAC-4P-M12MR/0,3-PVC/M12FS	1415627	196
SAC-4P-M12MR/0,6-PUR/M 8FR	1671564	194
SAC-4P-M12MR/0,6-PUR/M12FR	1668726	194
SAC-4P-M12MR/0,6-PUR/M12FR-3L	1668768	194
SAC-4P-M12MR/0,6-PUR/M12FS	1668603	194
SAC-4P-M12MR/0,6-PVC/M 8FR	1415668	196
SAC-4P-M12MR/0,6-PVC/M12FR	1415643	196
SAC-4P-M12MR/0,6-PVC/M12FR-3L	1415647	196
SAC-4P-M12MR/0,6-PVC/M12FS	1415628	196
SAC-4P-M12MR/1,5-PUR	1668166	194
SAC-4P-M12MR/1,5-PUR/M 8FR	1671577	194
SAC-4P-M12MR/1,5-PUR/M12FR	1668739	194
SAC-4P-M12MR/1,5-PUR/M12FR-3L	1668771	194
SAC-4P-M12MR/1,5-PUR/M12FS	1668616	194
SAC-4P-M12MR/1,5-PVC	1415591	196
SAC-4P-M12MR/1,5-PVC/M 8FR	1415669	196
SAC-4P-M12MR/1,5-PVC/M12FR	1415644	196
SAC-4P-M12MR/1,5-PVC/M12FR-3L	1415648	196
SAC-4P-M12MR/1,5-PVC/M12FS	1415635	196
SAC-4P-M12MR/10,0-800	1457157	198
SAC-4P-M12MR/10,0-PUR	1694457	194
SAC-4P-M12MR/10,0-PUR SH	1500703	199
SAC-4P-M12MR/10,0-PVC	1415594	196
SAC-4P-M12MR/3,0-PUR	1668179	194
SAC-4P-M12MR/3,0-PUR/M 8FR	1671580	194
SAC-4P-M12MR/3,0-PUR/M12FR	1668742	194
SAC-4P-M12MR/3,0-PUR/M12FR-3L	1668784	194
SAC-4P-M12MR/3,0-PUR/M12FS	1668629	194
SAC-4P-M12MR/3,0-PVC	1415592	196
SAC-4P-M12MR/3,0-PVC/M 8FR	1415670	196
SAC-4P-M12MR/3,0-PVC/M12FR	1415645	196
SAC-4P-M12MR/3,0-PVC/M12FR-3L	1415650	196
SAC-4P-M12MR/3,0-PVC/M12FS	1415636	196
SAC-4P-M12MR/5,0-PUR	1668182	194
SAC-4P-M12MR/5,0-PVC	1415593	196
SAC-4P-M12MRL/ 1,5-105	1425029	296
SAC-4P-M12MRL/ 1,5-110	1425049	297
SAC-4P-M12MRL/ 1,5-PUR	1425069	296
SAC-4P-M12MRL/ 1,5-PVC	1425089	297
SAC-4P-M12MRL/ 3,0-105	1425030	296
SAC-4P-M12MRL/ 3,0-110	1425050	297
SAC-4P-M12MRL/ 3,0-PUR	1425070	296
SAC-4P-M12MRL/ 3,0-PVC	1425090	297
SAC-4P-M12MRL/ 5,0-105	1425031	296
SAC-4P-M12MRL/ 5,0-110	1425051	297
SAC-4P-M12MRL/ 5,0-PUR	1425071	296
SAC-4P-M12MRL/ 5,0-PVC	1425091	297
SAC-4P-M12MRL/10,0-105	1425032	296
SAC-4P-M12MRL/10,0-110	1425052	297
SAC-4P-M12MRL/10,0-PUR	1425072	296
SAC-4P-M12MRL/10,0-PVC	1425092	297
SAC-4P-M12MRS/ 1,0-PUR PE	1408839	289
SAC-4P-M12MRS/ 1,5-PUR PE SH	1424108	289
SAC-4P-M12MRS/ 2,0-PUR PE	1408840	289
SAC-4P-M12MRS/ 3,0-PUR PE SH	1424109	289
SAC-4P-M12MRS/ 5,0-PUR PE	1408841	289
SAC-4P-M12MRS/ 5,0-PUR PE SH	1424110	289
SAC-4P-M12MRS/10,0-PUR PE	1408842	289
SAC-4P-M12MRS/10,0-PUR PE SH	1424111	289
SAC-4P-M12MRT/ 1,0-110	1089958	291
SAC-4P-M12MRT/ 1,0-PUR	1408816	290
SAC-4P-M12MRT/ 1,0-PUR/M12FRT	1415196	290
SAC-4P-M12MRT/ 1,5-PUR SH	1424124	290
SAC-4P-M12MRT/ 1,5-PUR/FRT SH	1415202	290
SAC-4P-M12MRT/ 10,0-PUR/FRT SH	1415205	290
SAC-4P-M12MRT/ 2,0-110	1089961	291
SAC-4P-M12MRT/ 2,0-PUR	1408819	290
SAC-4P-M12MRT/ 2,0-PUR/M12FRT	1415197	290
SAC-4P-M12MRT/ 3,0-PUR SH	1424125	290
SAC-4P-M12MRT/ 3,0-PUR/FRT SH	1415203	290
SAC-4P-M12MRT/ 5,0-110	1089965	291
SAC-4P-M12MRT/ 5,0-PUR	1408820	290
SAC-4P-M12MRT/ 5,0-PUR SH	1424126	290
SAC-4P-M12MRT/ 5,0-PUR/FRT SH	1415204	290
SAC-4P-M12MRT/ 5,0-PUR/M12FRT	1415198	290
SAC-4P-M12MRT/10,0-110	1089968	291
SAC-4P-M12MRT/10,0-PUR	1408822	290
SAC-4P-M12MRT/10,0-PUR SH	1424127	290
SAC-4P-M12MRT/10,0-PUR/M12FRT	1415199	290
SAC-4P-M12MS CCL TR	1558470	437
SAC-4P-M12MS FF TR VA	1431403	437
SAC-4P-M12MS FF VA/.../...	1431322	435
SAC-4P-M12MS SH/.../...	1697467	199
SAC-4P-M12MS-M 8FR-2L/.../...	1515031	194
SAC-4P-M12MS-M 8FR/.../...	1697085	194
SAC-4P-M12MS-M 8FS	1519765	254
SAC-4P-M12MS-M 8FS/.../...	1697072	194
SAC-4P-M12MS-M 8SIFS	1519778	254
SAC-4P-M12MS-M12FR FF VA/...	1431380	435
SAC-4P-M12MS-M12FR SH/.../...	1536094	199
SAC-4P-M12MS-M12FR-3L/.../...	1697027	194
SAC-4P-M12MS-M12FR/.../...	1697014	194
SAC-4P-M12MS-M12FS FF VA/...	1431364	435
SAC-4P-M12MS-M12FS SH/.../...	1536081	199
SAC-4P-M12MS-M12FS/.../...	1697001	194
SAC-4P-M12MS/ 0,3-186/M12FS	1509526	440
SAC-4P-M12MS/ 0,3-800/M12FR	1457089	198
SAC-4P-M12MS/ 0,3-800/M12FR-3L	1457102	198
SAC-4P-M12MS/ 0,3-800/M12FS	1457050	198
SAC-4P-M12MS/ 0,3-960/M12FS VA	1431254	435
SAC-4P-M12MS/ 0,3-PUR/M12FR	1668470	194
SAC-4P-M12MS/ 0,3-PUR/M12FR SH	1500965	199
SAC-4P-M12MS/ 0,3-PUR/M12FR	1668357	194
SAC-4P-M12MS/ 0,3-PUR/M12FS SH	1500842	199
SAC-4P-M12MS/ 0,3-PVC/M12FR	1415617	196
SAC-4P-M12MS/ 0,3-PVC/M12FS	1415611	196
SAC-4P-M12MS/ 0,5-186/M12FS	1509539	440
SAC-4P-M12MS/ 0,5-960/M12FS VA	1431267	435
SAC-4P-M12MS/ 0,6-800/M12FR	1567225	198
SAC-4P-M12MS/ 0,6-800/M12FS	1457063	198
SAC-4P-M12MS/ 0,6-PUR/M12FR	1668483	194
SAC-4P-M12MS/ 0,6-PUR/M12FR SH	1500978	199
SAC-4P-M12MS/ 0,6-PUR/M12FS	1668360	194
SAC-4P-M12MS/ 0,6-PUR/M12FS SH	1500855	199
SAC-4P-M12MS/ 0,6-PVC/M12FR	1454817	196
SAC-4P-M12MS/ 0,6-PVC/M12FS	1415612	196
SAC-4P-M12MS/ 1,0-186/M12FS	1509542	440
SAC-4P-M12MS/ 1,0-960/M12FS VA	1431270	435
SAC-4P-M12MS/ 1,5-800	1457018	198
SAC-4P-M12MS/ 1,5-800/M12FR	1567238	198
SAC-4P-M12MS/ 1,5-800/M12FS	1567270	198
SAC-4P-M12MS/ 1,5-PUR	1668043	194
SAC-4P-M12MS/ 1,5-PUR SH	1682715	199
SAC-4P-M12MS/ 1,5-PUR/M12FR SH	1500981	199
SAC-4P-M12MS/ 1,5-PUR/M12FS	1668373	194
SAC-4P-M12MS/ 1,5-PUR/M12FS SH	1500868	199
SAC-4P-M12MS/ 1,5-PVC	1415585	196
SAC-4P-M12MS/ 1,5-PVC/M12FS	1415613	196
SAC-4P-M12MS/ 2,0-186	1509445	440
SAC-4P-M12MS/ 2,0-186/M12FS	1509555	440
SAC-4P-M12MS/ 2,0-960 VA	1431173	435
SAC-4P-M12MS/ 2,0-960/M12FS VA	1431283	435
SAC-4P-M12MS/ 3,0-800	1457021	198
SAC-4P-M12MS/ 3,0-800/M12FR	1457092	198
SAC-4P-M12MS/ 3,0-800/M12FR-3L	1457115	198
SAC-4P-M12MS/ 3,0-800/M12FS	1457076	198
SAC-4P-M12MS/ 3,0-PUR	1668056	194
SAC-4P-M12MS/ 3,0-PUR SH	1682618	199
SAC-4P-M12MS/ 3,0-PUR/M12FR SH	1500994	199
SAC-4P-M12MS/ 3,0-PUR/M12FR	1668386	194
SAC-4P-M12MS/ 3,0-PUR/M12FS SH	1500871	199
SAC-4P-M12MS/ 3,0-PVC	1415588	196
SAC-4P-M12MS/ 3,0-PVC/M12FS	1415614	196
SAC-4P-M12MS/ 5,0-186	1509458	440
SAC-4P-M12MS/ 5,0-186/M12FS	1509568	440
SAC-4P-M12MS/ 5,0-800	1457034	198
SAC-4P-M12MS/ 5,0-960 VA	1431186	435
SAC-4P-M12MS/ 5,0-960/M12FS VA	1431296	435
SAC-4P-M12MS/ 5,0-PUR	1668069	194
SAC-4P-M12MS/ 5,0-PUR SH	1682647	199
SAC-4P-M12MS/ 5,0-PVC	1415589	196
SAC-4P-M12MS/.../...	1696947	194
SAC-4P-M12MS/0,3-PUR/M 8FS	1694923	194
SAC-4P-M12MS/0,3-PUR/M12FR-3L	1668519	194
SAC-4P-M12MS/0,3-PVC/M 8FS	1415671	196
SAC-4P-M12MS/0,3-PVC/M12FR-3L	1415620	196
SAC-4P-M12MS/0,6-800/M12FR-3L	1567173	198
SAC-4P-M12MS/0,6-PUR/M 8FS	1693076	194
SAC-4P-M12MS/0,6-PUR/M12FR-3L	1668522	194
SAC-4P-M12MS/0,6-PVC/M 8FS	1415672	196
SAC-4P-M12MS/0,6-PVC/M12FR-3L	1415623	196
SAC-4P-M12MS/1,5-800/M12FR-3L	1567199	198
SAC-4P-M12MS/1,5-PUR/M 8FS	1693089	194
SAC-4P-M12MS/1,5-PUR/M12FR	1668496	194
SAC-4P-M12MS/1,5-PUR/M12FR-3L	1668535	194
SAC-4P-M12MS/1,5-PVC/M 8FS	1415673	196
SAC-4P-M12MS/1,5-PVC/M12FR	1415618	196
SAC-4P-M12MS/1,5-PVC/M12FR-3L	1415624	196
SAC-4P-M12MS/10,0-186	1509461	440
SAC-4P-M12MS/10,0-186/M12FS	1509571	440
SAC-4P-M12MS/10,0-800	1457047	198
SAC-4P-M12MS/10,0-960 VA	1431199	435
SAC-4P-M12MS/10,0-960/M12FS VA	1431306	435
SAC-4P-M12MS/10,0-PUR	1682993	194
SAC-4P-M12MS/10,0-PUR SH	1694389	199
SAC-4P-M12MS/10,0-PVC	1415590	196
SAC-4P-M12MS/15,0-186	1509474	440
SAC-4P-M12MS/15,0-186/M12FS	1509584	440
SAC-4P-M12MS/15,0-960 VA	1431209	435
SAC-4P-M12MS/15,0-960/M12FS VA	1431319	435
SAC-4P-M12MS/3,0-PUR/M 8FS	1694936	194
SAC-4P-M12MS/3,0-PUR/M12FR	1668506	194
SAC-4P-M12MS/3,0-PUR/M12FR-3L	1668548	194
SAC-4P-M12MS/3,0-PVC/M 8FS	1415674	196
SAC-4P-M12MS/3,0-PVC/M12FR	1415619	196
SAC-4P-M12MS/3,0-PVC/M12FR-3L	1415625	196
SAC-4P-M12MSL/ 1,5-105	1425025	296
SAC-4P-M12MSL/ 1,5-110	1425045	297
SAC-4P-M12MSL/ 1,5-PUR	1425065	296
SAC-4P-M12MSL/ 1,5-PVC	1425085	297
SAC-4P-M12MSL/ 3,0-105	1425026	296
SAC-4P-M12MSL/ 3,0-110	1425046	297
SAC-4P-M12MSL/ 3,0-PUR	1425066	296
SAC-4P-M12MSL/ 3,0-PVC	1425086	297
SAC-4P-M12MSL/ 5,0-105	1425027	296
SAC-4P-M12MSL/ 5,0-110	1425047	297
SAC-4P-M12MSL/ 5,0-PUR	1425067	296
SAC-4P-M12MSL/ 5,0-PVC	1425087	297
SAC-4P-M12MSL/0,3-105/FSL	1425041	296
SAC-4P-M12MSL/0,3-110/FSL	1425061	297
SAC-4P-M12MSL/0,3-PUR/FSL	1425081	296
SAC-4P-M12MSL/0,3-PVC/FSL	1425101	297
SAC-4P-M12MSL/0,6-105/FSL	1425042	296
SAC-4P-M12MSL/0,6-110/FSL	1425062	297
SAC-4P-M12MSL/0,6-PUR/FSL	1425082	296
SAC-4P-M12MSL/0,6-PVC/FSL	1425102	297
SAC-4P-M12MSL/1,5-105/FSL	1425043	296
SAC-4P-M12MSL/1,5-110/FSL	1425063	297
SAC-4P-M12MSL/1,5-PUR/FSL	1425083	296
SAC-4P-M12MSL/1,5-PVC/FSL	1425103	297
SAC-4P-M12MSL/10,0-105	1425028	296
SAC-4P-M12MSL/10,0-110	1425048	297
SAC-4P-M12MSL/10,0-PUR	1425068	296
SAC-4P-M12MSL/10,0-PVC	1425088	297
SAC-4P-M12MSL/3,0-105/FSL	1425044	296
SAC-4P-M12MSL/3,0-110/FSL	1425064	297
SAC-4P-M12MSL/3,0-PUR/FSL	1425084	296
SAC-4P-M12MSL/3,0-PVC/FSL	1425104	297
SAC-4P-M12MSS/ 1,0-PUR PE	1408835	289
SAC-4P-M12MSS/ 1,5-PUR PE SH	1424104	289
SAC-4P-M12MSS/ 2,0-PUR PE	1408836	289
SAC-4P-M12MSS/ 3,0-PUR PE SH	1424105	289
SAC-4P-M12MSS/ 5,0-PUR PE	1408837	289
SAC-4P-M12MSS/ 5,0-PUR PE SH	1424245	289
SAC-4P-M12MSS/10,0-PUR PE	1408838	289
SAC-4P-M12MSS/10,0-PUR PE SH	1424107	289
SAC-4P-M12MST/ 1,0-110	1089952	291
SAC-4P-M12MST/ 1,0-110/M12FST	1089988	291
SAC-4P-M12MST/ 1,0-PUR	1408812	290
SAC-4P-M12MST/ 1,0-PUR/M12FST	1408808	290
SAC-4P-M12MST/ 1,5-PUR SH	1424120	290
SAC-4P-M12MST/ 2,0-110	1089953	291
SAC-4P-M12MST/ 2,0-110/M12FST	1089997	291
SAC-4P-M12MST/ 2,0-PUR	1408813	290
SAC-4P-M12MST/ 2,0-PUR/M12FST	1408809	290
SAC-4P-M12MST/ 3,0-PUR SH	1424121	290
SAC-4P-M12MST/ 5,0-110	1089955	291
SAC-4P-M12MST/ 5,0-110/M12FST	1089998	291
SAC-4P-M12MST/ 5,0-PUR	1408814	290
SAC-4P-M12MST/ 5,0-PUR SH	1424122	290
SAC-4P-M12MST/ 5,0-PUR/M12FST	1408810	290
SAC-4P-M12MST/10,0-110	1089956	291
SAC-4P-M12MST/10,0-PUR	1408815	290
SAC-4P-M12MST/10,0-PUR SH	1424123	290
SAC-4P-M12MST/10,0-PUR/M12FST	1408811	290
SAC-4P-M12T/2XM12 CCL	1559783	436
SAC-4P-M12T/2XM12 FF VA	1431416	436
SAC-4P-MS-AD SCO/.../...	1400898	242
SAC-4P-MS/A-1L-Z D SCO	1458583	257
SAC-4P-PUR-0,25-SH/...	1408513	303
SAC-4P-PUR-0,25/...	1408507	303
SAC-4P-PUR-0,34-SH/...	1408514	303
SAC-4P-PUR-0,34/...	1408508	303
SAC-4P-PVC-0,25/...	1408521	303
SAC-4P-PVC-0,34-SH/...	1408526	303
SAC-4P-PVC-0,34/...	1408522	303
SAC-4PY- 1,5-PUR/2XF	1436165	249
SAC-4PY- 3,0-PUR/2XF	1436178	249
SAC-4PY- 5,0-PUR/2XF	1436181	249
SAC-4PY-10,0-PUR/2XF	1436194	249
SAC-4PY-MS- 0,3-PUR/2XF	1436204	249

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SAC-4PY-MS- 0,6-PUR/2XF	1436217	249
SAC-4PY-MS- 1,5-PUR/2XF	1436220	249
SAC-4PY-MS- 3,0-PUR/2XF	1436233	249
SAC-4PY-MT/2XFT VP	1410632	300
SAC-5P- 1,5-115/M 8FRB	1404475	200
SAC-5P- 1,5-115/M 8FSB	1404470	200
SAC-5P- 1,5-280/M12FRL FE	1414768	294
SAC-5P- 1,5-280/M12FSL FE	1414772	294
SAC-5P- 1,5-290/M12FRL FE	1424605	294
SAC-5P- 1,5-290/M12FSL FE	1424601	294
SAC-5P- 1,5-500/M12FRL FE	1414777	295
SAC-5P- 1,5-500/M12FSL FE	1414782	295
SAC-5P- 1,5-510/M12FRL FE	1424621	295
SAC-5P- 1,5-510/M12FSL FE	1424617	295
SAC-5P- 1,5-802/M12FR	1457173	203
SAC-5P- 1,5-802/M12FR-3L	1454367	203
SAC-5P- 1,5-802/M12FS	1454419	203
SAC-5P- 1,5-PUR/AD-2L	1435085	240
SAC-5P- 1,5-PUR/M12FR	1669851	201
SAC-5P- 1,5-PUR/M12FR SH	1682964	204
SAC-5P- 1,5-PUR/M12FR-3L	1669880	201
SAC-5P- 1,5-PUR/M12FRK PE	1414766	292
SAC-5P- 1,5-PUR/M12FRK PE SH	1414767	292
SAC-5P- 1,5-PUR/M12FS	1669822	201
SAC-5P- 1,5-PUR/M12FS SH	1682935	204
SAC-5P- 1,5-PUR/M12FSK PE	1414770	292
SAC-5P- 1,5-PUR/M12FSK PE SH	1414771	292
SAC-5P- 1,5-PVC/AD-2L	1415945	241
SAC-5P- 1,5-PVC/M12FR	1415686	202
SAC-5P- 1,5-PVC/M12FR-3L	1415690	202
SAC-5P- 1,5-PVC/M12FRK PE	1414774	293
SAC-5P- 1,5-PVC/M12FRK PE SH	1414775	293
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SAC-5P- 1,5-PVC/M12FSK PE	1414780	293
SAC-5P- 1,5-PVC/M12FSK PE SH	1414781	293
SAC-5P- 2,0-900/M12FSB	1507117	428
SAC-5P- 2,0-920/M 8FS	1575770	432
SAC-5P- 2,0-920/M12FS	1507476	433
SAC-5P- 2,0-923/FR CAN SCO	1419034	431
SAC-5P- 2,0-923/FS CAN SCO	1419081	431
SAC-5P- 3,0-115/M 8FRB	1404476	200
SAC-5P- 3,0-115/M 8FSB	1404471	200
SAC-5P- 3,0-280/M12FRL FE	1414786	294
SAC-5P- 3,0-280/M12FSL FE	1414790	294
SAC-5P- 3,0-290/M12FRL FE	1424606	294
SAC-5P- 3,0-290/M12FSL FE	1424602	294
SAC-5P- 3,0-500/M12FRL FE	1414794	295
SAC-5P- 3,0-500/M12FSL FE	1414798	295
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SAC-5P- 3,0-510/M12FSL FE	1424618	295
SAC-5P- 3,0-802/M12FR	1457186	203
SAC-5P- 3,0-802/M12FR-3L	1457212	203
SAC-5P- 3,0-802/M12FS	1457160	203
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SAC-5P- 3,0-PUR/M12FR	1669864	201
SAC-5P- 3,0-PUR/M12FR SH	1682977	204
SAC-5P- 3,0-PUR/M12FR-3L	1669893	201
SAC-5P- 3,0-PUR/M12FRK PE	1414784	292
SAC-5P- 3,0-PUR/M12FRK PE SH	1414785	292
SAC-5P- 3,0-PUR/M12FS	1669835	201
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SAC-5P- 3,0-PUR/M12FSK PE	1414788	292
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SAC-5P- 3,0-PVC/AD-2L	1415946	241
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SAC-5P- 3,0-PVC/M12FRK PE	1414792	293
SAC-5P- 3,0-PVC/M12FRK PE SH	1414793	293
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SAC-5P- 3,0-PVC/M12FSK PE	1414796	293
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SAC-5P- 5,0-280/M12FRL FE	1414802	294
SAC-5P- 5,0-280/M12FSL FE	1414806	294
SAC-5P- 5,0-290/M12FRL FE	1424607	294
SAC-5P- 5,0-290/M12FSL FE	1424603	294
SAC-5P- 5,0-500/M12FRL FE	1414810	295
SAC-5P- 5,0-500/M12FSL FE	1414814	295
SAC-5P- 5,0-510/M12FRL FE	1424623	295
SAC-5P- 5,0-510/M12FSL FE	1424619	295
SAC-5P- 5,0-802/M12FR	1457199	203
SAC-5P- 5,0-802/M12FR-3L	1454370	203
SAC-5P- 5,0-802/M12FS	1454422	203
SAC-5P- 5,0-900/M12FSB	1507120	428
SAC-5P- 5,0-920/M 8FS	1575783	432
SAC-5P- 5,0-920/M12FS	1507489	433
SAC-5P- 5,0-923/FR CAN SCO	1419035	431
SAC-5P- 5,0-923/FS CAN SCO	1419030	431
SAC-5P- 5,0-PUR/AD-2L	1435108	240
SAC-5P- 5,0-PUR/M12FR	1669877	201
SAC-5P- 5,0-PUR/M12FR SH	1682980	204
SAC-5P- 5,0-PUR/M12FR-3L	1669903	201
SAC-5P- 5,0-PUR/M12FRK PE	1414800	292
SAC-5P- 5,0-PUR/M12FRK PE SH	1414801	292
SAC-5P- 5,0-PUR/M12FS	1669848	201
SAC-5P- 5,0-PUR/M12FS SH	1682951	204
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SAC-5P- 5,0-PUR/M12FSK PE SH	1414805	292
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SAC-5P- 5,0-PVC/M12FRK PE	1414808	293
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SAC-5P- 5,0-PVC/M12FS	1453889	202
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SAC-5P-10,0-115/M 8FRB	1404478	200
SAC-5P-10,0-115/M 8FSB	1404474	200
SAC-5P-10,0-280/M12FRL FE	1414819	294
SAC-5P-10,0-280/M12FSL FE	1414823	294
SAC-5P-10,0-290/M12FRL FE	1424608	294
SAC-5P-10,0-290/M12FSL FE	1424604	294
SAC-5P-10,0-500/M12FRL FE	1414827	295
SAC-5P-10,0-500/M12FSL FE	1414831	295
SAC-5P-10,0-510/M12FRL FE	1424624	295
SAC-5P-10,0-510/M12FSL FE	1424620	295
SAC-5P-10,0-802/M12FR	1457209	203
SAC-5P-10,0-802/M12FR-3L	1454396	203
SAC-5P-10,0-802/M12FS	1454448	203
SAC-5P-10,0-900/M12FSB	1507133	428
SAC-5P-10,0-920/M 8FS	1575796	432
SAC-5P-10,0-920/M12FS	1507492	433
SAC-5P-10,0-923/FR CAN SCO	1419036	431
SAC-5P-10,0-923/FS CAN SCO	1419031	431
SAC-5P-10,0-PUR/AD-2L	1435111	240
SAC-5P-10,0-PUR/M12FR	1694541	201
SAC-5P-10,0-PUR/M12FR SH	1500761	204
SAC-5P-10,0-PUR/M12FR-3L	1694431	201
SAC-5P-10,0-PUR/M12FRK PE	1414817	292
SAC-5P-10,0-PUR/M12FRK PE SH	1414818	292
SAC-5P-10,0-PUR/M12FS	1683374	201
SAC-5P-10,0-PUR/M12FS SH	1500758	204
SAC-5P-10,0-PUR/M12FSK PE	1414821	292
SAC-5P-10,0-PUR/M12FSK PE SH	1414822	292
SAC-5P-10,0-PVC/AD-2L	1438671	241
SAC-5P-10,0-PVC/M12FR	1415689	202
SAC-5P-10,0-PVC/M12FR-3L	1415694	202
SAC-5P-10,0-PVC/M12FRK PE	1414825	293
SAC-5P-10,0-PVC/M12FRK PE SH	1414826	293
SAC-5P-10,0-PVC/M12FS	1415685	202
SAC-5P-10,0-PVC/M12FSK PE	1414829	293
SAC-5P-10,0-PVC/M12FSK PE SH	1414830	293
SAC-5P-100,0-534/0,75	1457445	304
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SAC-5P-100,0-PUR/0,5	1457403	304
SAC-5P-100,0-PUR/SH-0,34	1501728	303
SAC-5P-100,0-PVC/0,34	1501841	302
SAC-5P-100,0-PVC/SH-0,34	1550672	303
SAC-5P-15,0-900/M12FSB	1507146	428
SAC-5P-15,0-920/M 8FS	1575806	432
SAC-5P-15,0-920/M12FS	1507502	433
SAC-5P-15,0-923/FR CAN SCO	1419037	431
SAC-5P-15,0-923/FS CAN SCO	1419032	431
SAC-5P-20,0-923/FR CAN SCO	1419038	431
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SAC-5P-920/...	1511504	433
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SAC-5P-M 8FR/920/...	1575916	432
SAC-5P-M 8FS/920/...	1575819	432
SAC-5P-M 8MR-M 8FR/920/...	1575945	432
SAC-5P-M 8MR-M 8FS/920/...	1575932	432
SAC-5P-M 8MR/920/...	1575903	432
SAC-5P-M 8MRB/ 1,5-115	1404465	200
SAC-5P-M 8MRB/ 3,0-115	1404466	200
SAC-5P-M 8MRB/ 5,0-115	1404467	200
SAC-5P-M 8MRB/10,0-115	1404468	200
SAC-5P-M 8MS DN TR	1435988	437
SAC-5P-M 8MS-M 8FS/920/...	1575893	432
SAC-5P-M 8MS/ 0,3-920/M 8FS	1575822	432
SAC-5P-M 8MS/ 0,5-920/M 8FS	1575835	432
SAC-5P-M 8MS/ 1,0-920/M 8FS	1575848	432
SAC-5P-M 8MS/ 2,0-920	1575712	432
SAC-5P-M 8MS/ 2,0-920/M 8FS	1575851	432
SAC-5P-M 8MS/ 5,0-920	1575725	432
SAC-5P-M 8MS/ 5,0-920/M 8FS	1575864	432
SAC-5P-M 8MS/10,0-920	1575738	432
SAC-5P-M 8MS/10,0-920/M 8FS	1575877	432
SAC-5P-M 8MS/15,0-920	1575754	432
SAC-5P-M 8MS/15,0-920/M 8FS	1575880	432
SAC-5P-M 8MS/920/...	1575767	432
SAC-5P-M 8MSB/ 0,3-115/M 8FSB	1404479	200
SAC-5P-M 8MSB/ 0,6-115/M 8FSB	1404480	200
SAC-5P-M 8MSB/ 1,5-115	1404461	200
SAC-5P-M 8MSB/ 1,5-115/M 8FSB	1404481	200
SAC-5P-M 8MSB/ 3,0-115	1404462	200
SAC-5P-M 8MSB/ 3,0-115/M 8FSB	1404482	200
SAC-5P-M 8MSB/ 5,0-115	1404463	200
SAC-5P-M 8MSB/10,0-115	1404464	200
SAC-5P-M12FR SH/.../...	1697535	204
SAC-5P-M12FR-3L/.../...	1697137	201
SAC-5P-M12FR/.../...	1697124	201
SAC-5P-M12FR/920/...	1431092	433
SAC-5P-M12FRB/900/...	1430983	428
SAC-5P-M12FS SH/.../...	1697522	204
SAC-5P-M12FS/.../...	1697111	201
SAC-5P-M12FS/920/...	1538128	433
SAC-5P-M12FSB/900/...	1538005	428
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SAC-5P-M12MR-M12FR SH/.../...	1536159	204
SAC-5P-M12MR-M12FR-3L/.../...	1552159	201
SAC-5P-M12MR-M12FR/.../...	1529506	201
SAC-5P-M12MR-M12FR/920/...	1431128	433
SAC-5P-M12MR-M12FS SH/.../...	1536146	204
SAC-5P-M12MR-M12FS/.../...	1508734	201
SAC-5P-M12MR-M12FS/920/...	1431115	433
SAC-5P-M12MR/ 1,5-802	1457322	203
SAC-5P-M12MR/ 1,5-PUR SH	1682757	204
SAC-5P-M12MR/ 3,0-802	1457335	203
SAC-5P-M12MR/ 3,0-PUR SH	1682760	204
SAC-5P-M12MR/ 5,0-802	1457348	203
SAC-5P-M12MR/ 5,0-PUR SH	1682773	204
SAC-5P-M12MR/.../...	1697108	201
SAC-5P-M12MR/1,5-PUR	1669796	201
SAC-5P-M12MR/1,5-PVC	1415679	202
SAC-5P-M12MR/10,0-802	1457351	203
SAC-5P-M12MR/10,0-PUR	1694460	201
SAC-5P-M12MR/10,0-PUR SH	1500745	204
SAC-5P-M12MR/10,0-PVC	1415682	202
SAC-5P-M12MR/3,0-PUR	1669806	201
SAC-5P-M12MR/3,0-PVC	1415680	202
SAC-5P-M12MR/5,0-PUR	1669819	201
SAC-5P-M12MR/5,0-PVC	1415681	202
SAC-5P-M12MR/920/...	1431089	433
SAC-5P-M12MRB-M12FRB/900/...	1431018	428
SAC-5P-M12MRB-M12FSB/900/...	1431005	428
SAC-5P-M12MRB/900/...	1430970	428
SAC-5P-M12MRK/ 1,5-PUR PE	1414833	292
SAC-5P-M12MRK/ 1,5-PUR PE SH	1414834	292
SAC-5P-M12MRK/ 1,5-PVC PE	1414835	293
SAC-5P-M12MRK/ 1,5-PVC PE SH	1414836	293
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SAC-5P-M12MRK/ 3,0-PUR PE SH	1414838	292
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SAC-5P-M12MRK/ 5,0-PUR PE SH	1414842	292
SAC-5P-M12MRK/ 5,0-PVC PE	1414843	293
SAC-5P-M12MRK/ 5,0-PVC PE SH	1414845	293
SAC-5P-M12MRK/10,0-PUR PE	1414846	292
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SAC-5P-M12MRL/ 1,5-500 FE	1414852	295
SAC-5P-M12MRL/ 1,5-510 FE	1424613	295
SAC-5P-M12MRL/ 3,0-280 FE	1414854	294
SAC-5P-M12MRL/ 3,0-290 FE	1424598	294
SAC-5P-M12MRL/ 3,0-500 FE	1414856	295
SAC-5P-M12MRL/ 3,0-510 FE	1424614	295
SAC-5P-M12MRL/ 5,0-280 FE	1414858	294
SAC-5P-M12MRL/ 5,0-290 FE	1424599	294
SAC-5P-M12MRL/ 5,0-500 FE	1414860	295
SAC-5P-M12MRL/ 5,0-510 FE	1424615	295
SAC-5P-M12MRL/10,0-280 FE	1414862	294
SAC-5P-M12MRL/10,0-290 FE	1424600	294
SAC-5P-M12MRL/10,0-500 FE	1414864	295
SAC-5P-M12MRL/10,0-510 FE	1424616	295
SAC-5P-M12MS CAN TR	1507816	437
SAC-5P-M12MS PB TR	1507803	437
SAC-5P-M12MS SH/.../...	1697506	204
SAC-5P-M12MS-M12FR SH/.../...	1536133	204
SAC-5P-M12MS-M12FR-3L/.../...	1697166	201
SAC-5P-M12MS-M12FR/.../...	1697153	201
SAC-5P-M12MS-M12FR/920/...	1431102	433
SAC-5P-M12MS-M12FS SH/.../...	1536120	204
SAC-5P-M12MS-M12FS/.../...	1697140	201
SAC-5P-M12MS-M12FS/920/...	1538144	433
SAC-5P-M12MS/ 0,3-802/M12FR	1457283	203
SAC-5P-M12MS/ 0,3-802/M12FR-3L	1457306	203
SAC-5P-M12MS/ 0,3-802/M12FS	1457267	203
SAC-5P-M12MS/ 0,3-920/M12FS	1507528	433
SAC-5P-M12MS/ 0,3-PUR/M12FR SH	1501003	204
SAC-5P-M12MS/ 0,3-PUR/M12FS SH	1500884	204
SAC-5P-M12MS/ 0,5-920/M12FS	1507531	433
SAC-5P-M12MS/ 0,6-802/M12FR	1454516	203
SAC-5P-M12MS/ 0,6-802/M12FR-3L	1454464	203
SAC-5P-M12MS/ 0,6-802/M12FS	1454561	203
SAC-5P-M12MS/ 0,6-PUR/M12FR SH	1501029	204
SAC-5P-M12MS/ 0,6-PUR/M12FS SH	1500897	204
SAC-5P-M12MS/ 1,0-920/M12FS	1507544	433
SAC-5P-M12MS/ 1,5-802	1457225	203
SAC-5P-M12MS/ 1,5-802/M12FR	1454532	203
SAC-5P-M12MS/ 1,5-802/M12FR-3L	1454480	203
SAC-5P-M12MS/ 1,5-802/M12FS	1454587	203
SAC-5P-M12MS/ 1,5-PUR SH	1682728	204
SAC-5P-M12MS/ 1,5-PUR/M12FR SH	1501045	204
SAC-5P-M12MS/ 1,5-PUR/M12FS SH	1500907	204
SAC-5P-M12MS/ 2,0-920	1507421	433
SAC-5P-M12MS/ 2,0-920/M12FS	1507557	433
SAC-5P-M12MS/ 3,0-802	1457238	203
SAC-5P-M12MS/ 3,0-802/M12FR	1457296	203
SAC-5P-M12MS/ 3,0-802/M12FR-3L	1457319	203
SAC-5P-M12MS/ 3,0-802/M12FS	1457270	203
SAC-5P-M12MS/ 3,0-PUR SH	1682744	204
SAC-5P-M12MS/ 3,0-PUR/M12FR SH	1501058	204
SAC-5P-M12MS/ 3,0-PUR/M12FS SH	1500910	204
SAC-5P-M12MS/ 5,0-802	1457241	203
SAC-5P-M12MS/ 5,0-920	1507434	433
SAC-5P-M12MS/ 5,0-920/M12FS	1507560	433
SAC-5P-M12MS/ 5,0-PUR SH	1682731	204
SAC-5P-M12MS/.../...	1697098	201
SAC-5P-M12MS/0,3-PUR/M12FR	1681622	201
SAC-5P-M12MS/0,3-PUR/M12FR-3L	1694635	201
SAC-5P-M12MS/0,3-PUR/M12FS	1681583	201
SAC-5P-M12MS/0,3-PVC/M12FR	1415699	202
SAC-5P-M12MS/0,3-PVC/M12FR-3L	1415703	202
SAC-5P-M12MS/0,3-PVC/M12FS	1415695	202
SAC-5P-M12MS/0,6-PUR/M12FR	1681635	201
SAC-5P-M12MS/0,6-PUR/M12FR-3L	1694648	201
SAC-5P-M12MS/0,6-PUR/M12FS	1681596	201
SAC-5P-M12MS/0,6-PVC/M12FR	1415700	202
SAC-5P-M12MS/0,6-PVC/M12FR-3L	1415704	202
SAC-5P-M12MS/0,6-PVC/M12FS	1415696	202
SAC-5P-M12MS/1,5-PUR	1669767	201
SAC-5P-M12MS/1,5-PUR/M12FR	1681648	201
SAC-5P-M12MS/1,5-PUR/M12FR-3L	1694651	201
SAC-5P-M12MS/1,5-PUR/M12FS	1681606	201
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SACB-8/16- 5,0HPUR SCO	1517246	264
SACB-8/16- 5,0PUR SCO	1517068	264
SACB-8/16- 5,0PUR SCO P	1452547	262
SACB-8/16-10,0HPUR SCO	1517259	264
SACB-8/16-10,0PUR SCO	1517071	264
SACB-8/16-10,0PUR SCO P	1452550	262
SACB-8/16-C SCO	1516894	264
SACB-8/16-C SCO P	1452796	263
SACB-8/16-L- 5,0HPUR SCO	1517301	264
SACB-8/16-L- 5,0PUR SCO	1517181	264
SACB-8/16-L- 5,0PUR SCO P	1452725	262
SACB-8/16-L- 5,0PUR SCO P NPN	1405739	262
SACB-8/16-L-10,0HPUR SCO	1517314	264
SACB-8/16-L-10,0PUR SCO	1517194	264
SACB-8/16-L-10,0PUR SCO P	1452738	262
SACB-8/16-L-10,0PUR SCO P NPN	1405740	262
SACB-8/16-L-C GG SCO	1516771	265
SACB-8/16-L-C GG SCO P	1452916	263
SACB-8/16-L-C NPN SCO	1537129	264
SACB-8/16-L-C SCO	1516836	264
SACB-8/16-L-C SCO OTB	1437232	265
SACB-8/16-L-C SCO P	1452851	263
SACB-8/16-L-PT SCO P	1412060	262
SACB-8/16-L-SC SCO P	1453038	262
SACB-8/16-SC SCO P	1452974	262
SACB-8/8-L-PUR SCO FLK14/MCV3P	1547928	265
SACB-8Q/4P- 5,0PUR	1683701	267
SACB-8Q/4P-10,0PUR	1683714	267
SACB-8Q/4P-L- 5,0PUR	1695281	267
SACB-8Q/4P-L-10,0PUR	1695294	267
SACB-8Q/4P-L-SC	1662955	267
SACB-8Q/4P-L-SC NPN	1680872	267
SACB-8Q/4P-SC	1683659	267
SACB-8X0,5/3X1,0-50 PUR SH	1401240	305
SACB-8X0,5/3X1,0-50,0 HPUR	1401690	305
SACB-C H180 8/16 SCO	1516713	265
SACB-C H180 8/4 QO-0,34	1560235	315
SACB-C-H180- 4/3- 5,0PUR-M8	1516292	261
SACB-C-H180- 4/3-10,0PUR-M8	1516302	261
SACB-C-H180- 4/3-M8	1521229	261
SACB-C-H180- 6/3- 5,0PUR-M8	1516315	261
SACB-C-H180- 6/3-10,0PUR-M8	1516328	261
SACB-C-H180- 6/3-M8	1521216	261
SACB-C-H180- 8/3- 5,0PUR-M8	1516331	261
SACB-C-H180- 8/3-10,0PUR-M8	1516344	261
SACB-C-H180- 8/3-M8	1516425	261
SACB-C-H180-10/3- 5,0PUR-M8	1516357	261
SACB-C-H180-10/3-10,0PUR-M8	1516360	261
SACB-C-H180-10/3-M8	1516412	261
SACB-C-H180-4/ 4- 5,0PUR SCO	1516353	265
SACB-C-H180-4/ 4- 5,0PUR SCO P	1453054	263
SACB-C-H180-4/ 4-10,0PUR SCO	1516548	265
SACB-C-H180-4/ 8- 5,0PUR SCO	1516593	265
SACB-C-H180-4/ 8- 5,0PUR SCO P	1453083	263
SACB-C-H180-4/ 8-10,0PUR SCO	1516603	265
SACB-C-H180-4/ 8-10,0PUR SCO P	1453096	263
SACB-C-H180-6/ 6- 5,0PUR SCO	1516551	265
SACB-C-H180-6/ 6- 5,0PUR SCO P	1453119	263
SACB-C-H180-6/ 6-10,0PUR SCO	1516564	265
SACB-C-H180-6/ 6-10,0PUR SCO P	1453122	263
SACB-C-H180-6/12- 5,0PUR SCO	1516616	265
SACB-C-H180-6/12- 5,0PUR SCO P	1453148	263
SACB-C-H180-6/12-10,0PUR SCO	1516629	265
SACB-C-H180-8/ 8- 5,0PUR SCO	1516577	265
SACB-C-H180-8/ 8- 5,0PUR SCO P	1453177	263
SACB-C-H180-8/ 8-10,0PUR SCO	1516580	265
SACB-C-H180-8/ 8-10,0PUR SCO P	1453180	263
SACB-C-H180-8/16 SCO P	1453229	263
SACB-C-H180-8/16- 5,0PUR SCO	1516632	265
SACB-C-H180-8/16- 5,0PUR SCO P	1453203	263
SACB-C-H180-8/16-10,0PUR SCO	1516645	265
SACB-C-H180-8/16-10,0PUR SCO P	1453216	263
SACB-D PG 13,5 (4,0-6,5) YE	1680377	316
SACB-D PG 13,5 (6,5-9,5) BK	1680380	316
SACB-D PG 13,5 (9,0-13,0) RD	1680393	316
SACC BIT M12-D20	1208445	306
SACC BIT M8-D12	1208474	306
SACC-4P-DSI-M12FSD/FSD-M16	1424326	53
SACC-5P-DSI-M12MS/FS-M16	1551671	53
SACC-5P-DSI-M12MSB/FSB-M16	1551684	53
SACC-8P-DSI-M12MS/FS-M16	1551697	53
SACC-CC-2QO SH PB	1420426	423
SACC-CC-4QO SH ETH	1414415	343
SACC-CC-4QO SH PN	1414416	343
SACC-CC-4QO-0,75 SH	1414418	21
SACC-CC-5QO-0,75 SH	1414417	21
SACC-CC-8QO SH ETH	1414412	342
SACC-CC-8QO-0,5 SH	1414612	21
SACC-DSI-FS-12CON-PG9/0,5 SCO	1430446	46
SACC-DSI-FS-17CON-PG9/0,5 SCO	1430462	46
SACC-DSI-FS-4CON-PG9/0,5 SCO	1556621	46
SACC-DSI-FS-5CON-M16/0,5 PP	1027666	48
SACC-DSI-FS-5CON-PG 9/0,5 SCO	1542729	46
SACC-DSI-FS-8CON-PG 9/0,5 SCO	1542732	46
SACC-DSI-FSB-5CON-PG9/ 0,5 SCO	1543676	46
SACC-DSI-FSD-4CON-M16/0,5 PP	1027670	48
SACC-DSI-FSD-4CON-PG9/0,5 SCO	1551529	46
SACC-DSI-M 8FS-3CON-M12/0,5	1453449	34
SACC-DSI-M 8FS-4CON-M12/0,5	1453452	34
SACC-DSI-M 8FS-6CON-M12/0,5	1453465	34
SACC-DSI-M 8MS-3CON-M 8/0,5	1453478	34
SACC-DSI-M 8MS-4CON-M 8/0,5	1453481	34
SACC-DSI-M 8MS-6CON-M 8/0,5	1453494	34
SACC-DSI-M12FS-12CON-M16/0,5	1419713	49
SACC-DSI-M12FS-12P-M16XL/0,5	1411589	50
SACC-DSI-M12FS-17CON-M16/0,5	1419739	49
SACC-DSI-M12FS-17P-M16XL/0,5	1411590	50
SACC-DSI-M12FS-4CON-M16/0,5	1419632	49
SACC-DSI-M12FS-4P-M16XL/0,5	1411584	50
SACC-DSI-M12FS-5CON-M16/0,5	1419658	49
SACC-DSI-M12FS-5CON-PG9/0,5 P	1436356	52
SACC-DSI-M12FS-5P-M16XL/0,5	1411586	50
SACC-DSI-M12FS-8CON-M16/0,5	1419690	49
SACC-DSI-M12FS-8CON-PG9/0,5 P	1436369	52
SACC-DSI-M12FS-8P-M16XL/0,5	1411588	50
SACC-DSI-M12FSB-5CON-M16/0,5	1419674	49
SACC-DSI-M12FSB-5P-M16XL/0,5	1411587	50
SACC-DSI-M12FSD-4CON-M16/0,5	1419616	49
SACC-DSI-M12FSD-4P-M16XL/0,5	1411585	50
SACC-DSI-M12FSK-4PE-M16XL/0,2	1415294	284
SACC-DSI-M12FSK4PE-M16/0,2-1,5	1425638	284
SACC-DSI-M12FSL-4CON-M16XL/0,2	1425589	285
SACC-DSI-M12FSL-4FE-M16XL/0,2	1415299	286
SACC-DSI-M12FSL4CONM16/0,2-1,5	1425634	285
SACC-DSI-M12FSL4FE-M16XL/0,2GR	1425585	286
SACC-DSI-M12FSL4FEM16/0,2GR-1,5	1425630	286
SACC-DSI-M12FSM-5PE-M16XL/0,2	1415303	287
SACC-DSI-M12FSS-3P-M16/0,5 PE	1411652	281
SACC-DSI-M12FSS-4CON-M16/0,5PE	1424133	282
SACC-DSI-M12FSS-4P-M16XL/0,5PE	1411598	283
SACC-DSI-M12FST-4CON-M16/0,5	1424134	282
SACC-DSI-M12FST-4P-M16XL/0,5	1411599	283
SACC-DSI-M12MS-12CON-M16/0,5	1419700	49
SACC-DSI-M12MS-12P-M16XL/0,5	1411596	50
SACC-DSI-M12MS-17CON-M16/0,5	1419726	49
SACC-DSI-M12MS-17P-M16XL/0,5	1411597	50
SACC-DSI-M12MS-4CON-M16/0,5	1419629	49
SACC-DSI-M12MS-4P-M16XL/0,5	1411591	50
SACC-DSI-M12MS-5CON-M16/0,5	1419645	49
SACC-DSI-M12MS-5P-M16XL/0,5	1411593	50
SACC-DSI-M12MS-8CON-M16/0,5	1419687	49
SACC-DSI-M12MS-8P-M16XL/0,5	1411595	50
SACC-DSI-M12MSB-5CON-M16/0,5	1419661	49
SACC-DSI-M12MSB-5P-M16XL/0,5	1411594	50
SACC-DSI-M12MSD-4CON-M16/0,5	1419603	49
SACC-DSI-M12MSD-4P-M16XL/0,5	1411592	50
SACC-DSI-M12MSK-4PE-M16XL/0,2	1415293	284
SACC-DSI-M12MSK4PE-M16/0,2-1,5	1425637	284
SACC-DSI-M12MSL-4CON-M16XL/0,2	1425588	285
SACC-DSI-M12MSL-4FE-M16XL/0,2	1415297	286
SACC-DSI-M12MSL4CONM16/0,2-1,5	1425633	285
SACC-DSI-M12MSL4FE-M16XL/0,2GR	1425584	286
SACC-DSI-M12MSL4FEM16/0,2GR-1,5	1425629	286
SACC-DSI-M12MSM-5PE-M16XL/0,2	1415302	287
SACC-DSI-M12MSS-3P-M16/0,5 PE	1411653	281
SACC-DSI-M12MSS-4CON-M16/0,5PE	1424132	282
SACC-DSI-M12MSS-4P-M16XL/0,5PE	1411603	283
SACC-DSI-M12MST-4CON-M16/0,5	1424136	282
SACC-DSI-M12MST-4P-M16XL/0,5	1411604	283
SACC-DSI-M8FS-3CON-M10/0,5	1456080	34
SACC-DSI-M8FS-4CON-M10/0,5	1456093	34
SACC-DSI-M8FS-6CON-M10/0,5	1456103	34
SACC-DSI-M8FS-8CON-M10/0,5	1424229	34
SACC-DSI-M8MS-8CON-M8/0,5	1424230	34
SACC-DSI-MS-12CON-M12/0,5 SCO	1437122	47
SACC-DSI-MS-12CON-PG9/0,5 SCO	1430459	46
SACC-DSI-MS-17CON-M12/0,5 SCO	1437135	47
SACC-DSI-MS-17CON-PG9/0,5 SCO	1430475	46
SACC-DSI-MS-4CON-M12/0,5 SCO	1551875	47
SACC-DSI-MS-4CON-PG9/0,5 SCO	1556618	46
SACC-DSI-MS-5CON-M12/0,5 SCO	1551888	47
SACC-DSI-MS-5CON-PG 9/0,5 SCO	1542703	46
SACC-DSI-MS-8CON-M12/0,5 SCO	1551914	47
SACC-DSI-MS-8CON-PG 9/0,5 SCO	1542716	46
SACC-DSI-MSB-5CON-M12/0,5 SCO	1551891	47
SACC-DSI-MSB-5CON-PG9/ 0,5 SCO	1543663	46
SACC-DSI-MSD-4CON-M12/0,5 SCO	1551901	47
SACC-DSI-MSD-4CON-PG9/0,5 SCO	1551532	46
SACC-E-FS-12CON-M16/0,5 SCO	1556252	37
SACC-E-FS-17CON-M16/0,5 SCO	1556294	37
SACC-E-FS-4CON-M16/0,5 SCO	1523434	37
SACC-E-FS-5CON-M16/0,5 PP	1027683	36
SACC-E-FS-5CON-M16/0,5 SCO	1520039	37
SACC-E-FS-8CON-M16/0,5 SCO	1523476	37
SACC-E-FSB-5CON-M16/0,5 SCO	1520000	37
SACC-E-FSD-4CON-M16/0,5 PP	1027686	36
SACC-E-FSD-4CON-M16/0,5 SCO	1535202	37
SACC-E-M 8FS-3CON-M8/0,5	1500350	33
SACC-E-M 8FS-4CON-M8/0,5	1500363	33
SACC-E-M 8FS-6CON-M 8/0,5	1542677	33
SACC-E-M 8MS-3CON-M8/0,5	1500334	33
SACC-E-M 8MS-4CON-M8/0,5	1500347	33
SACC-E-M 8MS-6CON-M 8/0,5	1542664	33
SACC-E-M12FS-12P-M16XL/0,5	1411574	39
SACC-E-M12FS-17P-M16XL/0,5	1411576	39
SACC-E-M12FS-4CON-M20/0,5	1408436	40
SACC-E-M12FS-4CON-PG9/0,5	1693788	35
SACC-E-M12FS-4CON-PG9/0,5 FFVA	1431429	424
SACC-E-M12FS-4P-M16XL/0,5	1411568	39
SACC-E-M12FS-5CON-M20/0,5	1408454	40
SACC-E-M12FS-5CON-PG9/0,5	1671098	35
SACC-E-M12FS-5P-M16XL/0,5	1411571	39
SACC-E-M12FS-8CON-M20/0,5	1408453	40
SACC-E-M12FS-8CON-PG9/0,5	1513758	35
SACC-E-M12FS-8P-M16XL/0,5	1411573	39
SACC-E-M12FSB-5P-M16XL/0,5	1411572	39
SACC-E-M12FSD-4P-M16XL/0,5	1411569	39
SACC-E-M12FSK-4PE-M16XL/0,2	1415292	284
SACC-E-M12FSK4PE-M16XL/0,2-1,5	1425636	284
SACC-E-M12FSL-4CON-M16XL/0,2	1425587	285
SACC-E-M12FSL-4FE-M16XL/0,2	1415296	286
SACC-E-M12FSL-4FE-M16XL/0,2 GR	1425583	286
SACC-E-M12FSL4CONM16XL/0,2-1,5	1425632	285
SACC-E-M12FSL4FEM16XL/0,2GR/-1,5	1425628	286
SACC-E-M12FSM-5PE-M16XL/0,2	1415301	287
SACC-E-M12FSS-3P-M16/0,5 PE	1411654	281
SACC-E-M12FSS-4CON-M16/0,5 PE	1424137	282
SACC-E-M12FSS-4P-M16XL/0,5 PE	1411605	283
SACC-E-M12FST-4CON-M16/0,5	1424138	282
SACC-E-M12FST-4P-M16XL/0,5	1411606	283
SACC-E-M12MS-12P-M16XL/0,5	1411582	39
SACC-E-M12MS-17P-M16XL/0,5	1411583	39
SACC-E-M12MS-4CON-M20/0,5	1408451	40
SACC-E-M12MS-4CON-PG9/0,5	1693762	35
SACC-E-M12MS-4CON-PG9/0,5 FFVA	1431432	424
SACC-E-M12MS-4P-M16XL/0,5	1411577	39
SACC-E-M12MS-5CON-M20/0,5	1408446	40
SACC-E-M12MS-5CON-PG9/0,5	1671111	35
SACC-E-M12MS-5P-M16XL/0,5	1411579	39
SACC-E-M12MS-8CON-M20/0,5	1408442	40
SACC-E-M12MS-8CON-PG9/0,5	1513774	35
SACC-E-M12MS-8P-M16XL/0,5	1411581	39
SACC-E-M12MSB-5P-M16XL/0,5	1411580	39
SACC-E-M12MSD-4P-M16XL/0,5	1411578	39
SACC-E-M12MSK-4PE-M16XL/0,2	1415291	284
SACC-E-M12MSK4PE-M16XL/0,2-1,5	1425635	284
SACC-E-M12MSL-4CON-M16XL/0,2	1425586	285
SACC-E-M12MSL-4FE-M16XL/0,2	1415295	286
SACC-E-M12MSL-4FE-M16XL/0,2 GR	1425582	286
SACC-E-M12MSL4CONM16XL/0,2-1,5	1425631	285
SACC-E-M12MSL4FEM16XL/0,2GR-1,5	1425627	286
SACC-E-M12MSM-5PE-M16XL/0,2	1415300	287
SACC-E-M12MSS-3P-M16/0,5 PE	1411655	281
SACC-E-M12MSS-4CON-M16/0,5 PE	1424139	282
SACC-E-M12MST-4CON-M16/0,5	1424140	282
SACC-E-M12MST-4P-M16XL/0,5	1411608	283
SACC-E-M5FS-3CON-M5/0,5	1530605	32
SACC-E-M5FS-4CON-M5/0,5	1530618	32
SACC-E-M5MS-3CON-M5/0,5	1530582	32
SACC-E-M5MS-4CON-M5/0,5	1530595	32
SACC-E-M8FS-5CON-M10/0,5 DN	1424233	33
SACC-E-M8FS-8CON-M10/0,5	1424231	33
SACC-E-M8MS-5CON-M10/0,5 DN	1424234	33
SACC-E-M8MS-8CON-M10/0,5	1424232	33
SACC-E-MS-12CON-M16/0,5 SCO	1556265	37
SACC-E-MS-17CON-M16/0,5 SCO	1556304	37
SACC-E-MS-4CON-M16/0,5 SCO	1523450	37
SACC-E-MS-5CON-M16/0,5 SCO	1520055	37
SACC-E-MS-8CON-M16/0,5 SCO	1523492	37
SACC-E-MSB-5CON-M16/0,5 SCO	1520013	37
SACC-E-MSD-4CON-M16/0,5 SCO	1551558	37
SACC-E-MU-M 5	1535901	32
SACC-E-MU-M 8	1504071	33
SACC-E-MU-M16	1504097	37
SACC-E-MU-PG9	1504084	35
SACC-EC-FS-4CON-M16/0,5 SCO	1523447	38
SACC-EC-FS-5CON-M16/0,5 SCO	1520042	38
SACC-EC-FS-8CON-M16/0,5 SCO	1523489	38
SACC-EC-FSB-5CON-M16/0,5 SCO	1519998	38
SACC-EC-FSD-4CON-M16/0,5 SCO	1535215	38
SACC-EC-M12FS-4CON-PG9/0,5	1693791	35
SACC-EC-M12FS-5CON-PG9/0,5	1671108	35
SACC-EC-M12FS-8CON-PG9/0,5	1513761	35
SACC-EC-M12FSB-5CON-PG9/0,5	1515044	35
SACC-EC-M12MS-4CON-PG9/0,5	1693775	35
SACC-EC-M12MS-5CON-PG9/0,5	1671124	35
SACC-EC-M12MS-8CON-PG9/0,5	1513787	35
SACC-EC-M12MSB-5CON-PG9/0,5	1515057	35
SACC-EC-MS-4CON-M16/0,5 SCO	1523463	38
SACC-EC-MS-5CON-M16/0,5 SCO	1520068	38
SACC-EC-MS-8CON-M16/0,5 SCO	1523502	38
SACC-EC-MSB-5CON-M16/0,5 SCO	1520026	38
SACC-EC-MSD-4CON-M16/0,5 SCO	1552256	38
SACC-FS-12PCON SCO	1559631	26
SACC-FS-17PCON SCO	1559644	26
SACC-FS-4QO SH PBPA SCO	1413934	423
SACC-FS-4QO-0,75 SH SCO	1413994	21
SACC-FS-5QO SH DN SCO	1422760	423
SACC-FS-5QO-0,75 SH SCO	1413992	21
SACC-FS-8QO SH ETH SCO	1421680	343
SACC-FS-8QO-0,5 SH SCO	1414611	21
SACC-FSB-2QO SH PB SCO	1413932	423
SACC-FSD-4QO SH ETH SCO	1411069	343
SACC-FSD-4QO SH PN SCO	1411071	343
SACC-FSX-8QO SH ETH SCO	1414586	342
SACC-M 8-SET/2,2-3,5	1436945	17
SACC-M 8FR-3CON-M	1529399	18
SACC-M 8FR-3CON-M-SW	1407582	17
SACC-M 8FR-3CON-SH	1436479	18
SACC-M 8FR-4CON-M	1513444	18
SACC-M 8FR-4CON-M-SW	1407584	17
SACC-M 8FR-4CON-SH	1436482	18
SACC-M 8FS-3CON-M	1681172	18
SACC-M 8FS-3CON-M-0,34-SH	1542907	17
SACC-M 8FS-3CON-M-SH	1506927	18
SACC-M 8FS-3CON-M-SW	1506888	17
SACC-M 8FS-3QO-0,25-M	1441040	16
SACC-M 8FS-3QO-0,5-M	1441066	16
SACC-M 8FS-4CON-M	1681185	18
SACC-M 8FS-4CON-M-0,34-SH	1542910	17
SACC-M 8FS-4CON-M-SH	1506930	18
SACC-M 8FS-4CON-M-SW	1506891	17
SACC-M 8FS-4QO-0,25-M	1441053	16
SACC-M 8FS-4QO-0,5-M	1441079	16
SACC-M 8MR-3CON-M	1699902	18
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