



PHOENIX CONTACT GmbH & Co. KG
D-32823 Blomberg
Tel.: +49 (0) 52 35 3-00
Fax: +49 (0) 52 35 3-1 07 99
E-Mail: info@phoenixcontact.com
www.phoenixcontact.com

Industrial circular connectors M16 – M58 **PLUSCON circular**

2009



PLUSCON circular - M16 to M58 circular connectors for industrial applications



The PLUSCON circular catalog from Phoenix Contact offers circular connectors for industrial applications from M16 to M58. For the transmission of analog and digital signals, a comprehensive product range comprising M16, M17, M23 and M27 plug connectors is offered. Plug connectors for the transmission of electrical power with up to 150 A, max. at 630 V are available in M17, M23, M40, and M58 designs.

For sensor / actuator applications, the main PLUSCON catalog offers M5, M8 and M12 circular plug connectors. The PLUSCON range also offers industrial connectors for data, signal and power transmission with an IP65/67/69K degree of protection. The complete range is rounded off by the sensor/actuator cabling.



CLIPLINE

From the modular terminal block to the assembly material and tools and through to the complete PC-aided project planning and marking system, the CLIPLINE catalog has everything that you need for perfect control cabinet wiring.



COMBICON

The COMBICON catalog provides a complete range of device connection technology with protection classes up to IP67. Electronic housings, plug-in card blocks and DIN socket strips make this catalog a standard for every developer.



TRABTECH

With professional surge protection structured according to surge protection for power supply units, data interfaces and MCR applications, Phoenix Contact provides one of the most comprehensive programs on the market.



INTERFACE

With interface modules for binary, serial and analog signals, power supply units, PLC system cabling and electronic load relays, the INTERFACE catalog provides all components around the industrial control.



AUTOMATION

From the serial sensor/ actuator box, through to PC-based control technology, right down to visualization software, the AUTOMATION catalog provides the latest automation components and systems from Phoenix Contact.

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PLUSCON circular
RC, UC, TU series

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Signal plug connectors

Cable, coupling and appliance plug connectors fully pre-assembled with M16, M17, M23 and M27 - M17, optionally with SPEEDCON quick locking.

PLUSCON circular
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Cable, coupling and appliance plug connectors fully pre-assembled with M17, M23, M40, and M58 to 150 A - M17 and M40 optionally with SPEEDCON quick locking.

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The PLUSCON circular product range from M16 to M58

Product overview - Signal plug connectors

A wide range of connector solutions of the M17, M23 or M27 types are available for signal transmission. Versions with bayonet or SPEEDCON locking are available for faster connections.

Modular signal plug connectors - PLUSCON circular

M23 - RC series shielded / unshielded



M23 - UC series with universal shielding



Bayonet - TU series with universal shielding



Description	– Modular design – A wide range of housing types and connector pin assignments with various contact connection methods – The connectors are delivered as individual components – housing, EMC screw connection, contact insert – Cable Ø 2.0 ... 10.5 mm, shielded – Cable Ø 4.0 ... 14.0 mm, unshielded	– Modular design – More cabling space for larger cable diameters – Universal shield and cable clamping – The connectors are delivered as individual components - housing, contact insert – Cable Ø 2.0 ... 14.5 mm, shielded	– Modular design – Easily accessible as well as rugged bayonet locking – The TU series is based on the UC connectors with a larger cabling space and a universal shield – The connectors are delivered as individual components - housing, contact insert – Cable Ø 2.0 ... 14.5 mm, shielded
Housing types	– Cable plug connectors/coupling connectors – Cable plug connectors, angled – Coupling connectors for mounting on the wall – Appliance plug connectors for front mounting: straight, angled rotatable – Appliance plug connectors for rear mounting: straight	– Cable plug connectors/coupling connectors – Cable plug connectors, angled – Coupling connectors for mounting on the wall – Fully compatible with the RC appliance plug connectors	– Cable plug connectors/coupling connectors – Coupling connectors, angled – Appliance plug connectors for front mounting: straight – Appliance plug connectors for rear mounting: straight
Number of positions	6 / 7 / 9 (6+3) / 9 (8+1) / 12 / 16 / 17 / 19 (16+3) / 19 (16+2+PE) All housings can be equipped with a pin or a socket	6 / 7 / 9 (6+3) / 9 (8+1) / 12 / 16 / 17 / 19 (16+3) / 19 (16+2+PE) All housings can be equipped with a pin or a socket	6 / 7 / 9 (6+3) / 9 (8+1) / 12 / 16 / 17 / 19 (16+3) / 19 (16+2+PE) All housings can be equipped with a pin or a socket
Contact connection	Solder contacts: ≤ 2.5 mm ² / AWG 14 Crimp contacts: 0,14 ... 2.5 mm ² / AWG 26-14 Screw contacts: ≤ 1.0 mm ² / AWG 18 Solder-in contacts for appliance plug connectors	Solder contacts: ≤ 2.5 mm ² / AWG 14 Crimp contacts: 0,14 ... 2.5 mm ² / AWG 26-14 Screw contacts: ≤ 1.0 mm ² / AWG 18	Solder contacts: ≤ 2.5 mm ² / AWG 14 Crimp contacts: 0,14 ... 2.5 mm ² / AWG 26-14 Screw contacts: ≤ 1.0 mm ² / AWG 18 Solder-in contacts for appliance plug connectors
Surge voltage category (reference: DIN EN 61984:2001)	II	II	II
Degree of protection (when locked)	shielded IP67 unshielded IP65 - IP68	IP67	IP67
Pollution degree (reference: DIN EN 61984:2001)	3 ¹⁾	3 ¹⁾	3 ¹⁾
Ordering information	starting page 16	starting page 18	starting page 28

¹⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using an IP54 protective cap.

The PLUSCON circular product range from M16 to M58

Product overview - Signal plug connectors

Signal plug connectors - PLUSCON circular

M17 - ST series shielded



M23 - RF series shielded



M27 - HC series with universal shielding



Description	- Extremely compact connectors for general industrial applications - M17 quick locking SPEEDCON, optionally M17 x 1 control thread - Time-saving lateral contact clip-in - Special tools not required - Extremely quick shield connection without splicing - Cable Ø 3.5 ... 10 mm	- Universal industrial connectors - M23 x 1 control thread (SPEEDCON quick locking in preparation) - Time-saving lateral contact clip-in - Special tools not required - Extremely quick shield connection without splicing - Cable Ø 3.0 ... 13.2 mm	- High-position signal plug connectors - M27 x 1 screw locking - Connectors are delivered with solder, solder-in and crimp connection - Universal shield and cable clamping - Cable Ø 2.0 ... 14.5 mm
Housing types	- Cable plug connectors/coupling connectors - Appliance plug connectors for front mounting: straight, angled fixed, angled rotatable - Compact flange dimensions: 21 mm x 21 mm / 25 mm x 25 mm, - Connector Ø 21 mm	- Cable plug connectors/coupling connectors - Appliance plug connectors for front mounting: straight, angled fixed, angled rotatable - Connector Ø 26 mm, - Cable plug connectors and coupling connectors as well as straight appliance plug connectors also available with stainless steel housings (1.4305)	- Cable plug connectors/coupling connectors - Appliance plug connectors for front and rear mounting
Number of positions	17 All housings can be equipped with a pin or a socket	12 / 16 / 17 All housings can be equipped with a pin or a socket	26 / 26 (25+PE) / 28 All housings can be equipped with a pin or a socket
Contact connection	Crimp contacts turned: 0.08 ... 0.5 mm ² / AWG 28-20	Crimp contacts turned: 0.08 ... 1.0 mm ² / AWG 28-18 Crimp contacts punched (taped): 0.08 ... 0.56 mm ² / AWG 28-20	Crimp contacts: 0.08 ... 1.0 mm ² / AWG 28-18 Solder contacts: 1.0 mm ² / AWG 18
Surge voltage category (reference: DIN EN 61984:2001)	III	III	II
Degree of protection (when locked)	IP67	IP67	IP67
Pollution degree (reference: DIN EN 61984:2001)	3 ¹⁾	3 ¹⁾	3 ¹⁾
Ordering information	starting page 46	starting page 58	starting page 74

¹⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using an IP54 protective cap.

The PLUSCON circular product range from M16 to M58

Product overview - Power connectors

M17, M23, M40 and M58 type power connectors are available. The range offers ideal combinations for connecting electrical drive components with transmission capacities of up to 150 A at 630 V in a short period of time.

Power connectors - PLUSCON circular

M17 - P20 series



M23 - P30 series



Description	– Electrical capacities of up to 630 V can be transmitted at 20 A – Extremely compact connectors for general industrial applications – M17 quick locking SPEEDCON, optionally M17 x 1 control thread – Time-saving lateral contact clip-in – Special tools not required – Extremely quick shield connection without splicing – Cable Ø 3.5 ... 10 mm	– Electrical capacities of up to 250/630 V can be transmitted at 9/30 A – Complete range of flexible machine and system cabling – M23 x 1 control thread (quick locking SPEEDCON in preparation) – Time-saving lateral contact clip-in – Cable Ø 7.5 ... 18 mm
Housing types	– Cable plug connectors/coupling connectors – Appliance plug connectors for front mounting: straight, angled fixed, angled rotatable – Compact flange dimensions: 21 mm x 21 mm / 25 mm x 25 mm – Connector Ø 21 mm	– Cable plug connectors/coupling connectors – Coupling connectors for mounting on the wall – Panel feed-throughs – Appliance plug connectors for front mounting: straight, angled fixed, angled rotatable
Number of positions	4 (3+PE) / 6 (5+PE) / 7 (6+PE) / 8 (7+PE) / 9 (5+3+PE) All housings can be equipped with a pin or a socket	6 (5+PE) / 8 (4+3+PE)
Contact connection	Crimp contacts turned: 0.08 ... 2.5 mm ² / AWG 28-14 Crimp contacts punched (taped): 0.08 ... 0.56 mm ² / AWG 28-20	Crimp contacts turned: 0.08 ... 4.0 mm ² / AWG 28-12 Crimp contacts punched (taped): 0.08 ... 2.5 mm ² / AWG 28-14
Surge voltage category (reference: DIN EN 61984:2001)	III	III
Degree of protection (when locked)	IP67	IP67
Pollution degree (reference: DIN EN 61984:2001)	3 ¹⁾	3 ¹⁾
Ordering information	starting page 90	starting page 102

¹⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using an IP54 protective cap.

The PLUSCON circular product range from M16 to M58

Product overview - Power connectors

Power connectors - PLUSCON circular

M40 - P70 series



- Electrical capacities of up to 250/630 V can be transmitted at 30/70 A
- Complete range of flexible machine and system cabling
- M40 x 1.5 control thread, M40 fast locking SPEEDCON
- Time-saving lateral contact clip-in
- Cable Ø 9.0 ... 26.5 mm

- Cable plug connectors/coupling connectors
- Coupling connectors for mounting on the wall
- Panel feed-throughs
- Appliance plug connectors for front mounting: straight, angled fixed, angled rotatable

6 (2+3+PE) / 8 (4+3+PE)

Crimp contacts turned: 0.14 ... 10 mm² / AWG 26-8

III

IP67

3

starting page 118

M58 - P150 series



- Electrical capacities of up to 250/630 V can be transmitted at 12/150 A
- M58 x 2 control thread
- Time-saving lateral contact clip-in
- Extremely fast shield connection
- Cable 17.0 ... 36.0 mm

- Cable plug connectors
- Coupling connectors
- Panel feed-throughs
- Appliance plug connectors for front mounting: straight

6 (2+3+PE) / 8 (4+3+PE)

Crimp contacts turned: 0.75 ... 50 mm² / AWG 18-1

III

IP67

3

starting page 134

The PLUSCON circular product range from M16 to M58

Product overview - Signal and power connectors, plastic-molded

Plastic molded connectors in the M16, M23 and M27 types are available for signal and power transmission. Plastic molded connectors are manufactured on request due to the variety of conductor types that can be used.

	Signal plug connectors	
	M16 - KPV series	M23 - KRC series
	 	
Description	– Standard cable assemblies and conductor lengths (5 m / 10 m) – Rugged PUR molding – M16 x 0.75 screw locking – The connectors are delivered with ready-to-use connecting cables, e.g. as a central plug-in connection for distributor systems	– Cable assemblies and conductor lengths as per customer specifications Cable Ø approx. 4.8 ... 13.1 mm – PUR molding on one or both ends – M23 x 1 screw locking – With or without EMC protection – The connectors are delivered with ready-to-use connecting cable
Housing types	– Cable socket (female) straight, – Cable socket (female) angled, – Cable connector (male) straight, – Cable connector (male) angled, – Suitable appliance plug connector, solder/solder-in connection PV series.	– Cable plug connectors/coupling connectors – Cable plug connectors/coupling connectors, angled – Compatible with the RC series appliance plug connectors
Number of positions	8 / 10 / 12 / 14	6 / 7 / 9 (6+3) / 9 (8+1) / 12 / 12 (11+PE) / 16 / 17 / 19 (16+3) / 19 (16+2+PE). All housings can be equipped with a pin or a socket
Contact connection	0.34 mm ² / 0.75 mm ² / AWG 22-18 for standard cable assembly	Solder or crimp
Surge voltage category (reference: DIN EN 61984:2001)	II	II
Degree of protection (when locked)	IP67	IP67
Pollution degree (reference: DIN EN 61984:2001)	3 ¹⁾	3 ¹⁾
Ordering information	Customer-specific after consulting technicians	Customer-specific after consulting technicians

¹⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using an IP54 protective cap.

The PLUSCON circular product range from M16 to M58

Product overview - Signal and power connectors, plastic-molded

	Power connectors
M27 - KHC series	M23 - KSC series
	
– Cable assemblies and conductor lengths as per customer specifications Cable Ø approx. 4.8 ... 13.1 mm – PUR molding on one or both ends – M27 x 1 screw locking – With or without EMC protection – The connectors are delivered with ready-to-use connecting cable	– Cable assemblies and conductor lengths as per customer specifications Cable Ø approx. 4.8 ... 13.1 mm – PUR molding on one or both ends – M23 x 1 screw locking – The connectors are delivered with ready-to-use connecting cable
– Cable plug connectors/coupling connectors – Cable plug connectors, angled – Suitable HC series appliance plug connectors	– Cable plug connectors/coupling connectors – Cable plug connectors/coupling connectors, angled
26 / 26 (25+PE) / 28 All housings can be equipped with a pin or a socket	6 (5+PE) / 8 (4+3+PE)
Solder or crimp	Crimp contacts: 0.08 ... 2.5 mm ² / AWG 28-14
II	II
IP67	IP67
3 ¹⁾	3 ¹⁾
Customer-specific after consulting technicians	Customer-specific after consulting technicians



Modular signal plug connectors – PLUSCON circular

The modular signal plug connectors are suitable for industrial applications and have an M23 locking thread. The TU series with bayonet locking is offered as a version with quick locking.

The modular circular signal connectors are available with crimp, screw, solder and solder-in connection for direct PCB mounting.

The UC series signal plug connectors, also with M23 locking, have an extended cable entry range and universal EMC shield connection.

The TU series signal plug connectors are based on the UC connectors, but have a bayonet quick locking system.

The individual plug connector is put together from a limited number of articles using three components:

- Housing
- Cable gland, including the seal, the strain relief and the optional shield connection
- Contact insert, including the contact carrier and the contacts

The modular signal plug connectors are delivered as individual components. All housings can be equipped with male or female contacts.

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Contact inserts - RC, UC and TU series

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Modular signal plug connectors - PLUSCON circular
M23/bayonet - RC, UC and TU series

Mechanical and electrical data

Mechanical data	
Housing material:	Metal parts: CuZn (copper-zinc alloy) or GD-Zn (zinc die-cast), nickel-plated or yellow passivated Appliance plug connector, angled rotatable: nickel-plated/thick layer passivated, can be painted over Plastic adapter caps/plastic-sheathed metal parts: SPS (syndiotactic polystyrene)
Insulating bodies:	Thermoplastic polyester (PBT), polyamide (PA 66), polycarbonate (PC) Storage at 15 °C ... 35 °C, 40 ... 70 % rel. humidity
Contact material:	Copper-zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	Solder cup, crimp and screw versions, solder-in pin
Gasket and O ring:	Fluorine rubber (FPM) Housing types with plastic adapter cap: perbunane (NBR) gasket
Flat gasket:	Perbunane (NBR with fabric insert), fluorine rubber (FPM)
Temperature range:	-20°C ... +125°C
Conductor entry:	EMC version for external cable diameter 2 ... 10.5 mm, without EMC protection for external cable diameter 4 ... 14 mm EMC version with extended cable entry range (UC / TU series) for external cable diameter 2 ... 14.5 mm
Locking type:	M23 screw locking, TU series: bayonet locking, bayonet ring Ø 29.3 mm
Mechanical insertion/withdrawal cycles:	Standard: 50, more on request
Degree of protection (when locked):	EMC version: IP67 Version without EMC protection: IP65 ... IP68 (depending on cable gland)
Approval:	An overview of the listed connectors as per UL, cUL and VDE will be available on request.

Electrical data								
Number of positions	6, 7	9 (8+1)	9 (6+3)	12	16	17	19 (16+3)	
Contacts	6, 7	8 + 1	6 + 3	12	16	17	16 + 3	
Contact Ø [mm]	2	1 2	1 2	1	1	1	1 1,5	
Stranded wire cross section								
Solder connection: contacts x [mm²/AWG] max.	6 (7) x 2.5/14	8 x 1.0/18 + 1 x 2.5/14	6 x 1.0/18 + 3 x 2.5/14	12 x 2.5/14	16 x 1.0/18	17 x 1.0/18	16 x 1.0/18 + 3 x 1.0/18	
Crimp connection: contacts x [mm²/AWG²] max.	6 (7) x 2.5/14	8 x 0.56/20 + 1 x 2.5/14		12 x 0.56/20	16 x 0.56/20	17 x 0.56/20	16 x 1.0/18 + 3 x 1.5/16	
Screw connection: contacts x [mm²/AWG²] max.	6 (7) x 1.0/18	8 x 0.75/18 + 1 x 1.0/18						
Nominal current per contact at 25 °C ¹)	20	8 20	8 20	8	8	8	8 10	
Specifications as per DIN EN 61984:2001								
Nominal/rated voltage [V]	300	300	150	150	150	150	150	
Test/surge voltage [kV AC]	2,5	2,5	1,5	1,5	1,5	1,5	1,5	
Surge voltage category	II	II	II	II	II	II	II	
Pollution degree ²)	3	3	3	3	3	3	3	
Installation height [m]	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000	

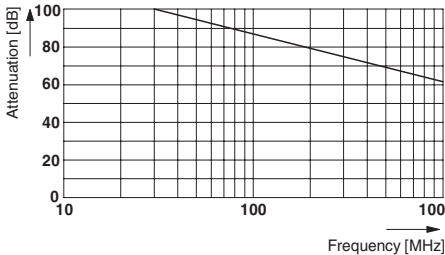
1) If required, the effective current carrying capacity must be determined according to the application using a derating curve.
2)The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using a ≥ IP 54 protective cap.

Derating curve based on DIN EN 60512-5-2 Cable plug connector (12-pos.)



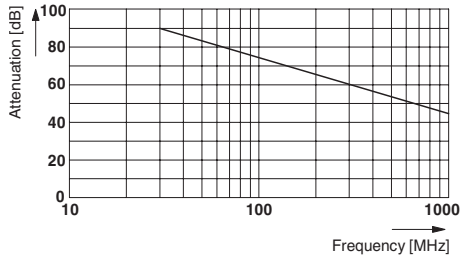
Note: Plug connectors may only be inserted or removed when the power supply is disconnected.

RC series shield attenuation curve based on DIN EN 50289-1-6



Note: The modular M23 connectors of the RC and UC series are completely compatible. After technical clarification, these can also be combined with the M23 complete plug connectors of the RF series.

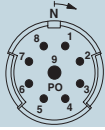
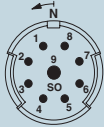
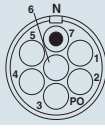
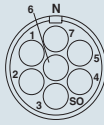
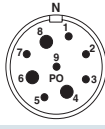
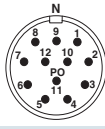
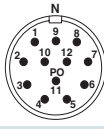
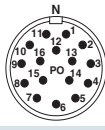
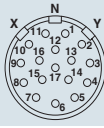
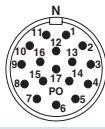
Shield attenuation curve UC / TU series based on DIN EN 50289-1-6



Modular signal plug connectors - PLUSCON circular

M23/bayonet - RC, UC and TU series

Connector pin assignments and coding

Contact insert numbering (view of plug-in side)				
Direction of rotation of contact insert numbering (view of plug-in side)				
	Clockwise (standard)	Counter-clockwise (standard)	Counter-clockwise (opposite)	Clockwise (opposite)
Number of positions	Pin	Socket	Pin	Socket
6-pos. Solder / crimp / screw				
7-pos. Solder / crimp / screw				
9-pos. (6+3) Solder				
9-pos. (8+1) Solder / crimp / screw				
12-pos. Solder / crimp				
16-pos. Solder				
16-pos. Crimp				
17-pos. Solder				
17-pos. Crimp				
19-pos. (16+3) Solder / crimp				

Note:

Other coding versions can be configured manually or mechanically on request.

The RC/UC/TU series connectors can be equipped with male or female contacts according to the application.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Modular signal plug connectors - PLUSCON circular

M23 - RC, UC series

Selection guide

The product chart shows the possible combinations of cable plug connector housings and coupling connector or appliance plug connector housings.

The chart differentiates between shielded and unshielded connectors.

The modular system makes it possible to select an individually suitable connector from a limited number of articles. To describe a connector for the device and panel mounting side, the housing is supplemented with the corresponding cable gland and the contact insert, including the contacts.

The product chart provides an overview of the available components.

Housing type

Cable plug connector housing, page 16



RC-000000080FZ



RC-0000000K0FZ



NC-0000000KSFZ



RC-0000000T0FZ

Coupling connector housing, page 16



RC-000000090FZ



RC-0000000M0FZ

Coupling connector housing for mounting on the wall

Front mounting, page 20



RC-0000000B2FZ

Rear mounting, page 22



RC-0000000C0FZ

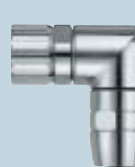


RC-0000000Q0FZ

Cable plug connector housing, page 18



UC-00000008.DU
UC-0000000R.DU



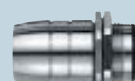
UC-0000000T.DU
UC-0000000N.DU

Coupling connector housing, page 19



UC-00000009.DU,
UC-0000000F.DU

Coupling connector housing for wall mounting, page 19



Rear mounting, UC-0000000Q.DU

Cable plug connector housing, page 17



RC-00000001.00



RC-0000000Z.00

Coupling connector housing, page 17



Rear mounting,
RC-00000007.00

Appliance plug connector housing

Front mounting, from page 20 onwards



RC-0000000WQ00



RC-00000006100



RC-00000002200

Rear mounting, page 22



RC-00000005200



RC-00000004200



RC-0000000AD00



RC-0000000H000



RC-0000000E000

Cable glands / shield accessories

Cable clamp type cage / shield adapter
page 24.



The connectors are equipped with a universal shield connection for cable diameters of up to 14.5 mm. Shielded cable glands with a cable clamp type cage and shield adapters are not required.

Cable glands
unshielded, page 25
with Pg and metric connecting threads



Cable glands are not required for appliance plug connector housings.

Contact inserts incl. contacts

Solder contact inserts, page 32
6 to 19-pos.



Pin



Socket

Crimp contact inserts, from page 33 onwards
6 to 19-pos.



Pin



Socket

Screw contact inserts, page 32
6, 7 and 9-pos.

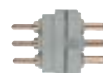


Pin



Socket

Direct PCB connection, from page 36 onwards
with 6 to 17-pos. solder-in contacts



Pin



Socket

Housing type	Free solder pin length			
	A [mm]	B [mm]	C [mm]	D [mm]
M23				
RC-.....2200	3.5	4.5	10	17.5
RC-.....WQ00	3.5	4.5	10	17.5
RC-.....4200	3.5	4.5	10	17.5
RC-.....5200	3.5	4.5	10	17.5
RC-.....H000	–	–	3.5	11
RC-.....E000	–	–	3.5	11

Note:

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

All housings can be equipped with male or female contacts

All housings can be equipped with male or female contacts

Modular signal connectors - PLUSCON circular
M23 - RC series

Cable and coupling plug connector housings, shielded

The M23 cable and coupling plug connectors in EMC version allow the connection of shielded cables with external diameters of 2 mm ... 10.5 mm.

The connectors fulfill the IP67 degree of protection when locked due to the special cable clamping.



RC-0000000.0FZ

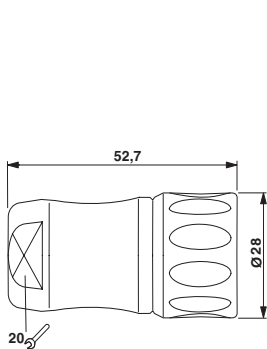
Cable plug connector housing, shielded



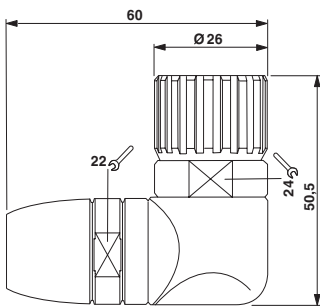
RC-0000000.0FZ

Coupling plug connector housing, shielded

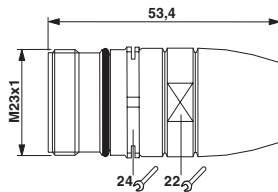
Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Cable plug connector housing, straight, shielded, with plastic sheath for additional protection against accidental contact	RC-0000000K0FZ	1592865	20			
Cable plug connector housing, straight, shielded, metal	RC-000000080FZ	1592680	20			
Cable plug connector housing straight, shielded, plastic cap	NC-0000000KSFZ	1592030	20			
Cable plug connector housing, angled, shielded, metal	RC-0000000T0FZ	1592992	10			
Coupling plug connector housing, straight, shielded, with plastic sheath for additional protection against accidental contact				RC-0000000M0FZ	1592899	20
Coupling plug connector housing, straight, shielded, metal				RC-000000090FZ	1592750	20
Contact inserts	Order separately, see page 32 onwards			Order separately, see page 32 onwards		
Cable clamping / shield accessories	Order separately, see page 23			Order separately, see page 23		



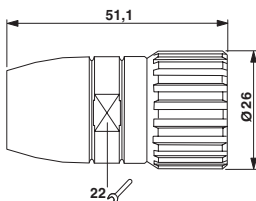
RC-0000000K0FZ



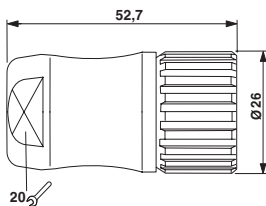
RC-0000000T0FZ



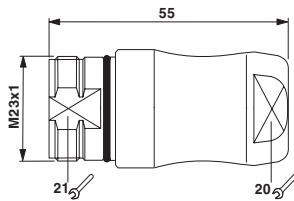
RC-000000090FZ



RC-000000080FZ



NC-0000000KSFZ



RC-0000000M0FZ

Cable and coupling plug connector housing, unshielded

The unshielded cable and coupling plug connector housings are supplemented by cable glands with PG or metric threads. These are screwed onto the adapter cover from outside and fulfill the requirements of the IP65 ... IP68 degree of protection depending on the type.



R.-0000000..00

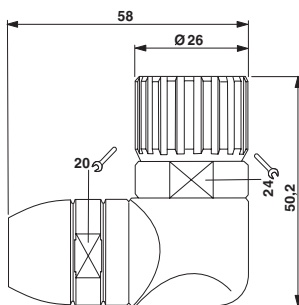
Cable plug connector housing, unshielded



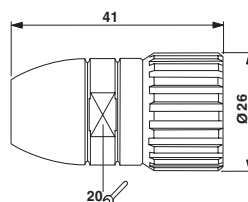
R.-00000007.00

Coupling plug connector housing, unshielded

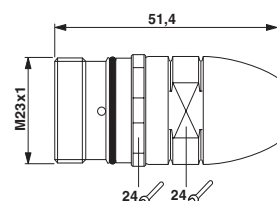
Description	Cable entry	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Cable plug connector housing, straight, unshielded, metal, connection thread:	Pg9	RC-00000001100	1592535	20			
	Pg11	RC-00000001200	1592539	20			
	Pg13.5	RC-00000001300	1592546	20			
	M16x1.5	RM-00000001100	1607026	20			
	M20x1.5	RM-00000001300	1605029	20			
Cable plug connector housing, angled, 4 x 90° codable, unshielded, metal, connection thread:	Pg9	RC-0000000Z100	1593037	10			
	Pg11	RC-0000000Z200	1593040	10			
	Pg13.5	RC-0000000Z300	1593044	10			
	M16x1.5	RM-0000000Z100	1607029	10			
	M20x1.5	RM-0000000Z300	1607030	10			
Coupling plug connector housing, straight, unshielded, metal, connection thread:	Pg9				RC-00000007100	1592618	20
	Pg11				RC-00000007200	1592621	20
	Pg13.5				RC-00000007300	1592626	20
	M16x1.5				RM-00000007100	1607027	20
	M20x1.5				RM-00000007300	1607028	20
Contact inserts		Order separately, see page 32 onwards			Order separately, see page 32 onwards		
Cable clamping		Order separately, see page 23			Order separately, see page 23		



RC-0000000Z.00, RM-0000000Z.00



RC-00000001.00, RM-00000001.00



RC-00000007.00, RM-00000007.00

Modular signal connectors - PLUSCON circular
M23 - UC series

Cable plug connector housing,
universally shielded, cable entry up to
14.5 mm

Like the RC series, the UC series is completely modular in structure. This means that a wide variety of connectors can be implemented from a small number of different components. Both are M23 connectors with comparable technical specifications.

The UC series uses the same insulation bodies in all pin assignment versions. In comparison to the RC series, the UC series provides more wiring space and can accommodate bigger cable diameters. Unlike the RC series, the shielding function and the cable clamping are universal. It is not necessary to adjust the shielding elements to the cables used. This facilitates termination in the field.

Cable and coupling housings with an additional thread can be equipped with another cable strain relief (double bracket) for exceptional loads.

Connectors in the UC series are equipped with a universal shield connection. Shield accessories with a cable clamp type cage and shield sleeve are not required.

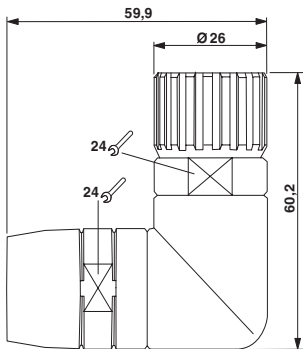
Additional strain reliefs (double bracket) as well as fixed gaskets are ordered separately.



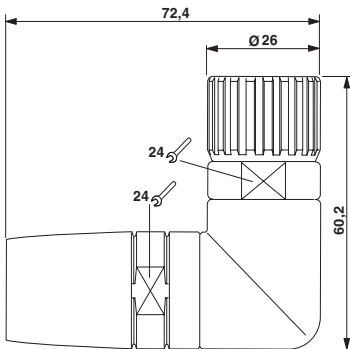
UC-0000000..DU

Cable plug connector housing,
with universal shielding

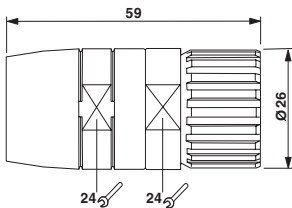
Description	Cable entry	Type	Order No.	Pcs. / Pkt.	
Cable plug connector housing, straight					
Universal gasket, Ø 2.0 ... 14.5 mm with thread for additional strain relief, Pg13.5 with thread for additional strain relief, Pg16		UC-000000080DU	1606030	20	
		UC-0000000R3DU	1606058	20	
		UC-0000000RNDU	1606061	20	
Cable plug connector housing, angled					
Universal gasket, Ø 2.0 ... 14.5 mm with thread for additional strain relief, Pg13.5 with thread for additional strain relief, Pg16		UC-0000000T0DU	1606065	8	
		UC-0000000N3DU	1606047	8	
		UC-0000000NNDU	1606050	8	
Contact inserts			Order separately, see page 32 onwards		
Cable gland (additional strain relief)			Order separately, see page 23		



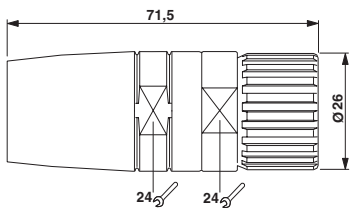
UC-0000000T0DU



UC-0000000N3DU, UC-0000000NNDU



UC-000000080DU



UC-0000000R3DU, UC-0000000RNDU

**Coupling plug connector housing,
universally shielded, cable entry up to
14.5 mm**

Connectors in the UC series are equipped with a universal shield connection. Shield accessories with a cable clamp type cage and shield sleeve are not required.

Additional strain reliefs (double bracket) as well as fixed gaskets are ordered separately.



UC-0000000..DU

Coupling plug connector housing,
with universal shielding



UC-0000000Q.DU

Coupling plug connector housing, with universal shielding,
rear mounting

Description	Cable entry
Coupling plug connector housing, straight	
	Universal gasket, Ø 2.0 ... 14.5 mm with thread for additional strain relief, Pg13.5
	with thread for additional strain relief, Pg16
Coupling plug connector housing, straight, rear mounting, with central fixing nut	
	Universal gasket, Ø 2.0 ... 14.5 mm with thread for additional strain relief, Pg13.5
	with thread for additional strain relief, Pg16

Type	Order No.	Pcs. / Pkt.
UC-0000000090DU	1606040	20
UC-0000000F3DU	1607069	20
UC-0000000FNDU	1606046	20

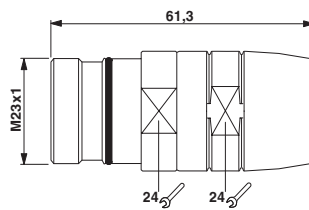
Type	Order No.	Pcs. / Pkt.
UC-0000000Q0DU	1606053	10
UC-0000000Q3DU	1607070	10
UC-0000000QNDU	1607083	10

Contact inserts

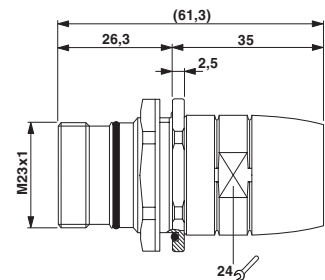
Cable gland (additional strain relief)

Order separately, see page 32 onwards
Order separately, see page 23

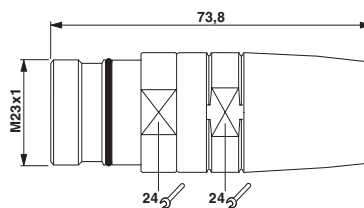
Order separately, see page 32 onwards
Order separately, see page 23



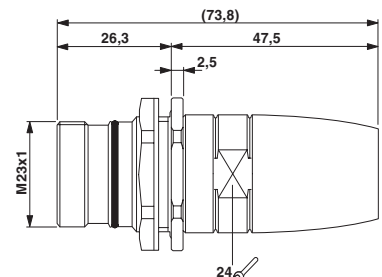
UC-0000000090DU



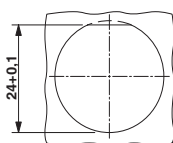
**UC-0000000Q0DU
(Axial O-ring)**



UC-0000000F3DU, UC-0000000FNDU



**UC-0000000Q3DU, UC-0000000QNDU
(Axial O-ring)**



max. 6,5mm
Installation dimensions: UC-0000000Q.DU
(Axial O-ring)

Modular signal connectors - PLUSCON circular
M23 - RC series, compatible to UC series

Appliance plug connector housing,
front mounting

In the case of front mounting, the panel mounting base is fitted to the device from outside using screws, nuts or screw-in threads. On the device side, the contact insert then establishes a connection to the device.



RC-0000000..00

Appliance plug connector housing,
front mounting



RC-0000000B2FZ

Coupling plug connector housing,
front mounting

Description	Wall thickness [mm]
Appliance plug connector housing, front mounting, straight, flat gasket (self-adhesive), 4-hole mounting, for shielded applications	from 1 onwards
Appliance plug connector housing, front mounting, straight, radial O-ring, 4-hole mounting, reinforced mounting flange, for shielded applications	from 3 onwards
Coupling plug connector housing, front mounting, straight, shielded, 4-hole mounting and O-ring, for panel feed-through of a shielded line	3 ... 7

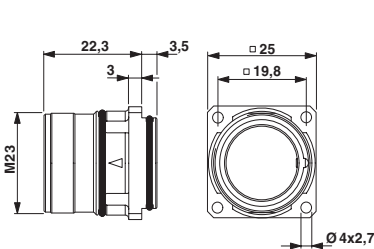
Type	Order No.	Pcs. / Pkt.
RC-00000002200	1592574	40
RC-0000000WQ00	1593021	40

Type	Order No.	Pcs. / Pkt.
RC-0000000B2FZ	1592781	10

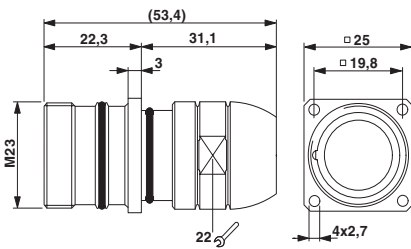
Contact inserts
Cable clamping / shield accessories

Order separately, see page 32 onwards

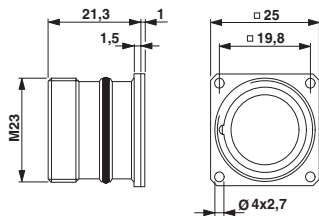
Order separately, see page 32 onwards
Order separately, see page 23



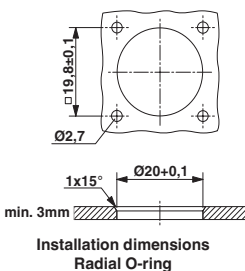
RC-0000000WQ00
Radial O-ring



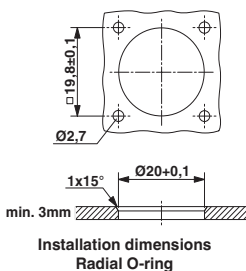
RC-0000000B2FZ
Radial O-ring



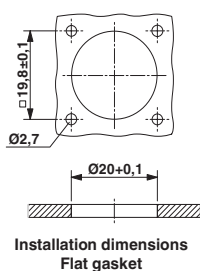
RC-00000002200
Flat gasket



Installation dimensions
Radial O-ring



Installation dimensions
Radial O-ring



Installation dimensions
Flat gasket

Appliance plug connector housing, front mounting

The panel mounting base, angled, rotatable and panel mounting base with central fixing nut cannot be combined with solder-in contacts.



RC-00000006100

Appliance plug connector housing, front mounting



RC-0000000AD00

Appliance plug connector housing, angled, rotatable, front mounting

Description	Wall thickness [mm]
Appliance plug connector housing, front mounting, straight, central fastening thread M20 x 1.5, for shielded applications	min. 0.8
Appliance plug connector housing, front mounting, angled, rotatable, 4-hole mounting, for shielded applications	

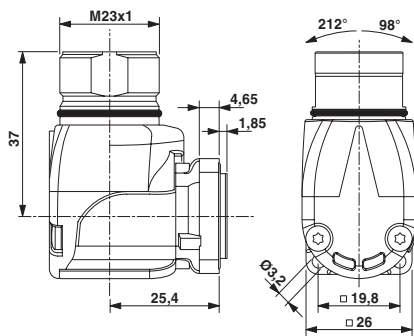
Type	Order No.	Pcs. / Pkt.
RC-00000006100	1592604	40

Type	Order No.	Pcs. / Pkt.
RC-0000000AD00	1592777	16

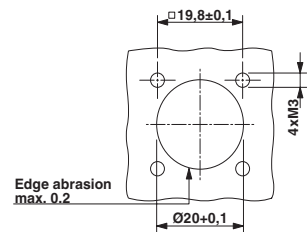
Contact inserts

Order separately, see page 32 onwards

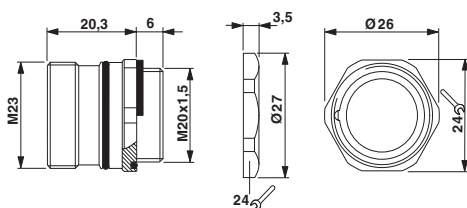
Order separately, see page 32 onwards



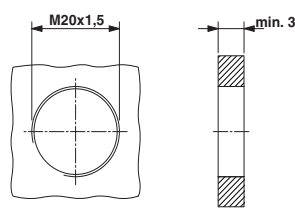
RC-0000000AD00
Axial O-ring



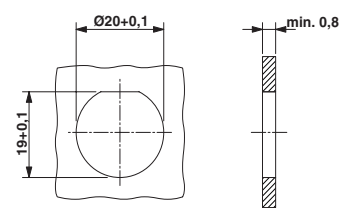
Installation dimensions: RC-0000000AD00



RC-00000006100
Axial O-ring



RC-00000006100, mounting feed-through hole with thread
(recommended for installation in steel sheet panel)



RC-00000006100, mounting hole with polarization and locking nut
(recommended for installation in steel sheet panel)

More informations and installation instructions at: www.phoenixcontact.com

Modular signal connectors - PLUSCON circular

M23 - RC series, compatible to UC series

Appliance plug connector housing, rear mounting

Connector housings for rear mounting are designed for the efficient installation of preassembled PCBs, for instance. These types are fed through the mounting panel from the inside and screwed tight from the outside.



RC-0000000..00

Appliance plug connector housing, rear mounting



RC-0000000.0FZ

Coupling plug connector housing, rear mounting

Description	Wall thickness [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Appliance plug connector housing, rear mounting, low design, threaded flange, radial O-ring, 4-hole thread mounting (Ø 2.5)	2.7 ... 3.5	RC-00000004200	1592589	40			
Appliance plug connector housing, rear mounting, low design, drilling flange, radial O-ring, 4-hole mounting (Ø 2.7)	2.7 ... 3.5	RC-00000005200	1592599	40			
Appliance plug connector housing, rear mounting high design, threaded flange, with 3 mm flange, radial O-ring, 4-hole thread mounting (M3)	3 ... 10,5	RC-0000000E000	1592813	40			
Appliance plug connector housing, rear mounting, high design, central fixing nuts, axial O-ring	up to 6.5	RC-0000000H000	1592833	20			
Coupling plug connector housing, rear mounting, shielded, 4-hole thread mounting (M2,5), flat gasket, for panel feed-through of a shielded line	up to 2.5				RC-0000000C0FZ	1592790	20
Coupling plug connector housing, rear mounting, shielded, central fixing nuts, axial O-ring, for panel feed-through of a shielded line	up to 6.5				RC-0000000Q0FZ	1592924	10

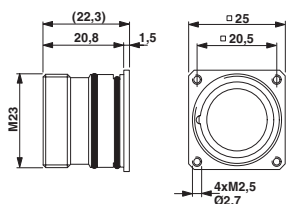
Contact inserts

Cable clamping / shield accessories

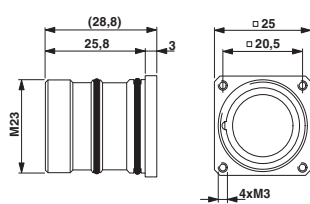
Order separately, see page 32 onwards

Order separately, see page 32 onwards

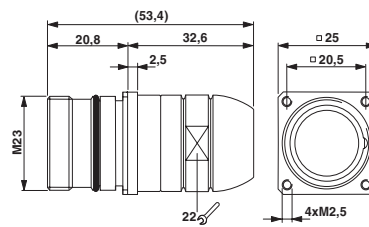
Order separately, see page 23



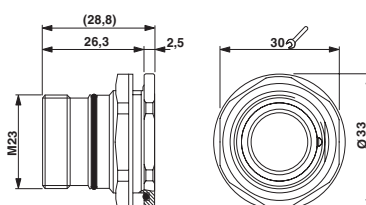
RC-00000004200, RC-00000005200
Radial O-ring



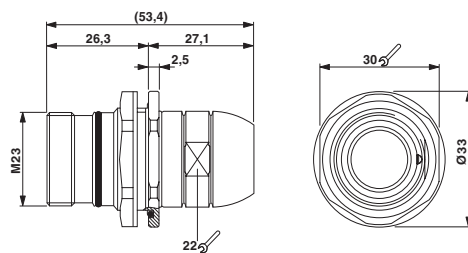
RC-0000000E000
Radial O-ring



RC-0000000C0FZ
Flat gasket



RC-0000000H000
Axial O-ring



RC-0000000Q0FZ
Axial O-ring

Cable glands, unshielded

Various cable glands with PG and metric threads are available for unshielded connectors. These are screwed into the adapter cover from the outside. Suitable versions are available for external cable diameters from 3 mm to 14 mm.

Ordering Information:

The cable entry of the coupling and cable plug connector housings must correspond to the cable glands.

A 9-core, unshielded cable is to be adapted with the RC-0000007100 coupling housing.

– External cable diameter $D = 8$ mm

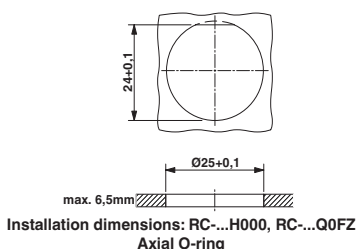
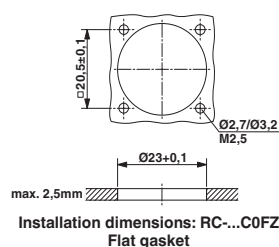
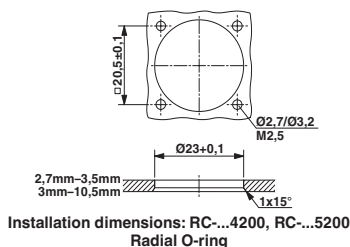
If a PG cable gland in accordance with DIN 46320 is to be selected, the RC-Z2091 type corresponding to PG 9 for external cable diameters from 6 mm to 10 mm fulfills the requirements optimally.



RC-Z2...

Cable glands with PG/metric threads

Description	Cable entry / cable Ø D [mm]	Type	Order No.	Pcs. / Pkt.
Cable gland for unshielded applications in accordance with DIN 46320, IP65				
	Pg9 / 6 ... 10	RC-Z2091	1604242	20
	Pg11 / 8 ... 12	RC-Z2092	1604245	20
	Pg13,5 / 10 ... 14	RC-Z2093	1604247	20
	M16 x 1,5 / 3 ... 10	RC-Z2406	1607015	20
	M20 x 1,5 / 4 ... 14	RC-Z2409	1604479	20
Cable gland with double bracket strain relief, for unshielded applications, IP65				
	Pg9 / 6 ... 10	RC-Z2051	1604213	20
	Pg11 / 8 ... 12	RC-Z2052	1604216	20
	Pg13,5 / 10 ... 14	RC-Z2053	1604218	20
	M16 x 1,5 / 3 ... 10	RC-Z2407	1607016	20
	M20 x 1,5 / 4 ... 14	RC-Z2410	1604481	20
Cable gland for unshielded applications, IP68, with PVC gasket sleeve				
	Pg9 / 6,5 ... 9	RC-Z2191	1604334	20
	Pg11 / 7 ... 10,5	RC-Z2196	1604338	20
	Pg13,5 / 9 ... 13	RC-Z2202	1604345	20
	M16 x 1,5 / 6,5 ... 9	RC-Z2414	1607018	20
	M20 x 1,5 / 9 ... 13	RC-Z2417	1607019	20



Modular signal connectors - PLUSCON circular

M23 - RC series, compatible to UC series

Cable clamp type cage with shield adapter

The cables are partly fed through to the connector housings using cable glands. These differ according to the application (shielded or unshielded).

Cable clamp type cages and shield adapters are required in the case of shielded plug connectors. They can be used to implement a multitude of plug connection combinations for different cable types with a cable diameter from 3.5 mm to 10.5 mm.

The shield adapter depends on the diameter of the core bundle under the braided shield **d** and is pushed directly under the braided shield when assembling the connector. The shield adapter serves as a connection element between the cable shield and connector housing (inner sleeve and adapter cover).

The cable clamp type cage with the seal ensures sealing in the IP67 degree of protection and assumes the cable strain relief function. The specific type for each cable depends on the external cable diameter **D** of the cable.

We recommend that you try out adjacent types for transition points between two screw connection sizes.

Ordering Information:

A 6-core, shielded cable is to be adapted with the RC-000000080FZ cable plug connector housing.

- External cable diameter **D** = 6.0 mm
- Diameter of core bundle **d** = 4.7 mm

The appropriate cable gland can be found in the category **D** = 5.5 mm to 6.5 mm and in line **d** 4.9 mm and is RC-Z2438.

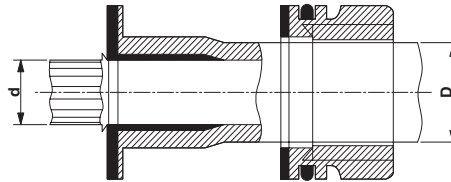


Diagram of stranded wire bundle diameter **d** and external cable diameter **D**



RC-Z2...

Cable clamp type cage with shield adapter

Description	Stranded wire bundle Ø d [mm]	Type	Order No.	Pcs. / Pkt.
Cable clamp type cage and shield adapter External cable diameter: D = 3.5 ... 4.5 mm				
	d ~ 2.5 mm	RC-Z2425	1604491	10
	d ~ 3.2 mm	RC-Z2426	1604495	10
Cable clamp type cage and shield adapter External cable diameter: D = 4.5 ... 5.5 mm				
	d ~ 2.5 mm	RC-Z2225	1604368	10
	d ~ 3.2 mm	RC-Z2427	1604497	10
	d ~ 3.6 mm	RC-Z2428	1607021	10
	d ~ 3.8 mm	RC-Z2429	1604500	10
	d ~ 4.1 mm	RC-Z2430	1604503	10
	d ~ 4.3 mm	RC-Z2431	1604505	10
	d ~ 4.6 mm	RC-Z2432	1604506	10
Cable clamp type cage and shield adapter External cable diameter: D = 5.5 ... 6.5 mm				
	d ~ 3.2 mm	RC-Z2433	1607022	10
	d ~ 3.6 mm	RC-Z2434	1604509	10
	d ~ 3.8 mm	RC-Z2435	1604511	10
	d ~ 4.1 mm	RC-Z2222	1604364	10
	d ~ 4.3 mm	RC-Z2436	1604513	10
	d ~ 4.6 mm	RC-Z2437	1604516	10
	d ~ 4.9 mm	RC-Z2438	1604517	10
	d ~ 5.2 mm	RC-Z2439	1604519	10
	d ~ 5.5 mm	RC-Z2440	1604520	10
	d ~ 5.8 mm	RC-Z2441	1604522	10
Cable clamp type cage and shield adapter External cable diameter: D = 6.5 ... 7.5 mm				
	d ~ 3.6 mm	RC-Z2442	1604524	10
	d ~ 3.8 mm	RC-Z2443	1604526	10
	d ~ 4.1 mm	RC-Z2227	1604370	10
	d ~ 4.3 mm	RC-Z2403	1604472	10
	d ~ 4.6 mm	RC-Z2228	1604373	10
	d ~ 4.9 mm	RC-Z2395	1604458	10
	d ~ 5.2 mm	RC-Z2392	1604452	10
	d ~ 5.5 mm	RC-Z2444	1604529	10
	d ~ 5.8 mm	RC-Z2445	1604532	10
	d ~ 6.2 mm	RC-Z2396	1604460	10
	d ~ 6.6 mm	RC-Z2446	1604534	10
Cable clamp type cage and shield adapter External cable diameter: D = 7.5 ... 9.5 mm				
	d ~ 3.8 mm	RC-Z2447	1607023	10
	d ~ 4.1 mm	RC-Z2448	1604536	10
	d ~ 4.3 mm	RC-Z2449	1607024	10
	d ~ 4.6 mm	RC-Z2229	1604375	10
	d ~ 4.9 mm	RC-Z2391	1604449	10
	d ~ 5.2 mm	RC-Z2398	1604462	10
	d ~ 5.5 mm	RC-Z2450	1604539	10
	d ~ 5.8 mm	RC-Z2451	1604541	10
	d ~ 6.2 mm	RC-Z2221	1604362	10
	d ~ 6.6 mm	RC-Z2393	1604454	10
	d ~ 7.0 mm	RC-Z2394	1604456	10
	d ~ 7.4 mm	RC-Z2401	1604468	10
	d ~ 7.7 mm	RC-Z2402	1604470	10
Cable clamp type cage and shield adapter External cable diameter: D = 9.5 ... 10.5 mm				
	d ~ 5.8 mm	RC-Z2404	1604474	10
	d ~ 6.2 mm	RC-Z2452	1607025	10
	d ~ 6.6 mm	RC-Z2453	1604545	10
	d ~ 7.0 mm	RC-Z2454	1604547	10
	d ~ 7.4 mm	RC-Z2455	1604549	10
	d ~ 7.7 mm	RC-Z2399	1604465	10

Universal cable clamp type cage

Universal cable glands are available as alternatives to the shielded cable glands in IP67 for applications with less stringent requirements as regards shield attenuation.

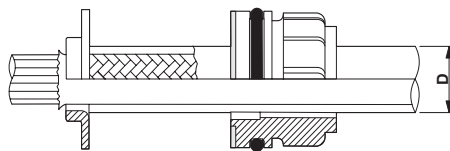
Irrespective of the diameter of the cable or braided core screen, shielded or unshielded lines with an outside diameter from 2 mm to 10.5 mm can be assembled for universal use with only one cable gland. This simplifies storage.



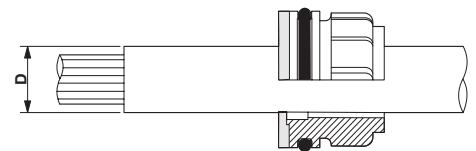
RC-Z246.

Universal cable clamp type cage,
with/without shield

Description	Cable Ø D [mm]	Type	Order No.	Pcs. / Pkt.
Cable clamp type cage, universal, with shield, cable clamp type cage, shield disc and universal seal	2 ... 10,5	RC-Z2462	1604558	10
Cable clamp type cage, universal, cable feed-through without shield, cable clamp type cage and universal seal	2 ... 10,5	RC-Z2463	1604561	10



Universal cable clamp type cage with shield,
D = external cable diameter



Universal cable clamp type cage, cable feed-through without
shield, D=external cable diameter

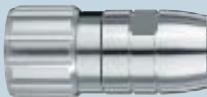
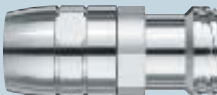
Modular signal plug connectors - PLUSCON circular
Bayonet - TU series

Selection guide

The product chart shows the possible combinations of cable plug connector housings and coupling connector or appliance plug connector housings.

The cable plug connectors and coupling connectors are equipped with a universal shield connection for cable diameters of up to 14.5 mm.

The modular system makes it possible to select an custom style connector from a limited number of articles. To describe a connector for the device and panel mounting side, the housing is supplemented with the corresponding contact insert, including the contacts. The product chart provides an overview of the available components.

With universal shielding	Housing type		
	Cable plug connector housing, page 28		
			
	TU-00000008UDU	TU-0000000TUDU	
With universal shielding	Coupling connector housing, page 28		
			
	TU-00000009UDU		
Shielded	Appliance plug connector housing, page 29		
	Front mounting, page 29	Rear mounting, page 29	
			
	TU-0000000WB00	TU-00000004100	TU-00000005300

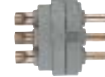
The connectors are equipped with a universal shield connection for cable diameters of up to 14.5 mm.
Shielded cable glands with a cable clamp type cage and shield adapters are not required.

The connectors are equipped with a universal shield connection for cable diameters of up to 14.5 mm.
Shielded cable glands with a cable clamp type cage and shield adapters are not required.

Contact inserts incl. contacts

Solder contact inserts, page 32

6 to 19-pos.



Pin



Socket

Crimp contact inserts, from page 33 onwards

6 to 19-pos.



Pin



Socket

Screw contact inserts, page 32

6, 7 and 9-pos.



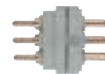
Pin



Socket

Direct PCB connection, from page 36 onwards

with 6 to 17-pos. solder-in contacts



Pin



Socket

Housing type	Free solder pin length			
	A [mm]	B [mm]	C [mm]	D [mm]
TU-.....WB00	--	--	9	16.5
TU-.....4100	2.5	3.5	9	16.5
TU-.....5300	2.5	3.5	9	16.5

Note:

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

All housings can be equipped with male or female contacts.

All housings can be equipped with male or female contacts.

Bayonet - TU series

Signal plug connectors of the TU series are equipped with a bayonet locking, which is easy to use but rugged at the same time.

Like the signal plug connectors with M23 screw locking, the TU series is also completely modular in design and uses the same insulation bodies/contacts.

The shielding function and the cable clamping are universal. It is not necessary to adapt the shielding elements to the cables used.



TU-0000000.UDU

Bayonet cable plug connector housing,
shielded



TU-00000009UDU

Bayonet coupling plug connector housing,
shielded

Description	For outer cable Ø [mm]
Bayonet cable plug connector housing, straight, with universal shielding, metal	2.0 ... 14.5
Bayonet cable plug connector housing, angled, with universal shielding, metal	2.0 ... 14.5
Bayonet coupling plug connector housing, straight, with universal shielding, metal	2.0 ... 14.5

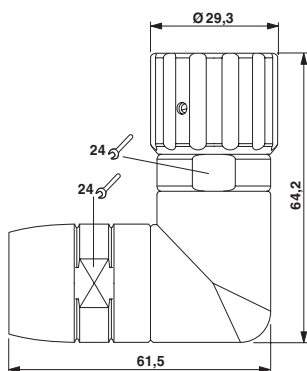
Type	Order No.	Pcs. / Pkt.
TU-00000008UDU	1605886	10
TU-0000000TUDU	1605891	8

Type	Order No.	Pcs. / Pkt.
TU-00000009UDU	1605888	10

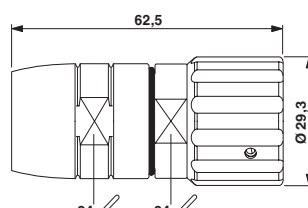
Contact inserts

Order separately, see page 32 onwards

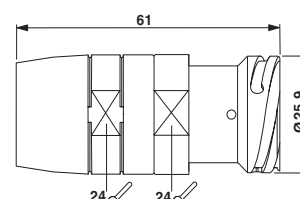
Order separately, see page 32 onwards



TU-0000000TUDU



TU-00000008UDU



TU-00000009UDU

Appliance plug connector housing, front and rear mounting

In the case of front mounting, the panel mounting base is fitted to the device from outside using screws or nuts. On the device side, the contact insert then establishes the connection to the device either by solder or crimp connections.

Connector housings for rear mounting are fed through the mounting panel from the inside and screwed tight from the outside.



TU-0000000WB00

Appliance plug connector housing, front mounting



TU-0000000..00

Appliance plug connector housing, rear mounting

Description	Wall thickness [mm]
Appliance plug connector housing, front mounting straight, axial O-ring, 4-hole mounting (Ø 3.2 mm), for shielded applications	from 1.5
Appliance plug connector housing, rear mounting straight, flat gasket, 4-hole thread mounting (M3), for shielded applications	up to 2.5
Appliance plug connector housing, rear mounting straight, radial O-ring, 4-hole mounting (Ø 3.2 mm), for shielded applications	2.7 ... 3.5

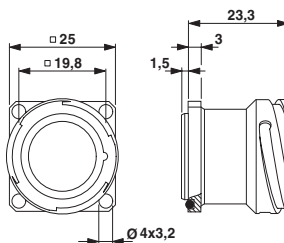
Type	Order No.	Pcs. / Pkt.
TU-0000000WB00	1605893	20

Type	Order No.	Pcs. / Pkt.
TU-00000004100	1605881	20
TU-00000005300	1605885	20

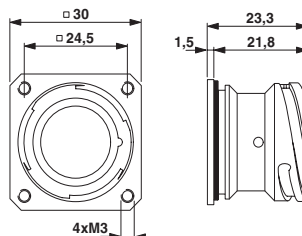
Contact inserts

Order separately, see page 32 onwards

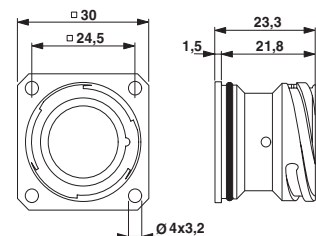
Order separately, see page 32 onwards



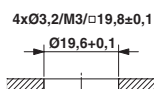
TU-0000000WB00
Axial O-ring



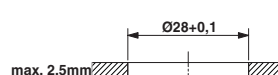
TU-00000004100
Flat gasket



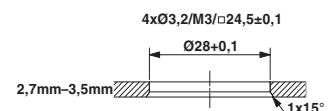
TU-00000005300
Radial O-ring



Installation dimensions: TU-0000000WB00



Installation dimensions: TU-00000004100



Installation dimensions: TU-00000005300

Modular signal plug connectors - PLUSCON circular
Contact inserts - RC, UC and TU series

Mechanical and electrical data

Mechanical data	
Housing material:	Metal parts: CuZn (copper-zinc alloy) or GD-Zn (zinc die-cast), nickel-plated or yellow passivated Appliance plug connector, angled rotatable: nickel-plated/thick layer passivated, can be painted over Plastic adapter caps/plastic-sheathed metal parts: SPS (syndiotactic polystyrene)
Insulating bodies:	Thermoplastic polyester (PBT), polyamide (PA 66), polycarbonate (PC) Storage at 15°C ... 35°C, 40 ... 70% rel. humidity
Contact material:	Copper-zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	Solder cup, crimp and screw versions, solder-in pin
Gasket and O ring:	Fluorine rubber (FPM) Housing types with plastic adapter cap: perbunane (NBR) gasket
Flat gasket:	Perbunane (NBR with fabric insert), fluorine rubber (FPM)
Temperature range:	-20°C ... +125°C
Conductor entry:	EMC version for external cable diameter 2 ... 10.5 mm, without EMC protection for external cable diameter 4 ... 14 mm EMC version with extended cable entry range (UC / TU series) for external cable diameter 2 ... 14.5 mm
Locking type:	M23 screw locking, TU series: bayonet locking, bayonet ring Ø 29.3 mm
Mechanical insertion/withdrawal cycles:	Standard: 50, more on request
Degree of protection (when locked):	EMC version: IP67 Version without EMC protection: IP65 ... IP68 (depending on cable gland)
Approval:	An overview of the listed connectors as per UL, cUL and VDE will be available on request.

Electrical data								
Number of positions	6, 7	9 (8+1)	9 (6+3)	12	16	17	19 (16+3)	
Contacts	6, 7	8 + 1	6 + 3	12	16	17	16 + 3	
Contact Ø [mm]	2	1 2	1 2	1	1	1	1 1,5	
Stranded wire cross section								
Solder connection: contacts x [mm²/AWG] max.	6 (7) x 2.5/14	8 x 1.0/18 + 1 x 2.5/14	6 x 1.0/18 + 3 x 2.5/14	12 x 2.5/14	16 x 1.0/18	17 x 1.0/18	16 x 1.0/18 + 3 x 1.0/18	
Crimp connection: contacts x [mm²/AWG] max.	6 (7) x 2.5/14	8 x 0.56/20 + 1 x 2.5/14	– –	12 x 0.56/20	16 x 0.56/20	17 x 0.56/20	16 x 1.0/18 + 3 x 1.5/16	
Screw connection: contacts x [mm²/AWG] max.	6 (7) x 1.0/18	8 x 0.75/18 + 1 x 1.0/18	– –	–	–	–	– –	
Nominal current per contact at 25 °C ¹)	20	8 20	8 20	8	8	8	8 10	
Specifications as per DIN EN 61984:2001								
Nominal/rated voltage [V]	300	300	150	150	150	150	150	
Test/surge voltage [kV AC]	2,5	2,5	1,5	1,5	1,5	1,5	1,5	
Surge voltage category	II	II	II	II	II	II	II	
Pollution degree ²)	3	3	3	3	3	3	3	
Installation height [m]	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000	

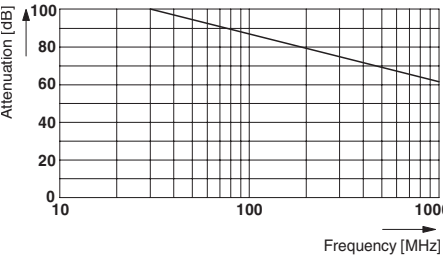
1) If required, the effective current carrying capacity must be determined according to the application using a derating curve.
2)The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using a ≥ IP 54 protective cap.

Derating curve based on DIN EN 60512-5-2 Cable plug connector (12-pos.)



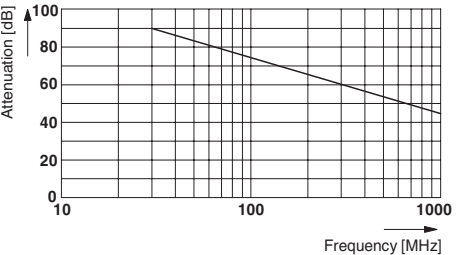
Note: Plug connectors may only be inserted or removed when the power supply is disconnected.

RC series shield attenuation curve based on DIN EN 50289-1-6



Note: The modular M23 connectors of the RC and UC series are completely compatible. After technical clarification, these can also be combined with the M23 complete plug connectors of the RF series.

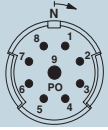
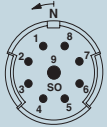
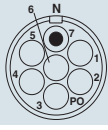
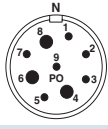
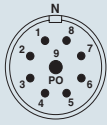
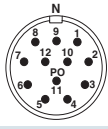
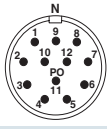
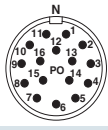
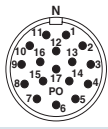
Shield attenuation curve UC / TU series based on DIN EN 50289-1-6



Modular signal plug connectors - PLUSCON circular

Contact inserts - RC, UC and TU series

Connector pin assignments and coding

Contact insert numbering (view of plug-in side)				
Direction of rotation of contact insert numbering (view of plug-in side)				
	Clockwise (standard)	Counter-clockwise (standard)	Counter-clockwise (opposite)	Clockwise (opposite)
Number of positions	Pin	Socket	Pin	Socket
6-pos. Solder / crimp / screw				
7-pos. Solder / crimp / screw				
9-pos. (6+3) Solder				
9-pos. (8+1) Solder / crimp / screw				
12-pos. Solder / crimp				
16-pos. Solder				
16-pos. Crimp				
17-pos. Solder				
17-pos. Crimp				
19-pos. (16+3) Solder / crimp				

Note:

Other coding versions can be configured manually or mechanically on request.

The RC/UC/TU series connectors can be equipped with male or female contacts depending on the application.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Modular signal connectors - PLUSCON circular

Contact inserts - RC, UC and TU series

Contact inserts with solder and screw contacts

Contact inserts 6 ... 19-pos.

The contact inserts with the contact carriers and contacts are available for the following connection methods:

- solder technology,
- crimp system,
- Screw connection technology,
- Solder-in technology for PCBs.



RC-...N120000

Contact insert and solder contacts,
pin/socket



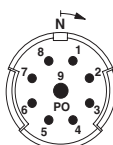
RC-...NS20000

Contact insert and screw contacts,
pin/socket

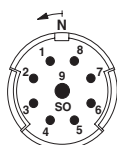
Description	Contacts / direction of rotation	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Contact insert, 6-pos., contacts: 6 x Ø 2.0 mm	Pin / standard	RC-06P1N120000	1593072	30	RC-06P1NS20000	1593555	25
	Socket / standard	RC-06S1N120000	1593645	60	RC-06S1NS20000	1594164	25
Contact insert, 7-pos., contacts: 7 x Ø 2.0 mm	Pin / standard	RC-07P1N120000	1594263	30	RC-07P1NS20000	1594515	25
	Socket / standard	RC-07S1N120000	1594558	60	RC-07S1NS20000	1594801	25
Contact insert, 9-pos. (6+3), contacts: 6 x Ø 1.0 mm, 3 x Ø 2.0 mm	Pin / standard	RC-63P1N120000	1603538	30			
	Socket / standard	RC-63S1N120000	1603668	30			
Contact insert, 9-pos. (8+1), contacts: 8 x Ø 1.0 mm, 1 x Ø 2.0 mm	Pin / standard	RC-09P1N120000	1594887	30	RC-09P1NS20000 RC-09S1NS20000	1595533 1596456	25 25
	Socket / standard	RC-09S1N120000	1595791	60			
	Pin / opposite	RC-09P2N120000	1595600	30			
	Socket / opposite	RC-09S2N120000	1596535	60			
Contact insert, 12-pos., contacts: 12 x Ø 1.0 mm	Pin / standard	RC-12P1N120000	1596856	30			
	Socket / standard	RC-12S1N120000	1598466	60			
	Pin / opposite	RC-12P2N120000	1597867	30			
	Socket / opposite	RC-12S2N120000	1599614	60			
Contact insert, 16-pos., contacts: 16 x Ø 1.0 mm	Pin / standard	RC-16P1N120000	1600509	60			
	Socket / standard	RC-16S1N120000	1600816	60			
Contact insert, 17-pos., contacts: 17 x Ø 1.0 mm	Pin / standard	RC-17P1N120000	1601193	30			
	Socket / standard	RC-17S1N120000	1601799	60			
	Pin / opposite	RC-17P2N120000	1601727	30			
	Socket / opposite	RC-17S2N120000	1602383	60			
Contact insert, 19-pos. (16+3), contacts: 16 x Ø1.0 mm; 3 x Ø1.5 mm	Pin / standard	RC-19P1N120000	1602482	30			
	Socket / standard	RC-19S1N120000	1602749	60			
Connection cross section [mm²]							
For contact Ø 1.0 mm / 1.5 mm		≤ 1,0			≤ 0,75		
for contact Ø 2.0 mm		≤ 2,5			≤ 1,0		

Direction of rotation of contact insert numbering (view of plug-in side)

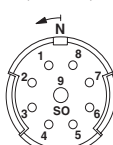
Pin clockwise
(standard)



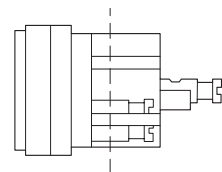
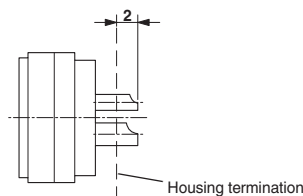
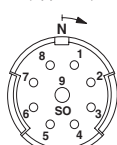
Pin counter-clockwise
(opposite)



Socket counter-clockwise
(standard)



Socket clockwise
(opposite)



Note:
Take into account the torque for the terminal block screws:
max. 0.1 Nm for screw contacts, plug-in Ø 1 mm
max. 0.2 Nm for screw contacts, plug-in Ø 2 mm

Contact inserts with crimp contacts

Crimp contact inserts with contacts are available for the different numbers of positions and directions of rotation. The crimp contacts cover connection areas of 0.14 mm² ... 2.5 mm² depending on the connector pin assignment.



RC-...N8E0000

Contact insert and crimp contacts, rolled, pin/socket



RC-...N8.0000

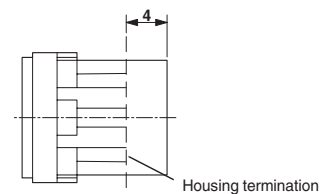
Contact insert and crimp contacts, turned, pin/socket

Description	Contacts / direction of rotation	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Contact insert, 6-pos., contacts: 6 x Ø 2.0 mm	Pin / standard Socket / standard				Crimp range C: 1.5 - 2.5 mm²		
					RC-06P1N8B0000	1593525	10
					RC-06S1N8B0000	1594145	10
Contact insert, 6-pos., contacts: 6 x Ø 2.0 mm	Pin / standard Socket / standard				Crimp range D: 1.0 - 1.5 mm²		
					RC-06P1N8K0000	1606992	10
					RC-06S1N8K0000	1606995	10
Contact insert, 7-pos., contacts: 7 x Ø 2.0 mm	Pin / standard Socket / standard				Crimp range C: 1.5 - 2.5 mm²		
					RC-07P1N8B0000	1594497	10
					RC-07S1N8B0000	1594786	10
Contact insert, 7-pos., contacts: 7 x Ø 2.0 mm	Pin / standard Socket / standard				Crimp range D: 1.0 - 1.5 mm²		
					RC-07P1N8K0000	1606997	10
					RC-07S1N8K0000	1606998	10
Contact insert, 9-pos. (8+1), contacts: 8 x Ø 1.0 mm, 1 x Ø 2.0 mm	Pin / standard Socket / standard				8 x crimp range B: 0.14 - 0.56 mm²		
					1 x crimp range C: 1.5 - 2.5 mm²		
					RC-09P1N8C0000	1595501	10
					RC-09S1N8C0000	1596417	10
Contact insert, 9-pos. (8+1), contacts: 8 x Ø 1.0 mm, 1 x Ø 2.0 mm	Pin / standard Socket / standard				8 x crimp range B: 0.14 - 0.56 mm²		
					1 x crimp range D: 1.0 - 1.5 mm²		
					RC-09P1N8L0000	1607001	10
					RC-09S1N8L0000	1607004	10
Contact insert, 12-pos., contacts: 12 x Ø 1.0 mm	Pin / standard Pin / opposite Socket / standard Socket / opposite	Crimp range A: 0.22 - 0.56 mm²			Crimp range B: 0.14 - 0.56 mm²		
		RC-12P1N8E0000	1597641	10	RC-12P1N8D0000	1597635	10
		RC-12P2N8E0000	1598295	10	RC-12P2N8D0000	1598292	10
		RC-12S1N8E0000	1599348	10	RC-12S1N8D0000	1599343	10
		RC-12S2N8E0000	1600234	10	RC-12S2N8D0000	1600231	10
Contact insert, 16-pos., contacts: 16 x Ø 1.0 mm	Pin / standard Socket / standard				Crimp range B: 0.14 - 0.56 mm²		
					RC-16P1N8D0000	1600747	10
					RC-16S1N8D0000	1601116	10
Contact insert, 17-pos., contacts: 17 x Ø 1.0 mm	Pin / standard Socket / standard	Crimp range A: 0.22 - 0.56 mm²			Crimp range B: 0.14 - 0.56 mm²		
		RC-17P1N8E0000	1601636	10	RC-17P1N8D0000	1601634	10
		RC-17S1N8E0000	1602284	10	RC-17S1N8D0000	1602282	10
Contact insert, 19-pos. (16+2+PE), contacts: 16 x Ø 1.0 mm; 3 x Ø 1.5 mm	Pin / standard Socket / standard				Crimp range B: 0.14 - 0.56 mm²		
					RC-1RP1NRM0000	1603144	10
					RC-1RS1NRM0000	1603305	10
Crimping tool		RC-Z2130 see page 140			RC-Z2504 see page 140		

Notes:
Crimp contacts/contact carriers separate, see page 34

The 19-pos.crimp contact inserts RC-1RP1NRM0000 and RC-1RS1NRM0000 cannot be combined with the angled connector housing RC-0000000AD00.

For the 19-pos. (16+2+PE) crimp contact inserts RC-1RP1NRM0000 and RC-1RS1NRM0000, the spacer sleeve RC-E0146 (order no. 1603961) must be ordered separately. This spacer sleeve ensures the PE connection with the connector housing.
See Accessories, page 141



Modular signal connectors - PLUSCON circular

Contact inserts - RC, UC and TU series

Crimp contact carriers

The contact carriers and the male and female crimp contacts can also be ordered separately for 6 to 9-pos. connectors.

Further contact inserts / contacts are available on request.



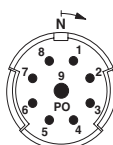
RC-...N8A..., RC-1R.1NRA...

Crimp contact carriers, separate,
pin/socket

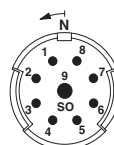
Description	Contacts / direction of rotation	Type	Order No.	Pcs. / Pkt.
Crimp contact carriers 6-pos., contacts: 6 x Ø 2.0 mm	Pin / standard	RC-06P1N8A0000	1593412	50
	Socket / standard	RC-06S1N8A0000	1594013	50
Crimp contact carriers 7-pos., contacts: 7 x Ø 2.0 mm	Pin / standard	RC-07P1N8A0000	1594435	50
	Socket / standard	RC-07S1N8A0000	1594731	50
Crimp contact carriers, 9-pos. (8+1), contacts: 8 x Ø 1.0 mm, 1 x Ø 2.0 mm	Pin / standard	RC-09P1N8A0000	1595375	50
	Socket / standard	RC-09S1N8A0000	1596303	50
Crimp contact carriers 12-pos., contacts: 12 x Ø 1.0 mm	Pin / standard	RC-12P1N8A0000	1597464	50
	Socket / standard	RC-12S1N8A0000	1599138	50
	Pin / opposite	RC-12P2N8A0000	1598196	50
	Socket / opposite	RC-12S2N8A0000	1600076	50
Crimp contact carriers 16-pos., contacts: 16 x Ø 1.0 mm	Pin / standard	RC-16P1N8A0000	1600707	50
	Socket / standard	RC-16S1N8A0000	1601058	50
Crimp contact carriers 17-pos., contacts: 17 x Ø 1.0 mm	Pin / standard	RC-17P1N8A0000	1601451	50
	Socket / standard	RC-17S1N8A0000	1602082	50
Crimp contact carriers, 19-pos. (16+2+PE), contacts: 16 x Ø 1.0 mm, 2 x Ø 1.5 mm, 1 x Ø 1.5 (PE)	Pin / standard	RC-1RP1NRA0000	1603066	50
	Socket / standard	RC-1RS1NRA0000	1603213	50

Direction of rotation of contact insert numbering (view of plug-in side)

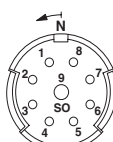
Pin clockwise
(standard)



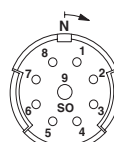
Pin counter-clockwise
(opposite)



Socket counter-clockwise
(standard)



Socket clockwise
(opposite)



Note:

For the 19-pos. (16+2+PE) crimp contact carriers RC-1RP1NRA0000 and RC-1RS1NRA0000, the spacer sleeve RC-E0146 (order no. 1603961) must be ordered separately. This spacer sleeve ensures the PE connection with the connector housing.
See Accessories, page 141

Crimp contacts

For replacement purposes - suitable for every crimp contact carrier - male or female crimp contacts can be ordered in the different connection cross-sections.



Rolled contacts

Crimp contacts, separate,
pin/socket



Turned contacts

Crimp contacts, separate,
pin/socket

Description	Contacts / connection cross section [mm²]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Crimp contacts for contact carriers, 6-pos., 6 x Ø2.0 mm	Pin Ø 2.0 mm / 1.0 ... 1,5 / AWG 18-16				RC-5CP2000	1603513	100
	Socket Ø 2.0 mm / 1.0 ... 1,5 / AWG 18-16				RC-5CS2000	1603517	100
	Pin Ø 2.0 mm / 1.5 ... 2,5 / AWG 16-14				RC-5AP2000	1603505	100
	Socket Ø 2.0 mm / 1.5 ... 2,5 / AWG 16-14				RC-5AS2000	1603509	100
Crimp contacts for contact carriers, 7-pos., 7 x Ø2.0 mm	Pin Ø 2.0 mm / 1.0 ... 1,5 / AWG 18-16				RC-5CP2000	1603513	100
	Socket Ø 2.0 mm / 1.0 ... 1,5 / AWG 18-16				RC-5CS2000	1603517	100
	Pin Ø 2.0 mm / 1.5 ... 2,5 / AWG 16-14				RC-5AP2000	1603505	100
	Socket Ø 2.0 mm / 1.5 ... 2,5 / AWG 16-14				RC-5AS2000	1603509	100
Crimp contacts for contact carriers, 9-pos. (8+1), 8 x Ø1.0 mm, 1 x Ø2.0 mm	Pin Ø1.0 mm / 0.14 ... 0,56 / AWG 26-20				RC-12P2000	1597862	500
	Socket Ø1.0 mm / 0.14 ... 0,56 / AWG 26-20				RC-12S2000	1599600	500
	Pin Ø 2.0 mm / 1.5 ... 2,5 / AWG 16-14				RC-5AP2000	1603505	100
	Socket Ø 2.0 mm / 1.5 ... 2,5 / AWG 16-14				RC-5AS2000	1603509	100
	Pin Ø 2.0 mm / 1.0 ... 1,5 / AWG 18-16				RC-5CP2000	1603513	100
	Socket Ø 2.0 mm / 1.0 ... 1,5 / AWG 18-16				RC-5CS2000	1603517	100
Crimp contacts for contact carriers, 12-pos., 12 x Ø1.0 mm	Pin Ø1.0 mm / 0.22 ... 0,56 / AWG 24-20	RC-22P2000	1603321	100			
	Socket Ø1.0 mm / 0.22 ... 0,56 / AWG 24-20	RC-22S2000	1603327	100			
	Pin Ø1.0 mm / 0.14 ... 0,56 / AWG 26-20				RC-12P2000	1597862	500
	Socket Ø1.0 mm / 0.14 ... 0,56 / AWG 26-20				RC-12S2000	1599600	500
Crimp contacts for contact carriers, 16-pos., 16 x Ø1.0 mm	Pin Ø1.0 mm / 0.14 ... 0,56 / AWG 26-20				RC-12P2000	1597862	500
	Socket Ø1.0 mm / 0.14 ... 0,56 / AWG 26-20				RC-12S2000	1599600	500
Crimp contacts for contact carriers, 17-pos., 17 x Ø1.0 mm	Pin Ø1.0 mm / 0.22 ... 0,56 / AWG 24-20	RC-22P2000	1603321	100			
	Socket Ø1.0 mm / 0.22 ... 0,56 / AWG 24-20	RC-22S2000	1603327	100			
	Pin Ø1.0 mm / 0.14 ... 0,56 / AWG 24-20				RC-12P2000	1597862	500
	Socket Ø1.0 mm / 0.14 ... 0,56 / AWG 24-20				RC-12S2000	1599600	500
Crimp contacts for contact carriers, 19-pos. (16+2+PE), 16 x Ø1.0 mm, 2 x Ø1.5 mm, 1 x Ø1.5 mm (PE)	Pin Ø1.0 mm / 0.25 ... 0,5 / AWG 24-20				RC-6LP2000	1603819	100
	Socket Ø1.0 mm / 0.25 ... 0,5 / AWG 24-20				RC-6LS2000	1603823	100
	Pin Ø1.5 mm / 0.75 ... 1,0 / AWG 18				RC-6EP2000	1603802	100
	Socket Ø1.5 mm / 0.75 ... 1,0 / AWG 18				RC-6ES2000	1603805	100
	Pin Ø1.5 mm (PE) / 0.75 ... 1,0 / AWG 18				RC-6FP2000	1603808	100
	Socket Ø1.5 mm (PE) / 0.75 ... 1,0 / AWG 18				RC-6FS2000	1603811	100

Crimping tool

RC-Z2130 see page 140

RC-Z2504 see page 140

Modular signal connectors - PLUSCON circular

Contact inserts - RC, UC and TU series

Contact inserts with 6 to 17-pos. solder-in contacts

Contact inserts with solder-in contacts allow efficient mounting on PCBs. Assembly times are reduced and wiring errors are prevented.

Ordering Information:

The first step is to determine the number of positions and the connection method – pin or socket.

The free solder pin length A, B, C or D is the distance between the mounting flange of the connector housing and the end of the solder-in contact. In this measurement, the housing wall thickness and air gap to the PCB are included.

PCB hole patterns

The PCB hole-Ø must be adapted to the solder-in pin Ø.

Further contact inserts / free solder pin lengths are available on request.

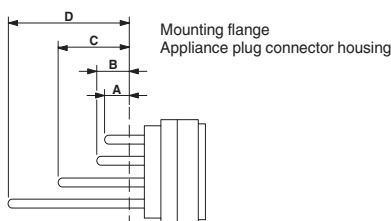


Free solder pin length A

Contact insert and solder in contacts,
pin/socket

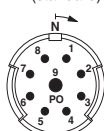
Description	Contacts / direction of rotation	Type	Order No.	Pcs. / Pkt.
Solder-in contact insert, 6-pos., contacts: 6 x Ø 2.0 mm	Pin / standard	Solder pin Ø: 1.5 mm		
	Socket / standard	RC-06P1N220000 RC-06S1N220000	1593395 1594002	25 30
Solder-in contact insert, 9-pos. (6+3), contacts: 6 x Ø 1.0 mm, 3 x Ø 2.0 mm	Pin / standard	Solder pin Ø: 6 x 0.6 mm, 3 x 1.5 mm		
	Socket / standard	RC-63P1N220000 RC-63S1N220000	1603637 1603764	25 30
Contact insert, 9-pos. (8+1), contacts: 8 x Ø 1.0 mm, 1 x Ø 2.0 mm	Pin / standard	Solder pin Ø: 8 x 0.6 mm, 1 x 1.5 mm		
	Socket / standard	RC-09P1N220000 RC-09S1N220000	1606999 1596279	25 30
Contact insert, 12-pos., contacts: 12 x Ø 1.0 mm	Pin / standard	Solder pin Ø: 0.6 mm		
	Socket / standard	RC-12P1N220000 RC-12S1N220000	1597402 1599079	25 30
Contact insert, 17-pos., contacts: 17 x Ø 1.0 mm	Pin / standard			
	Socket / standard	RC-17P1N220000 RC-17S1N220000	1607009 1607011	25 30

Housing type	Free solder pin length			
M23	A [mm]	B [mm]	C [mm]	D [mm]
RC-...2200	3.5	4.5	10.0	17.5
RC-...WQ00	3.5	4.5	10.0	17.5
RC-...4200	3.5	4.5	10.0	17.5
RC-...5200	3.5	4.5	10.0	17.5
RC-...H000			3.5	11.0
RC-...E000			3.5	11.0
Bayonet	A [mm]	B [mm]	C [mm]	D [mm]
TU-...WB00			9.0	16.5
TU-...4100	2.5	3.5	9.0	16.5
TU-...5300	2.5	3.5	9.0	16.5

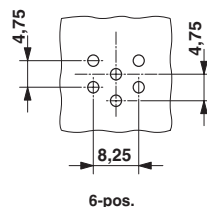
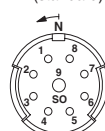


Direction of rotation of contact insert numbering
(view of plug-in side)

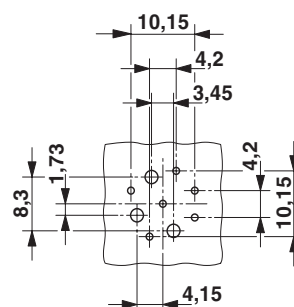
Pin clockwise
(standard)



Socket counter-clockwise
(standard)



6-pos.



9 (6+3)-pos.



Free solder pin length B

Contact insert and solder in contacts,
pin/socket



Free solder pin length C

Contact insert and solder in contacts,
pin/socket



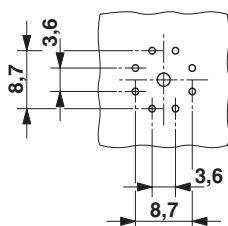
Free solder pin length D

Contact insert and solder in contacts,
pin/socket

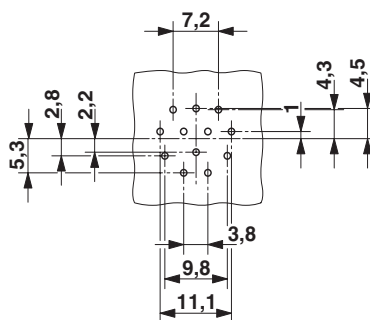
Type	Order No.	Pcs. / Pkt.
Solder pin Ø: 1.5 mm		
RC-06P1N320000	1606991	25
RC-06S1N320000	1606994	30
Solder pin Ø: 6 x 1.0 mm, 3 x 1.5 mm		
RC-63P1N320000	1603640	25
RC-63S1N320000	1603767	30
Solder pin Ø: 8 x 1.0 mm, 1 x 1.5 mm		
RC-09P1N320000	1607000	25
RC-09S1N320000	1607003	30
Solder pin Ø: 1.0 mm		
RC-12P1N320000	1607006	25
RC-12S1N320000	1607007	30
Solder pin Ø: 1.0 mm		
RC-17P1N320000	1607010	25
RC-17S1N320000	1607013	30

Type	Order No.	Pcs. / Pkt.
Solder pin Ø: 1.5 mm		
RC-06P1NA20000	1593531	25
RC-06S1NA20000	1594149	30
Solder pin Ø: 6 x 1.2 mm, 3 x 1.5 mm		
RC-63P1NA20000	1603645	25
RC-63S1NA20000	1603774	30
Solder pin Ø: 8 x 1.2 mm, 1 x 1.5 mm		
RC-09P1NA20000	1595507	25
RC-09S1NA20000	1596421	30
Solder pin Ø: 1.2 mm		
RC-12P1NA20000	1597643	25
RC-12S1NA20000	1607008	30
Solder pin Ø: 1.2 mm		
RC-17P1NA20000	1601638	25
RC-17S1NA20000	1607014	30

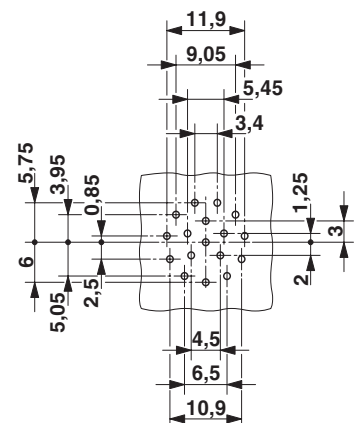
Type	Order No.	Pcs. / Pkt.
Solder pin Ø: 1.5 mm		
RC-06P1NC20000	1606993	25
RC-06S1NC20000	1606996	30
Solder pin Ø: 6 x 1.2 mm, 3 x 1.5 mm		
RC-63P1NC20000	1603651	25
RC-63S1NC20000	1603778	30
Solder pin Ø: 8 x 1.2 mm, 1 x 1.5 mm		
RC-09P1NC20000	1595519	25
RC-09S1NC20000	1596434	30
Solder pin Ø: 1.2 mm		
RC-12P1NC20000	1597660	25
RC-12S1NC20000	1599367	30
Solder pin Ø: 1.2 mm		
RC-17P1NC20000	1601647	25
RC-17S1NC20000	1602295	30



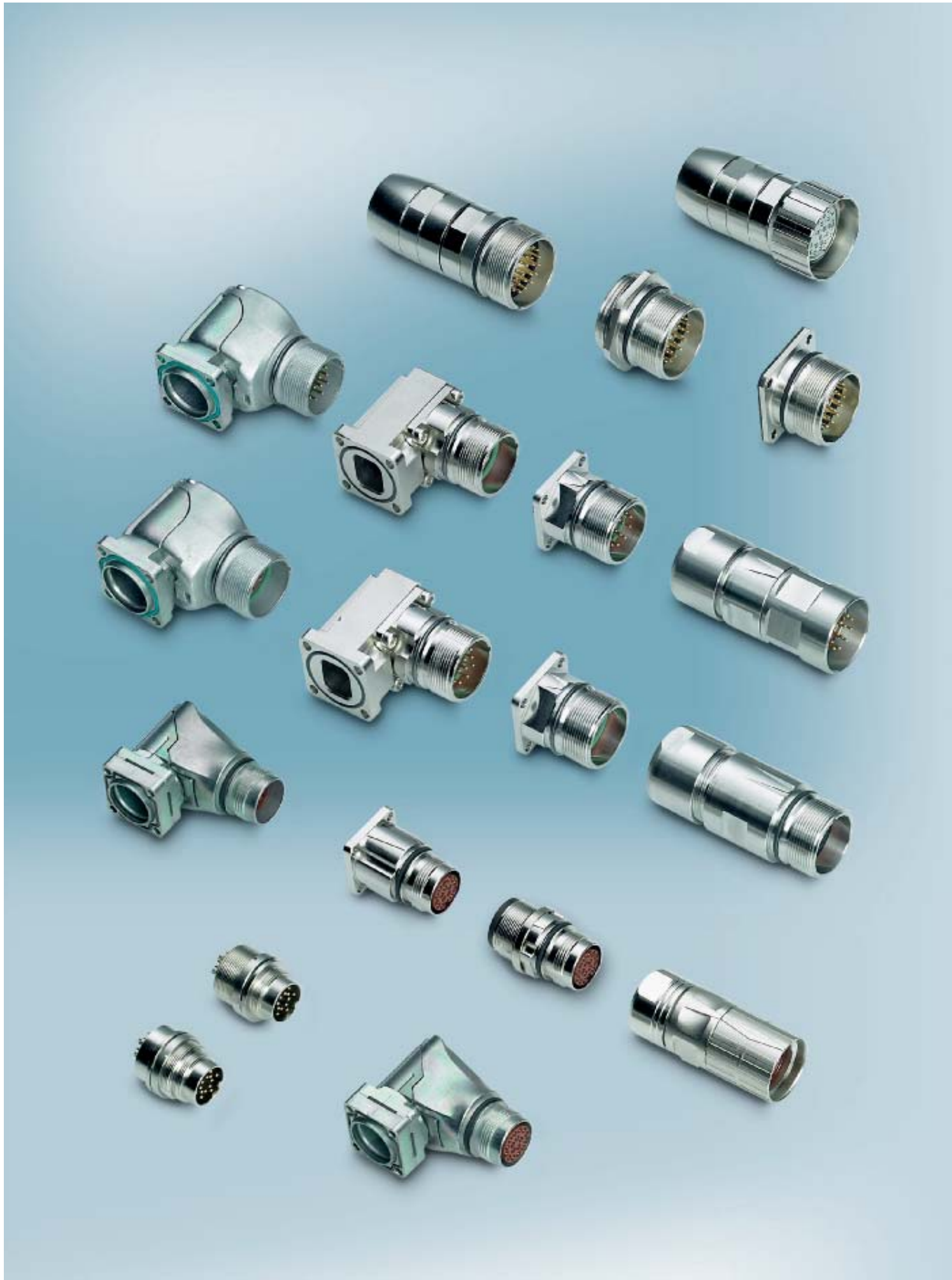
9 (8+1)-pos.



12-pos.



17-pos.



Signal plug connectors – PLUSCON circular

Unlike modular signal plug connectors, the circular connectors of these series are provided fully assembled. Contacts are added only in the case of crimp connection, depending on the desired connection cross section.

M16 appliance plug connectors up to 14-pos.

The M16 appliance plug connectors of the PV series provide high contact densities in compact spaces, for instance as a central connection for distributor boxes. Pin versions with 8, 10, 12 and 14 positions with solder contacts or with solder-in pins for direct PCB connection are available.

M17 connectors for small dimensions – optionally with SPEEDCON quick locking

The M17 range of the ST series offers a suitable housing version for almost every installation situation. Thanks to compact dimensions, the ST series is ideal for small sizes even in narrow installation spaces. The 17-pos. versions provide clear signal transmission. For power transmission of up to 20 A / 630 V, 4 to 9-pos. versions with PE connection are available; page 86 onwards.

M23 – Generous cable clamping range

The M23 signal plug connectors of the RF series are mainly used in areas where control units are connected with an electrical drive. The 12, 16 and 17-pos. basic range in metal housing versions is adapted to these applications. The cable clamping range is allows for a maximum cable diameter (shielded) of 13.2 mm.

M27 – High-position versions

The 26, 25+PE and 28-pos. signal plug connectors of the M27 HC series are available in male or female versions with solder, solder-in or crimp connections. Crimp contacts are available for stranded wire cross sections from 0.08 mm² to 1 mm² / AWG 28 to 18. The cable plug connectors and coupling connectors are equipped with a universal cable clamping and a shield connection for external cable diameters from 2 mm to 14.5 mm.

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Signal plug connector - PLUSCON circular

M16 - PV series

Mechanical and electrical data

Mechanical data:

Housing material:	rotating part, copper-zinc alloy (CuZn)
Housing surface:	nickel-plated
Insulating bodies:	polyamide (PA66)Storage at 15°C ... 35°C, 40% ... 70% rel. humidity
Contact material:	copper-zinc alloy (CuZn)
Contact surface:	nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	solder cup, solder-in pin
Gasket and O ring:	fluorine rubber (FKM)
Ambient temperature:	-20°C ... 125°C
Locking type:	M16 screw locking
Mechanical insertion/withdrawal cycles:	standard: 50, more on request
Degree of protection:	IP67 when locked

Electrical data

Number of positions	8	10	12	14
Male contacts	8	10	12	14
Contact Ø [mm]	1	1	1	1
Connection cross section, solder connection max. [mm² / AWG]	0.34 / 22	0.34 / 22	0.34 / 22	0.34 / 22
Nominal current per contact at 25 °C ¹⁾ [A]	6	6	6	6
Specifications as per DIN EN 61984:2001				
Nominal/operating voltage [V AC / DC]	100	100	100	100
Test/surge voltage [kV]	0.8	0.8	0.8	0.8
Surge voltage category	II	II	II	II
Pollution degree ²⁾	3	3	3	3
Installation height [m]	Up to 2,000	Up to 2,000	Up to 2,000	Up to 2,000

¹⁾ If required, the effective current carrying capacity must be determined according to the application using a derating curve.

²⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance.
If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using a ≥ IP54 protective cap.

	Contact insert numbering (view of plug-in side)			
Number of positions	8	10	12	14
Solder contacts, pin				
Solder-in contacts, pin				

	PCB hole patterns (hole diameter 0.8 ± 0.05 mm)			
Number of positions	8	10	12	14
Solder-in contacts, pin				

Note:

Plug connectors may only be inserted or removed when the power supply is disconnected.

	X/Y values of the PCB hole patterns													
	A	C	E	G	J	L	M	N	O	P	R	S	T	U
X	-2.5	-4.25	-2.3	2.3	4.25	2.5	-0.95	-2.4	-2.4	-0.95	0.95	2.4	2.4	0.95
Y	-4	0.00	4	4	0.00	-4	-2.4	-0.95	0.95	2.4	2.4	0.95	-0.95	-2.4

Appliance plug connectors for front and rear mounting

The M16 appliance plug connectors of the PV series allow a high density of positions in a small space, for example as central connection for distributor boxes.

8, 10, 12 and 14-pos. male versions with solder contacts or soldered-in pins are available for direct PCB connection.



PV-..P1N126100

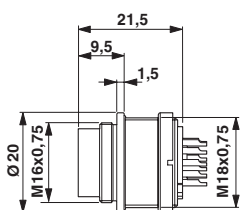
M16 appliance plug connector,
front mounting



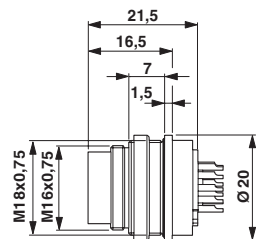
PV-..P1N.2HG00

M16 appliance plug connector,
rear mounting

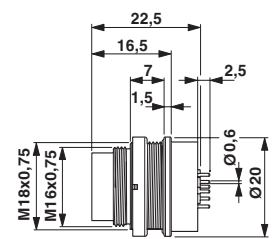
Description	Connection method	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M16 appliance plug connector, 8-pos. , pin	Solder Solder-in	PV-08P1N126100	1592490	40	PV-08P1N12HG00 PV-08P1N22HG00	1592491 1609977	40 40
M16 appliance plug connector, 10-pos. , pin	Solder Solder-in	PV-10P1N126100	1592493	40	PV-10P1N12HG00 PV-10P1N22HG00	1592494 1609978	40 40
M16 appliance plug connector, 12-pos. , pin	Solder Solder-in	PV-12P1N126100	1592496	40	PV-12P1N12HG00 PV-12P1N22HG00	1592497 1609979	40 40
M16 appliance plug connector, 14-pos. , pin	Solder Solder-in	PV-14P1N126100	1592499	40	PV-14P1N12HG00 PV-14P1N22HG00	1592500 1592501	40 40



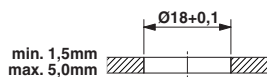
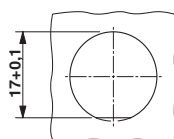
Solder connection: PV-..P1N126100



Solder connection: PV-..P1N12HG00



Solder-in connection: PV-..P1N22HG00



Installation dimensions PV-..P1N126100,
PV-..P1N.2HG00

Signal plug connectors - PLUSCON circular

M17 - ST series

Mechanical and electrical data

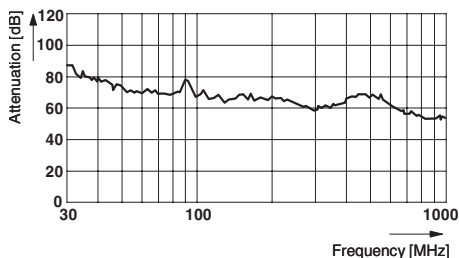
Mechanical data	
Housing material:	Rotating part: copper-zinc alloy (CuZn), die-cast part: zinc (GD-Zn)
Housing surface:	Nickel-plated; appliance plug connector: nickel-plated/thick layer passivated (can be painted over)
Insulating bodies:	Polyamide (PA 66)
Contact material:	Copper-zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	Crimp version
Gasket and O ring:	Fluorine rubber (FKM)
Ambient temperature:	-20°C ... 125°C
Conductor entry:	cable plug connectors and coupling connectors for external cable diameters of 3.5 ... 10 mm, shielded (3.5 ... 11.5 mm on request)
Locking type:	Quick locking M17 SPEEDCON, cable plug connectors optionally with M17 x 1 control thread
Mechanical insertion/withdrawal cycles:	Standard: 50, more on request
Degree of protection:	IP67 when locked

Electrical data	
Number of positions	17
Contacts	17
Contact Ø [mm]	0.6
Stranded wire cross section, crimp contacts turned [mm² / AWG]	0.08 ... 0.5 / 28-20
Stranded wire cross section, C-HC crimp contacts punched-rolled [mm²]	–
Cable clamping range max Ø [mm]	10
Nominal current per contact at 25°C ¹⁾ [A]	3.6
Specifications as per DIN EN 61984:2001	
Nominal/operating voltage [V AC / DC]	60
Test/surge voltage [kV]	1.5
Surge voltage category	III
Pollution degree ²⁾	3
Installation height [m]	Up to 3,000

¹⁾ If required, the effective current carrying capacity must be determined according to the application using a derating curve.

²⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using a ≥ IP 54 protective cap.

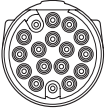
Shield attenuation curve based on DIN EN 50289-1-6
(cable connectors and appliance connectors angled on the base plate)



Note:

Plug connectors may only be inserted or removed when the power supply is disconnected.

Connector pin assignments and coding

Contact insert numbering (view of plug-in side)		
Number of positions	Pin	Socket
17-pos. Crimp		

Note:
The connectors can be equipped with male or female contacts according to the application.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Signal plug connectors - PLUSCON circular

M17 - ST series

Selection guide

M17 signal plug connectors 17-pos., crimp ranges 0.08 mm² to 0.5 mm² / AWG 28 to 20

- Cable plug connectors
- Coupling connectors
- Appliance plug connectors (device flange)

The ST series connectors are fully assembled and the respective crimp contacts must be ordered separately.

Every housing type can be equipped with male or female contacts. The connectors with a knurled nut can be optionally equipped with SPEEDCON quick locking or with M17 x 1 control thread. The connectors with an external thread are fully compatible with standard threads and with SPEEDCON quick locking.

The product chart provides an overview of the available components.

Connector type

Cable plug connectors

SPEEDCON
Quick locking, page 46



ST-...1N8A80..S

M17 x 1
Standard locking, page 47



ST-...1N8A80..

Square mounting flange for cable plug connectors and coupling connectors for wall mounting, page 152



shielded

Coupling connectors

page 48



ST-...1N8A90..S

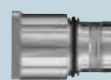
Square mounting flange for cable plug connectors and coupling connectors for wall mounting, page 152



shielded

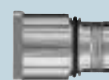
Device connectors

straight, page 49



ST-...1N8AWQ00S

straight, with contact carriers for snapping in, page 49



ST-...1N8AW400S

straight, with central fastening thread,
front mounting, page 51



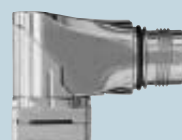
ST-...1N8A6100S

straight, with central fastening thread,
rear mounting, page 51



ST-...1N8AH100S

angled rotatable, page 50



ST-...1N8AAD00S,
ST-...1N8AAC00S

shielded

Crimp contacts

Female contacts

Turned, page 52



Male contacts

Turned, page 52



All housings can be equipped with male or female crimp contacts

Tools / accessories

Crimping tools

Crimping pliers for turned crimp contacts, page 145



Crimping pliers with digital display for turned crimp contacts, page 150



Removal tool for contact carrier

For appliance plug connectors with contact carriers snapping in from the device side, page 152



Note:

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Signal plug connector - PLUSCON circular
M17 - ST series

Cable plug connector with
SPEEDCON quick locking, shielded

The SPEEDCON thread allows quick locking of cable connector and coupling connector or device flange. They are locked by rotating the knurled nut clockwise until it stops. First, the connector must be connected to the mating connector manually without interference of the insertion forces. The knurled nut has a left stop. This allows "blind" mating of the connector.

Cable plug connectors of the ST series are either provided with the standard M17 screw locking or with the SPEEDCON quick locking.

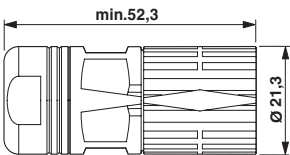


ST-17.1N8A800.S
Cable plug connector
SPEEDCON quick locking

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
M17 cable plug connector SPEEDCON, 17-pos., straight, for female contacts	3.5 ... 5	ST-17S1N8A8002S	1607640	30
	5 ... 8	ST-17S1N8A8003S	1607642	30
	8 ... 10	ST-17S1N8A8004S	1607644	30
M17 cable plug connector SPEEDCON, 17-pos., straight, for male contacts	3.5 ... 5	ST-17P1N8A8002S	1607623	30
	5 ... 8	ST-17P1N8A8003S	1607625	30
	8 ... 10	ST-17P1N8A8004S	1607627	30

Crimp contacts 17-pos.: Ø 0.6 mm

Order separately, see page 52 onwards



ST-17.1N8A800.S

Cable plug connector with standard interlocking, shielded

The cable plug connector is also provided with a standard screw locking. In this version, it is suitable for a standard screw thread as well as a SPEEDCON external thread of the mating connector, e.g. a straight device flange.

A special feature is the availability of the connector as a female version and male version.

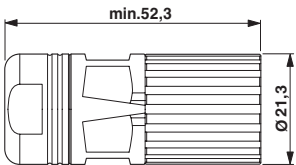


ST-17.1N8A800.
Cable plug connector,
standard interlocking

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
M17 cable plug connector,17-pos., straight, for female contacts	3.5 ... 5	ST-17S1N8A8002	1607639	30
	5 ... 8	ST-17S1N8A8003	1607641	30
	8 ... 10	ST-17S1N8A8004	1607643	30
M17 cable plug connector,17-pos., straight, for male contacts	3.5 ... 5	ST-17P1N8A8002	1607621	30
	5 ... 8	ST-17P1N8A8003	1607624	30
	8 ... 10	ST-17P1N8A8004	1607626	30

Crimp contacts 17-pos.: Ø 0.6 mm

Order separately, see page 52 onwards



ST-17.1N8A800.

Signal plug connector - PLUSCON circular
M17 - ST series

Coupling plug connector, shielded

The coupling plug connector is available only with SPEEDCON thread. They can be screwed together with the SPEEDCON thread as well as with the full thread of the mating connector.

The plug-in position is marked clearly using an arrow.



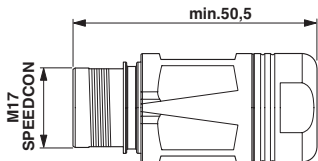
ST-17.1N8A900.S

Coupling plug connector SPEEDCON/standard interlocking

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
M17 coupling plug connector, 17-pos., straight, for female contacts	3.5 ... 5	ST-17S1N8A9002S	1607646	30
	5 ... 8	ST-17S1N8A9003S	1607647	30
	8 ... 10	ST-17S1N8A9004S	1607649	30
M17 coupling plug connector, 17-pos., straight, for male contacts	3.5 ... 5	ST-17P1N8A9002S	1607629	30
	5 ... 8	ST-17P1N8A9003S	1607630	30
	8 ... 10	ST-17P1N8A9004S	1607631	30

Crimp contacts 17-pos.: Ø 0.6 mm

Order separately, see page 52 onwards



ST-17.1N8A900.S

Appliance plug connector, straight,
front mounting, shielded

Devices are partially supplied with punched on and pre-assembled contact carriers, e.g. encoder for servo motors. It is practical in such cases to install the insulation body into the pre-assembled housing from behind. This version requires a removal tool for removing the contact carrier again from the front.



ST-17.1N8AWQ00S

Appliance plug connector, straight,
SPEEDCON/standard interlocking



ST-17.1N8AW400S

Appliance plug connector, straight,
SPEEDCON/standard interlocking
contact insert for snapping in

Description	No. of pos.
M17 appliance plug connector, straight, for female contacts	17
M17 appliance plug connector, straight, for male contacts	17

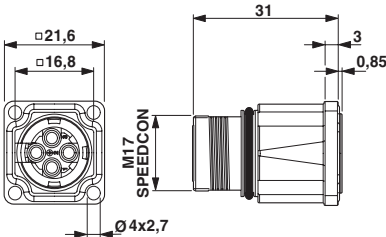
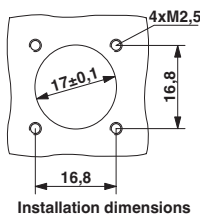
Crimp contacts 17-pos.: Ø 0.6 mm
Removal tool for contact carrier

Type	Order No.	Pcs. / Pkt.
ST-17S1N8AWQ00S	1607654	30
ST-17P1N8AWQ00S	1607636	30

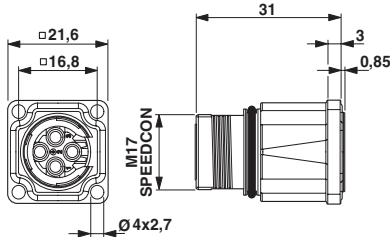
Order separately, see page 52 onwards

Type	Order No.	Pcs. / Pkt.
ST-17S1N8AW400S	1607653	30
ST-17P1N8AW400S	1607634	30

Order separately, see page 52 onwards
Order separately, see page 152



ST-17.1N8AWQ00S



ST-17.1N8AW400S

Signal plug connector - PLUSCON circular
M17 - ST series

Appliance plug connector, angled,
rotatable, front mounting, shielded

The angled panel mounting bases are progressively rotatable up to 308° for optimum adjustment to the respective application.

In addition, two flange dimension versions with 21.6 mm x 21.6 mm or 25 mm x 25 mm are available.

Panel mounting plug connector angled, rotatable, flange dimensions 28 x 28 mm on request.



ST-17.1N8AAD00S

Appliance plug connector, angled, rotatable,
SPEEDCON/standard interlocking,
flange dimension: 21.6 mm



ST-17.1N8AAC00S

Appliance plug connector, angled, rotatable,
SPEEDCON/standard interlocking,
flange dimension: 25 mm

Description	No. of pos.
M17 appliance plug connector, angled, rotatable, for female contacts	17
M17 appliance plug connector, angled, rotatable, for male contacts	17

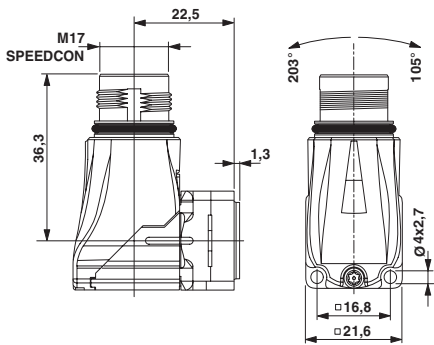
Type	Order No.	Pcs. / Pkt.
ST-17S1N8AAD00S	1607652	16
ST-17P1N8AAD00S	1607633	16

Type	Order No.	Pcs. / Pkt.
ST-17S1N8AAC00S	1607650	16
ST-17P1N8AAC00S	1607632	16

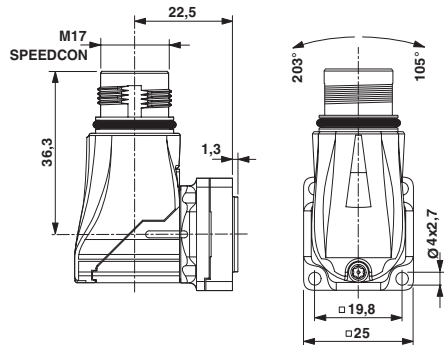
Crimp contacts 17-pos.: Ø 0.6 mm

Order separately, see page 52 onwards

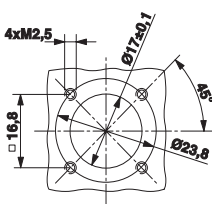
Order separately, see page 52 onwards



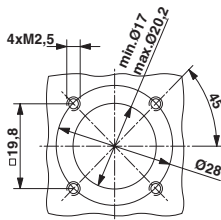
ST-17.1N8AAD00S



ST-17.1N8AAC00S



Installation dimensions: ST-17.1N8AAD00S



Installation dimensions: ST-17.1N8AAC00S

Appliance plug connector, central fastening thread, front and rear mounting, shielded

The device flanges with central fastening thread are screwed onto the mounting panel from outside or inside.

The contact carriers are fastened from the device side by clipping them in and snapping them in place. A removal tool is required for removing the contact carrier again from the front.



ST-17.1N8A6100S

Appliance plug connector, **front mounting**,
SPEEDCON/standard interlocking,
central fastening thread M18 x 0.75



ST-17.1N8AH100S

Appliance plug connector, **rear mounting**,
SPEEDCON/standard interlocking,
central fastening thread M20 x 1.5

Description	No. of pos.
M17 appliance plug connector, for female contacts	17
M17 appliance plug connector, for male contacts	17
Locking nut, for mounting bore holes and polarization	
	M18 x 0.75 M20 x 1.5

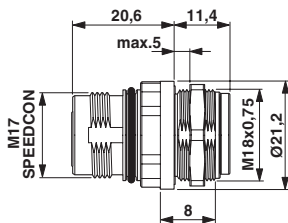
Type	Order No.	Pcs. / Pkt.
ST-17S1N8A6100S	1613542	30
ST-17P1N8A6100S	1613540	30
ST-E2015151	1613831	25

Type	Order No.	Pcs. / Pkt.
ST-17S1N8AH100S	1613543	30
ST-17P1N8AH100S	1613541	30
RC-13041	1600417	25

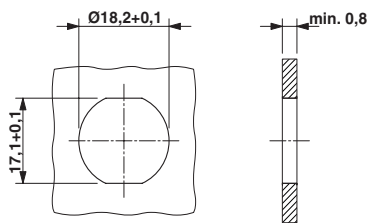
Crimp contacts 17-pos.: Ø 0.6 mm
Removal tool for contact carrier

Order separately, see page 52 onwards
Order separately, see page 152

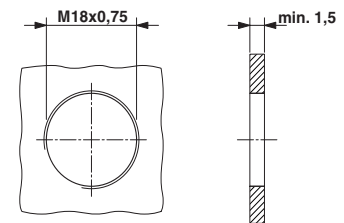
Order separately, see page 52 onwards
Order separately, see page 152



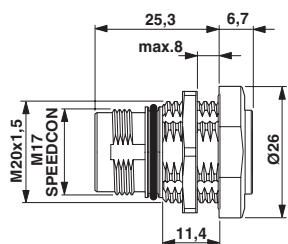
ST-17S1N8A6100S, ST-17P1N8A6100S,
Separate ordering for locking nut



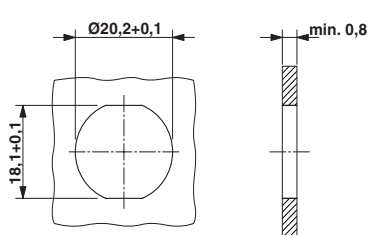
Installation dimensions: ST-17.1N8A6100S, bore hole with polarization
and locking nut (recommended for installation in steel sheet panel)



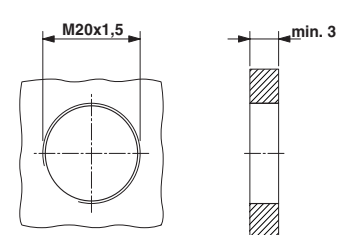
Installation dimensions: ST-17.1N8A6100S, feed-through hole
with thread (recommended for installation in steel sheet panel)



ST-17S1N8AH100S, ST-17P1N8AH100S,
Separate ordering for locking nut



Installation dimensions: ST-17.1N8AH100S, bore hole with polarization
and locking nut (recommended for installation in steel sheet panel)



Installation dimensions: ST-17.1N8AH100S, feed-through hole
with thread (recommended for installation in steel sheet panel)

Signal plug connector - PLUSCON circular
M17 - ST series

Crimp contacts, turned

The 17 pos. signal plug connectors of the ST series are designed for Ø 0.6 mm contacts.

Note:

Depending on the wire used, the connection cross-sections (crimp ranges) can differ from the values mentioned below.



ST-06KS010

Crimp contacts
socket



ST-06KP010

Crimp contacts
pin

Description	Connection cross section [mm² / AWG]
Contacts, female Ø 0.6 mm, for M17 connectors	
	0,08 ... 0,25 / 28-24
	0,14 ... 0,34 / 26-22
	0,34 ... 0,5 / 22-20
Contacts, male Ø 0.6 mm, for M17 connectors	
	0,08 ... 0,25 / 28-24
	0,14 ... 0,34 / 26-22
	0,34 ... 0,5 / 22-20

Type	Order No.	Pcs. / Pkt.
ST-06KS010	1607580	100
ST-06KS020	1607581	100
ST-06KS030	1607582	100

Type	Order No.	Pcs. / Pkt.
ST-06KP010	1607577	100
ST-06KP020	1607578	100
ST-06KP030	1607579	100

Crimping tools

Crimping tool with digital display

Order separately, see page 145 onwards

Order separately, see page 150

Order separately, see page 145 onwards

Order separately, see page 150

Notes:

Every connector housing type can be equipped with male or female contacts.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Signal plug connectors - PLUSCON circular

M23 - RF series

Mechanical and electrical data

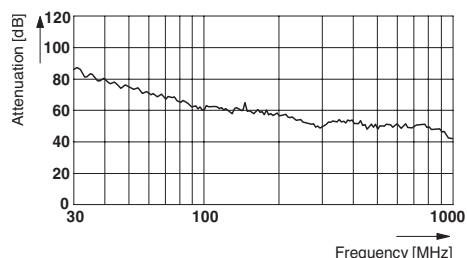
Mechanical data	
Housing material:	Rotating part: copper-zinc alloy (CuZn), die-cast part: zinc (GD-Zn)
Housing surface:	Nickel-plated; appliance plug connector: nickel-plated/thick layer passivated (can be painted over)
High-grade steel versions:	Housing material, high-grade steel 1.4305
Insulating bodies:	Polyamide (PA 66)
Contact material:	Copper-zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	Crimp version
Gasket and O ring:	Fluorine rubber (FKM)
Ambient temperature:	-20°C ... 125°C
Conductor entry:	Cable plug connectors and coupling connectors for external cable diameters of 3 ... 13.2 mm, shielded
Locking type:	M23 screw locking
Mechanical insertion/withdrawal cycles:	Standard: 50, punched-rolled C-HC crimp contacts: up to 10,000
Degree of protection:	IP67 when locked

Electrical data			
Number of positions	12	16	17
Contacts	12	16	17
Contact Ø [mm]	1	1	1
Stranded wire cross section, crimp contacts turned [mm² / AWG]	0.08 ... 1.0 / 28-18	0.08 ... 1.0 / 28-18	0.08 ... 1.0 / 28-18
Stranded wire cross section, C-HC crimp contacts punched-rolled [mm² / AWG]	0.08 ... 0.56 / 28-20	0.08 ... 0.56 / 28-20	0.08 ... 0.56 / 28-20
Cable clamping range max Ø [mm]	13.2	13.2	13.2
Nominal current per contact at 25°C ¹⁾ [A]	8	8	8
Specifications as per DIN EN 61984:2001			
Nominal/operating voltage [V AC / DC]	150	100	100
Test/surge voltage [kV]	2.5	1.5	1.5
Surge voltage category	III	III	III
Pollution degree ²⁾	3	3	3
Installation height [m]	Up to 2,000	Up to 2,000	Up to 2,000

¹⁾ If required, the effective current carrying capacity must be determined according to the application using a derating curve.

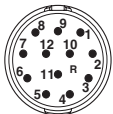
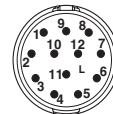
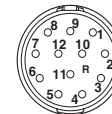
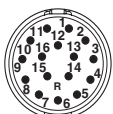
²⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using a ≥ IP 54 protective cap.

Shield attenuation curve based on DIN EN 50289-1-6
(cable connectors and appliance connectors angled on the base plate)



Note:
Plug connectors may only be inserted or removed when the power supply is disconnected.

Connector pin assignments and coding

Contact insert numbering (view of plug-in side)				
Direction of rotation of contact insert numbering (view of plug-in side)				
	Clockwise (standard) marked R	Counter-clockwise (standard) marked L	Counter-clockwise (opposite) marked L	Clockwise (opposite) marked R
Number of positions	Pin	Socket	Pin	Socket
12-pos. N coding Crimp				
12-pos. S/N coding Crimp				
16-pos. N coding Crimp				
17-pos. N coding Crimp				
17-pos. S/N coding Crimp (on request)				

Note:
More coding versions and position numbers can be configured on request.

The connectors can be equipped with male or female contacts according to the application.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Signal plug connectors - PLUSCON circular

M23 - RF series

Selection guide

M23 signal plug connectors 12 / 16 / 17-pos., N/S coding, up to 8 A / 150 V, crimp ranges of up to 1 mm² / AWG 18

- Cable plug connectors
- Coupling connectors
- Appliance plug connectors (device flange)

The RF series connectors are fully assembled and the respective crimp contacts must be ordered separately.

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

The connectors are available with clockwise or counter-clockwise contact insert numbering.

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

The product chart provides an overview of the available components.

1) Cable plug connectors, coupling connectors and straight appliance plug connectors are also available in high-grade steel versions, from page 66 onwards.

Connector type

Cable plug connectors

page 58

shielded



RF-.....8A80.. 1)



Square mounting flange for cable plug connectors and coupling connectors for wall mounting, page 152

Coupling connectors

page 59

shielded



RF-.....8A90.. 1)



Square mounting flange for cable plug connectors and coupling connectors for wall mounting, page 152

Appliance plug connectors

straight, 4-hole mounting Ø 2.7, page 60

straight, 4-hole mounting Ø 3.2, page 60

shielded



RF-.....8AWQ00 1)



RF-.....8AWA00 1)

Contact carriers for snapping in from the device side, straight, 4-hole mounting Ø 2.7, page 61

Ø 3.2, page 61



RF-.....8AW400



RF-.....8AWB00

angled, rotatable page 64

angled, rotatable, larger flange dimensions, page 64



RF-.....8AAD00

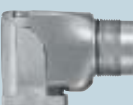


RF-.....8AAC00

angled, fixed page 63

angled, fixed larger flange dimensions, page 63

angled, fixed, 2-part housing for higher loads, page 62



RF-.....8AAF00



RF-.....8AAK00



RF-.....8AA200

Crimp contacts

Female contacts

Turned, page 71



Punched-rolled, taped, page 70



Male contacts

Turned, page 71



All housings can be equipped with male or female crimp contacts

Tools / accessories

Crimping tools

Crimping pliers for punched-rolled C-HC crimp contacts, page 144



Crimping pliers for turned crimp contacts, from page 146 onwards



Crimping pliers with digital display for turned crimp contacts, page 150



Removal tool for contact carrier

For appliance plug connectors with contact carriers snapping in from the device side, page 152



Note:

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Signal plug connector - PLUSCON circular

M23 - RF series

Cable plug connector, shielded

The RF series is designed to offer a robust and pluggable M23 connection between control units and electric drives. The connector targets these applications with its 12, 16 and 17 position offering.



RF-1.S..8A80..

M23 cable plug connector,
socket



RF-1.P..8A80..

M23 cable plug connector,
pin

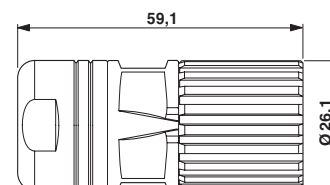
Description	For cable Ø [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 cable plug connector,12-pos., N coding, standard	(Universal seal) 3 ... 13,2	RF-12S1N8A80DU	1607276	20	RF-12P1N8A80DU	1607228	20
	6 ... 10	RF-12S1N8A8002	1607273	20	RF-12P1N8A8002	1607225	20
	9 ... 13,2	RF-12S1N8A8003	1607275	20	RF-12P1N8A8003	1607227	20
M23 cable plug connector,16-pos., N coding, standard	(Universal seal) 3 ... 13,2	RF-16S1N8A80DU	1613727	20	RF-16P1N8A80DU	1613717	20
	6 ... 10	RF-16S1N8A8002	1613725	20	RF-16P1N8A8002	1613715	20
	9 ... 13,2	RF-16S1N8A8003	1613726	20	RF-16P1N8A8003	1613716	20
M23 cable plug connector,17-pos., N coding, standard	(Universal seal) 3 ... 13,2	RF-17S1N8A80DU	1607340	20	RF-17P1N8A80DU	1607323	20
	6 ... 10	RF-17S1N8A8002	1607338	20	RF-17P1N8A8002	1607320	20
	9 ... 13,2	RF-17S1N8A8003	1607339	20	RF-17P1N8A8003	1607321	20
M23 cable plug connector,12-pos., S/N coding, standard	(Universal seal) 3 ... 13,2	RF-12S1S8A80DU	1607286	20	RF-12P1S8A80DU	1607240	20
	6 ... 10	RF-12S1S8A8002	1607284	20	RF-12P1S8A8002	1607237	20
	9 ... 13,2	RF-12S1S8A8003	1607285	20	RF-12P1S8A8003	1607238	20
M23 cable plug connector,12-pos., N coding, opposite	(Universal seal) 3 ... 13,2	RF-12S2N8A80DU	1607297	20	RF-12P2N8A80DU	1607252	20
	6 ... 10	RF-12S2N8A8002	1607295	20	RF-12P2N8A8002	1607249	20
	9 ... 13,2	RF-12S2N8A8003	1607296	20	RF-12P2N8A8003	1607251	20
M23 cable plug connector,16-pos., N coding, opposite	(Universal seal) 3 ... 13,2	RF-16S2N8A80DU	1613732	20	RF-16P2N8A80DU	1613722	20
	6 ... 10	RF-16S2N8A8002	1613730	20	RF-16P2N8A8002	1613720	20
	9 ... 13,2	RF-16S2N8A8003	1613731	20	RF-16P2N8A8003	1613721	20
M23 cable plug connector,17-pos., N coding, opposite	(Universal seal) 3 ... 13,2	RF-17S2N8A80DU	1607349	20	RF-17P2N8A80DU	1607331	20
	6 ... 10	RF-17S2N8A8002	1607347	20	RF-17P2N8A8002	1607329	20
	9 ... 13,2	RF-17S2N8A8003	1607348	20	RF-17P2N8A8003	1607330	20
M23 cable plug connector,12-pos., S/N coding, opposite	(Universal seal) 3 ... 13,2	RF-12S2S8A80DU	1607310	20	RF-12P2S8A80DU	1607264	20
	6 ... 10	RF-12S2S8A8002	1607308	20	RF-12P2S8A8002	1607261	20
	9 ... 13,2	RF-12S2S8A8003	1607309	20	RF-12P2S8A8003	1607262	20

Crimp contacts Ø 1.0 mm

Order separately, see page 70 onwards

Order separately, see page 70 onwards

Clamping ranges Universal seals	Cable Ø[mm]
State of delivery	3 ... 5
Section 1	9 ... 13,2
Section 2	6 ... 10
Section 3	5 ... 7



RF-1.S..8A80.. , RF-1.P..8A80..

Coupling plug connector, shielded

The cable clamping range for cables and coupling plug connectors is generously dimensioned with a maximum cable diameter (shielded) of 13.2 mm.

Shield and cable clamping have been consistently developed for simple and quick cable assembly. The shield must only be spliced slightly and can be processed quickly without cutting off.



RF-1.S..8A90..

M23 coupling plug connector,
socket



RF-1.P..8A90..

M23 coupling plug connector,
pin

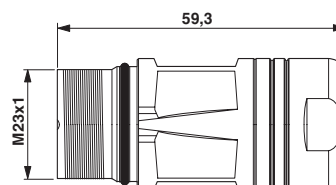
Description	For cable Ø [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 coupling plug connector, 12-pos., N coding, standard	(Universal seal) 3 ... 13,2	RF-12S1N8A90DU	1607278	20	RF-12P1N8A90DU	1607231	20
	6 ... 10	RF-12S1N8A9002	1607825	20	RF-12P1N8A9002	1607229	20
	9 ... 13,2	RF-12S1N8A9003	1607277	20	RF-12P1N8A9003	1607230	20
M23 coupling plug connector, 16-pos., N coding, standard	(Universal seal) 3 ... 13,2	RF-16S1N8A90DU	1613783	20	RF-16P1N8A90DU	1613759	20
	6 ... 10	RF-16S1N8A9002	1613781	20	RF-16P1N8A9002	1613757	20
	9 ... 13,2	RF-16S1N8A9003	1613782	20	RF-16P1N8A9003	1613758	20
M23 coupling plug connector, 17-pos., N coding, standard	(Universal seal) 3 ... 13,2	RF-17S1N8A90DU	1607343	20	RF-17P1N8A90DU	1607326	20
	6 ... 10	RF-17S1N8A9002	1607341	20	RF-17P1N8A9002	1607324	20
	9 ... 13,2	RF-17S1N8A9003	1607342	20	RF-17P1N8A9003	1607325	20
M23 coupling plug connector, 12-pos., S/N coding, standard	(Universal seal) 3 ... 13,2	RF-12S1S8A90DU	1607289	20	RF-12P1S8A90DU	1607243	20
	6 ... 10	RF-12S1S8A9002	1607287	20	RF-12P1S8A9002	1607241	20
	9 ... 13,2	RF-12S1S8A9003	1607288	20	RF-12P1S8A9003	1607242	20
M23 coupling plug connector, 12-pos., N coding, opposite	(Universal seal) 3 ... 13,2	RF-12S2N8A90DU	1607302	20	RF-12P2N8A90DU	1607255	20
	6 ... 10	RF-12S2N8A9002	1607300	20	RF-12P2N8A9002	1607253	20
	9 ... 13,2	RF-12S2N8A9003	1607301	20	RF-12P2N8A9003	1607254	20
M23 coupling plug connector, 16-pos., N coding, opposite	(Universal seal) 3 ... 13,2	RF-16S2N8A90DU	1613794	20	RF-16P2N8A90DU	1613771	20
	6 ... 10	RF-16S2N8A9002	1613792	20	RF-16P2N8A9002	1613769	20
	9 ... 13,2	RF-16S2N8A9003	1613793	20	RF-16P2N8A9003	1613770	20
M23 coupling plug connector, 17-pos., N coding, opposite	(Universal seal) 3 ... 13,2	RF-17S2N8A90DU	1607352	20	RF-17P2N8A90DU	1607334	20
	6 ... 10	RF-17S2N8A9002	1607350	20	RF-17P2N8A9002	1607332	20
	9 ... 13,2	RF-17S2N8A9003	1607351	20	RF-17P2N8A9003	1607333	20
M23 coupling plug connector, 12-pos., S/N coding, opposite	(Universal seal) 3 ... 13,2	RF-12S2S8A90DU	1607314	20	RF-12P2S8A90DU	1607267	20
	6 ... 10	RF-12S2S8A9002	1607312	20	RF-12P2S8A9002	1607265	20
	9 ... 13,2	RF-12S2S8A9003	1607313	20	RF-12P2S8A9003	1607266	20

Crimp contacts Ø 1.0 mm

Order separately, see page 70 onwards

Order separately, see page 70 onwards

Clamping ranges Universal seals	Cable Ø [mm]
State of delivery	3 ... 5
Section 1	9 ... 13,2
Section 2	6 ... 10
Section 3	5 ... 7



RF-1.S..8A90.., RF-1.P..8A90..

Signal plug connector - PLUSCON circular

M23 - RF series

Appliance plug connector, front mounting, shielded

Appliance plug connectors of the RF series are available in straight and angled versions. In the straight versions, the contact carrier fits through the boreholing of the housing. Reverse fastening in the housing is ensured by a half-open plastic screen. The contact carrier can be opened easily without any tool. Flange versions for M2.5 and M3 screws are available for mounting.



RF-1.S..8AW.00

M23 appliance plug connector, straight, socket



RF-1.P..8AW.00

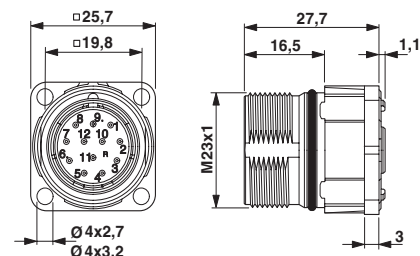
M23 appliance plug connector, straight, pin

Description	No. of positions / direction of rotation	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 appliance plug connector, straight, N coding, 4-hole mounting Ø 3.2 mm							
	12-pos., standard	RF-12S1N8AWA00	1607283	40	RF-12P1N8AWA00	1607236	40
	16-pos., standard	RF-16S1N8AWA00	1613789	40	RF-16P1N8AWA00	1613766	40
	17-pos., standard	RF-17S1N8AWA00	1607892	40	RF-17P1N8AWA00	1607860	40
	12-pos., opposite	RF-12S2N8AWA00	1607307	40	RF-12P2N8AWA00	1607260	40
	16-pos., opposite	RF-16S2N8AWA00	1613801	40	RF-16P2N8AWA00	1613778	40
	17-pos., opposite	RF-17S2N8AWA00	1607901	40	RF-17P2N8AWA00	1607882	40
M23 appliance plug connector, straight, S/N coding, 4-hole mounting Ø 3.2 mm							
	12-pos., standard	RF-12S1S8AWA00	1607294	40	RF-12P1S8AWA00	1607248	40
	12-pos., opposite	RF-12S2S8AWA00	1607319	40	RF-12P2S8AWA00	1607272	40
M23 appliance plug connector, straight, N coding, 4-hole mounting Ø 2.7 mm							
	12-pos., standard	RF-12S1N8AWQ00	1607831	40	RF-12P1N8AWQ00	1607806	40
	16-pos., standard	RF-16S1N8AWQ00	1613791	40	RF-16P1N8AWQ00	1613768	40
	17-pos., standard	RF-17S1N8AWQ00	1607894	40	RF-17P1N8AWQ00	1607866	40
	12-pos., opposite	RF-12S2N8AWQ00	1607845	40	RF-12P2N8AWQ00	1607818	40
	16-pos., opposite	RF-16S2N8AWQ00	1613803	40	RF-16P2N8AWQ00	1613780	40
	17-pos., opposite	RF-17S2N8AWQ00	1607903	40	RF-17P2N8AWQ00	1607885	40
M23 appliance plug connector, straight, S/N coding, 4-hole mounting Ø 2.7 mm							
	12-pos., standard	RF-12S1S8AWQ00	1607839	40	RF-12P1S8AWQ00	1607811	40
	12-pos., opposite	RF-12S2S8AWQ00	1607850	40	RF-12P2S8AWQ00	1607823	40

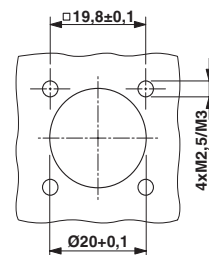
Crimp contacts Ø 1.0 mm

Order separately, see page 70 onwards

Order separately, see page 70 onwards



RF-...N8AWA00, RF-...N8AWB00



Installation dimensions

Appliance plug connector with contact carrier for snapping-in, front mounting, shielded

One possible installation variant of the straight device flange is by snapping the contact carrier into the reverse device-side.

The contact carrier is removed again with a removal tool (RF-Z0001) from the front, i.e. from the plug-in side. This mounting case is particularly advantageous, if wires are already connected to the contact carrier or are soldered onto the PCB.



RF-1.S..8AW.00

With contact carriers for snapping in, 4-hole mounting, **socket**



RF-1.P..8AW.00

With contact carriers for snapping in, 4-hole mounting, **pin**

Description	No. of positions / direction of rotation	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 appliance plug connector, straight, contact carrier for snapping in, Ncoding, 4-hole mounting Ø 3.2 mm	12-pos., standard	RF-12S1N8AWB00	1607830	40	RF-12P1N8AWB00	1607804	40
	16-pos., standard	RF-16S1N8AWB00	1613790	40	RF-16P1N8AWB00	1613767	40
	17-pos., standard	RF-17S1N8AWB00	1607893	40	RF-17P1N8AWB00	1607863	40
	12-pos., opposite	RF-12S2N8AWB00	1607844	40	RF-12P2N8AWB00	1607817	40
	16-pos., opposite	RF-16S2N8AWB00	1613802	40	RF-16P2N8AWB00	1613779	40
	17-pos., opposite	RF-17S2N8AWB00	1607902	40	RF-17P2N8AWB00	1607883	40
M23 appliance plug connector, straight, contact carrier for snapping in, S/Ncoding, 4-hole mounting Ø 3.2 mm	12-pos., standard	RF-12S1S8AWB00	1607837	40	RF-12P1S8AWB00	1607810	40
	12-pos., opposite	RF-12S2S8AWB00	1607849	40	RF-12P2S8AWB00	1607822	40
M23 appliance plug connector, straight, contact carrier for snapping in, Ncoding, 4-hole mounting Ø 2.7 mm	12-pos., standard	RF-12S1N8AW400	1607828	40	RF-12P1N8AW400	1607803	40
	16-pos., standard	RF-16S1N8AW400	1613788	40	RF-16P1N8AW400	1613765	40
	17-pos., standard	RF-17S1N8AW400	1607891	40	RF-17P1N8AW400	1607857	40
	12-pos., opposite	RF-12S2N8AW400	1607843	40	RF-12P2N8AW400	1607816	40
	16-pos., opposite	RF-16S2N8AW400	1613800	40	RF-16P2N8AW400	1613777	40
	17-pos., opposite	RF-17S2N8AW400	1607900	40	RF-17P2N8AW400	1607881	40
M23 appliance plug connector, straight, contact carrier for snapping in, S/Ncoding, 4-hole mounting Ø 2.7 mm	12-pos., standard	RF-12S1S8AW400	1607836	40	RF-12P1S8AW400	1607809	40
	12-pos., opposite	RF-12S2S8AW400	1607848	40	RF-12P2S8AW400	1607821	40

Crimp contacts Ø 1.0 mm

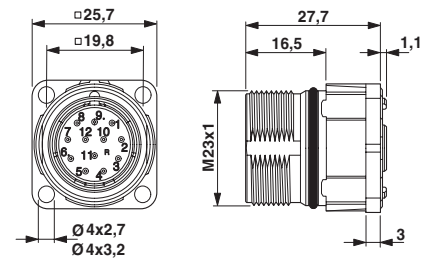
Removal tool for contact carrier

Order separately, see page 70 onwards

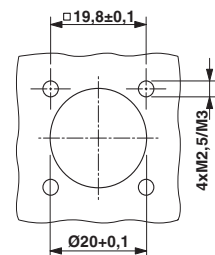
Order separately, see page 152

Order separately, see page 70 onwards

Order separately, see page 152



RF-1.S..8AW.00, RF-1.P..8AW.00



Installation dimensions

Signal plug connector - PLUSCON circular
M23 - RF series

Appliance plug connector angled,
fixed, for high loads, front mounting,
shielded

Some applications require shock-resistant housing versions. Robust versions of the angled device connector are available to meet these requirements.

The housing has a two-piece design, consisting of a solid, fixed angular part and the straight standard flange.



RF-1.S..8AA200

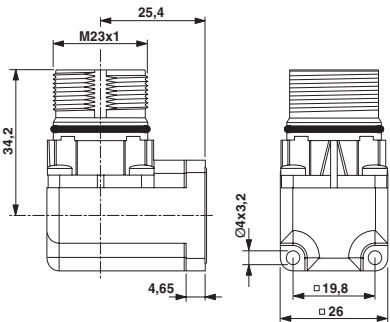
M23 appliance plug connector, angled, fixed,
socket



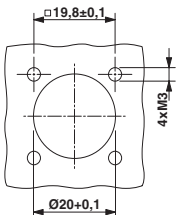
RF-1.P..8AA200

M23 appliance plug connector, angled, fixed,
pin

Description	No. of positions / direction of rotation	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 appliance plug connector, angled, fixed, 2-part. Housing for higher loads, N coding							
	12-pos., standard	RF-12S1N8AA200	1607279	16	RF-12P1N8AA200	1607232	16
	16-pos., standard	RF-16S1N8AA200	1613784	16	RF-16P1N8AA200	1613760	16
	17-pos., standard	RF-17S1N8AA200	1607344	16	RF-17P1N8AA200	1607327	16
	12-pos., opposite	RF-12S2N8AA200	1607303	16	RF-12P2N8AA200	1607256	16
	16-pos., opposite	RF-16S2N8AA200	1613795	16	RF-16P2N8AA200	1613772	16
	17-pos., opposite	RF-17S2N8AA200	1607353	16	RF-17P2N8AA200	1607336	16
M23 appliance plug connector, angled, fixed, 2-part. Housing for higher loads, S/N coding							
	12-pos., standard	RF-12S1S8AA200	1607290	16	RF-12P1S8AA200	1607244	16
	12-pos., opposite	RF-12S2S8AA200	1607315	16	RF-12P2S8AA200	1607268	16
Crimp contacts Ø 1.0 mm				Order separately, see page 70 onwards	Order separately, see page 70 onwards		



RF-1.S..8AA200 , RF-1.P..8AA200



Installation dimensions

Appliance plug connector angled,
fixed, front mounting, shielded



RF-1.S..8AA.00

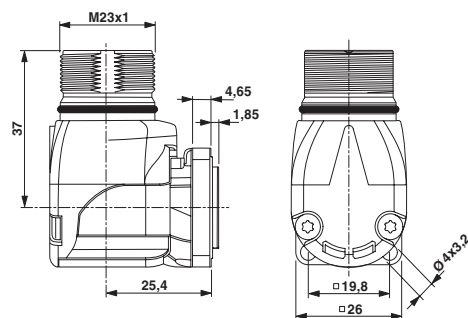
M23 appliance plug connector, angled, fixed,
socket



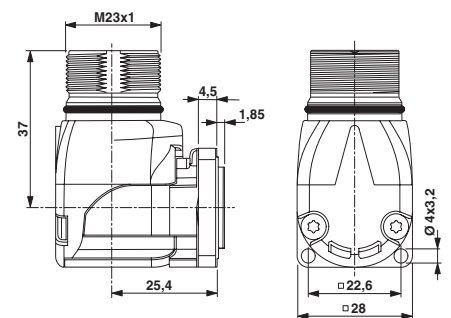
RF-1.P..8AA.00

M23 appliance plug connector, angled, fixed,
pin

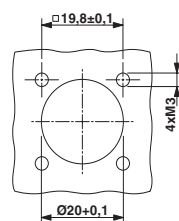
Description	No. of positions / direction of rotation	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 appliance plug connector, angled, fixed, N coding, flange dimensions 26 mm x 26 mm	12-pos., standard	RF-12S1N8AAF00	1607281	16	RF-12P1N8AAF00	1607234	16
	16-pos., standard	RF-16S1N8AAF00	1613786	16	RF-16P1N8AAF00	1613763	16
	17-pos., standard	RF-17S1N8AAF00	1607889	16	RF-17P1N8AAF00	1607853	16
	12-pos., opposite	RF-12S2N8AAF00	1607305	16	RF-12P2N8AAF00	1607258	16
	16-pos., opposite	RF-16S2N8AAF00	1613798	16	RF-16P2N8AAF00	1613775	16
	17-pos., opposite	RF-17S2N8AAF00	1607898	16	RF-17P2N8AAF00	1607875	16
	12-pos., standard	RF-12S1S8AAF00	1607292	16	RF-12P1S8AAF00	1607246	16
	12-pos., opposite	RF-12S2S8AAF00	1607317	16	RF-12P2S8AAF00	1607270	16
M23 appliance plug connector, angled, fixed, N coding, flange dimensions 28 mm x 28 mm	12-pos., standard	RF-12S1N8AAK00	1607282	16	RF-12P1N8AAK00	1607235	16
	16-pos., standard	RF-16S1N8AAK00	1613787	16	RF-16P1N8AAK00	1613764	16
	17-pos., standard	RF-17S1N8AAK00	1607890	16	RF-17P1N8AAK00	1607854	16
	12-pos., opposite	RF-12S2N8AAK00	1607306	16	RF-12P2N8AAK00	1607259	16
	16-pos., opposite	RF-16S2N8AAK00	1613799	16	RF-16P2N8AAK00	1613776	16
	17-pos., opposite	RF-17S2N8AAK00	1607899	16	RF-17P2N8AAK00	1607878	16
	12-pos., standard	RF-12S1S8AAK00	1607293	16	RF-12P1S8AAK00	1607247	16
	12-pos., opposite	RF-12S2S8AAK00	1607318	16	RF-12P2S8AAK00	1607271	16
Crimp contacts Ø 1.0 mm		Order separately, see page 70 onwards			Order separately, see page 70 onwards		



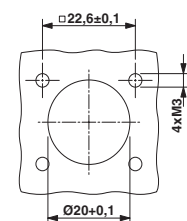
RF-1.S..8AAF00, RF-1.P..8AAF00



RF-1.S..8AAK00, RF-1.P..8AAK00



Installation dimensions: RF-1.S..8AAF00, RF-1.P..8AAF00



Installation dimensions: RF-1.S..8AAK00, RF-1.P..8AAK00

Signal plug connector - PLUSCON circular

M23 - RF series

Appliance plug connector angled, rotatable, front mounting, shielded

The angled, rotatable versions cover a progressive swiveling range of up to 310°. The metallic twisting mechanism provides an EMC-effective, uninterrupted connection of the angled flange with the device housing.



RF-1.S..8AA.00

M23 appliance plug connector, angled rotatable, socket



RF-1.P..8AA.00

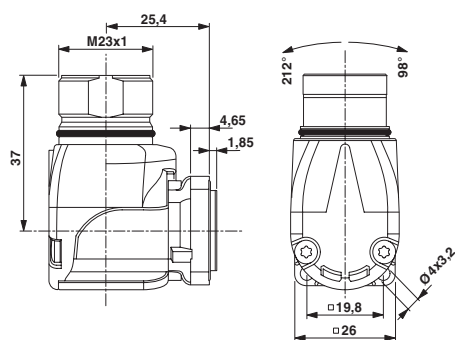
M23 appliance plug connector, angled, rotatable, pin

Description	No. of positions / direction of rotation	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 appliance plug connector, angled, rotatable, N coding, flange dimensions 26 mm x 26 mm							
	12-pos., standard	RF-12S1N8AAD00	1607280	16	RF-12P1N8AAD00	1607233	16
	16-pos., standard	RF-16S1N8AAD00	1613830	16	RF-16P1N8AAD00	1613762	16
	17-pos., standard	RF-17S1N8AAD00	1607345	16	RF-17P1N8AAD00	1607328	16
	12-pos., opposite	RF-12S2N8AAD00	1607304	16	RF-12P2N8AAD00	1607257	16
	16-pos., opposite	RF-16S2N8AAD00	1613797	16	RF-16P2N8AAD00	1613774	16
	17-pos., opposite	RF-17S2N8AAD00	1607354	16	RF-17P2N8AAD00	1607337	16
M23 appliance plug connector, angled, rotatable, S/N coding, flange dimensions 26 mm x 26 mm							
	12-pos., standard	RF-12S1S8AAD00	1607291	16	RF-12P1S8AAD00	1607245	16
	12-pos., opposite	RF-12S2S8AAD00	1607316	16	RF-12P2S8AAD00	1607269	16
M23 appliance plug connector, angled, rotatable, N coding, flange dimensions 28 mm x 28 mm							
	12-pos., standard	RF-12S1N8AAC00	1607827	16	RF-12P1N8AAC00	1607802	16
	16-pos., standard	RF-16S1N8AAC00	1613785	16	RF-16P1N8AAC00	1613761	16
	17-pos., standard	RF-17S1N8AAC00	1607887	16	RF-17P1N8AAC00	1607852	16
	12-pos., opposite	RF-12S2N8AAC00	1607842	16	RF-12P2N8AAC00	1607814	16
	16-pos., opposite	RF-16S2N8AAC00	1613796	16	RF-16P2N8AAC00	1613773	16
	17-pos., opposite	RF-17S2N8AAC00	1607896	16	RF-17P2N8AAC00	1607872	16
M23 appliance plug connector, angled, rotatable, S/N coding, flange dimensions 28 mm x 28 mm							
	12-pos., standard	RF-12S1S8AAC00	1607834	16	RF-12P1S8AAC00	1607808	16
	12-pos., opposite	RF-12S2S8AAC00	1607847	16	RF-12P2S8AAC00	1607820	16

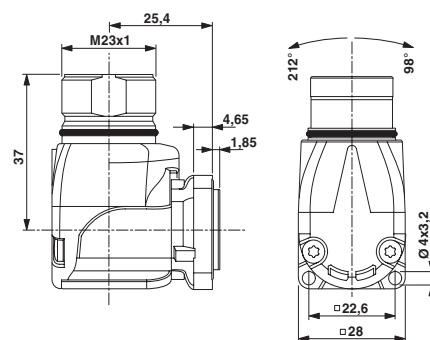
Crimp contacts Ø 1.0 mm

Order separately, see page 70 onwards

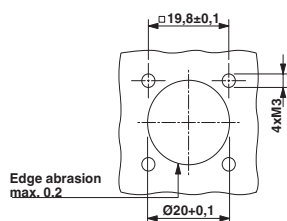
Order separately, see page 70 onwards



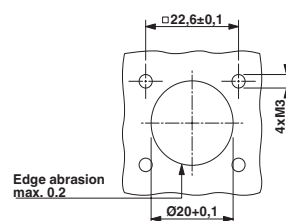
RF-1.S..8AAD00, RF-1.P..8AAD00



RF-1.S..8AAC00, RF-1.P..8AAC00



Installation dimensions: RF-1.S..8AAD00, RF-1.P..8AAD00



Installation dimensions: RF-1.S..8AAC00, RF-1.P..8AAC00

Signal plug connector - PLUSCON circular

M23 - RF series

Cable plug connector, stainless steel housing, shielded

For special applications, e.g. increased corrosion resistance requirements, the RF series cable and coupling plug connectors as well as straight appliance plug connectors (1,4305) are also available with stainless steel housings.

The housing is designed with a smooth surface to prevent build-up of contaminants.



RF-..S..8A8V..

M23 cable plug connector, high-grade steel,
Socket



RF-..P..8A8V..

M23 cable plug connector, high-grade steel,
pin

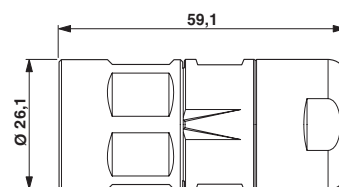
Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 high-grade steel cable plug connector,12-pos., N coding, standard	universal 5.5 ... 13,2	RF-12S1N8A8VDU	1614078	20	RF-12P1N8A8VDU	1614067	20
	6 ... 10,0	RF-12S1N8A8V02	1614077	20	RF-12P1N8A8V02	1615239	20
	9 ... 13,2	RF-12S1N8A8V03	1615240	20	RF-12P1N8A8V03	1614066	20
M23 high-grade steel cable plug connector,16-pos., N coding, standard	universal 5.5 ... 13,2	RF-16S1N8A8VDU	1614094	20	RF-16P1N8A8VDU	1614089	20
	6 ... 10,0	RF-16S1N8A8V02	1614092	20	RF-16P1N8A8V02	1614087	20
	9 ... 13,2	RF-16S1N8A8V03	1614093	20	RF-16P1N8A8V03	1614088	20
M23 high-grade steel cable plug connector,17-pos., N coding, standard	universal 5.5 ... 13,2	RF-17S1N8A8VDU	1614105	20	RF-17P1N8A8VDU	1614100	20
	6 ... 10,0	RF-17S1N8A8V02	1614103	20	RF-17P1N8A8V02	1614098	20
	9 ... 13,2	RF-17S1N8A8V03	1614104	20	RF-17P1N8A8V03	1614099	20
M23 high-grade steel cable plug connector,12-pos., S/N encoding, standard	universal 5.5 ... 13,2	RF-12S1S8A8VDU	1614081	20	RF-12P1S8A8VDU	1614070	20
	6 ... 10,0	RF-12S1S8A8V02	1614079	20	RF-12P1S8A8V02	1614068	20
	9 ... 13,2	RF-12S1S8A8V03	1614080	20	RF-12P1S8A8V03	1614069	20
M23 high-grade steel cable plug connector,12-pos., N coding, opposite	universal 5.5 ... 13,2	RF-12S2N8A8VDU	1615068	20	RF-12P2N8A8VDU	1614073	20
	6 ... 10,0	RF-12S2N8A8V02	1614082	20	RF-12P2N8A8V02	1614071	20
	9 ... 13,2	RF-12S2N8A8V03	1614083	20	RF-12P2N8A8V03	1614072	20
M23 high-grade steel cable plug connector,16-pos., N coding, opposite	universal 5.5 ... 13,2	RF-16S2N8A8VDU	1614097	20	RF-16P2N8A8VDU	1614091	20
	6 ... 10,0	RF-16S2N8A8V02	1614095	20	RF-16P2N8A8V02	1615245	20
	9 ... 13,2	RF-16S2N8A8V03	1614096	20	RF-16P2N8A8V03	1614090	20
M23 high-grade steel cable plug connector,17-pos., N coding, opposite	universal 5.5 ... 13,2	RF-17S2N8A8VDU	1614108	20	RF-17P2N8A8VDU	1614102	20
	6 ... 10,0	RF-17S2N8A8V02	1614106	20	RF-17P2N8A8V02	1614101	20
	9 ... 13,2	RF-17S2N8A8V03	1614107	20	RF-17P2N8A8V03	1615241	20
M23 high-grade steel cable plug connector,12-pos., S/N encoding, opposite	universal 5.5 ... 13,2	RF-12S2S8A8VDU	1614086	20	RF-12P2S8A8VDU	1614076	20
	6 ... 10,0	RF-12S2S8A8V02	1614084	20	RF-12P2S8A8V02	1614074	20
	9 ... 13,2	RF-12S2S8A8V03	1614085	20	RF-12P2S8A8V03	1614075	20

Crimp contacts Ø 1.0 mm

Order separately, see page 70 onwards

Order separately, see page 70 onwards

Clamping ranges Universal seals	Cable Ø[mm]
State of delivery	3 ... 5
Section 1	9 ... 13,2
Section 2	6 ... 10
Section 3	5 ... 7



RF-..S..8A8V.., RF-..P..8A8V..

Coupling plug connector, stainless steel housing, shielded



RF-..S..8A9V..

M23 coupling plug connector, high-grade steel, socket



RF-..P..8A9V..

M23 coupling plug connector, high-grade steel, pin

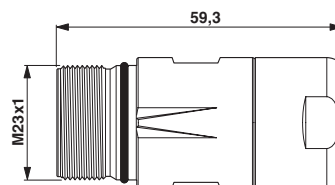
Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 high-grade steel coupling plug connector, 12-pos., N coding, standard	universal 5.5 ... 13,2	RF-12S1N8A9VDU	1613972	20	RF-12P1N8A9VDU	1613960	20
	6 ... 10,0	RF-12S1N8A9V02	1613970	20	RF-12P1N8A9V02	1613958	20
	9 ... 13,2	RF-12S1N8A9V03	1613971	20	RF-12P1N8A9V03	1613959	20
M23 high-grade steel coupling plug connector, 16-pos., N coding, standard	universal 5.5 ... 13,2	RF-16S1N8A9VDU	1613990	20	RF-16P1N8A9VDU	1613984	20
	6 ... 10,0	RF-16S1N8A9V02	1613988	20	RF-16P1N8A9V02	1613982	20
	9 ... 13,2	RF-16S1N8A9V03	1613989	20	RF-16P1N8A9V03	1613983	20
M23 high-grade steel coupling plug connector, 17-pos., N coding, standard	universal 5.5 ... 13,2	RF-17S1N8A9VDU	1614002	20	RF-17P1N8A9VDU	1613996	20
	6 ... 10,0	RF-17S1N8A9V02	1614000	20	RF-17P1N8A9V02	1613994	20
	9 ... 13,2	RF-17S1N8A9V03	1614001	20	RF-17P1N8A9V03	1613995	20
M23 high-grade steel coupling plug connector, 12-pos., S/N encoding, standard	universal 5.5 ... 13,2	RF-12S1S8A9VDU	1613975	20	RF-12P1S8A9VDU	1613963	20
	6 ... 10,0	RF-12S1S8A9V02	1613973	20	RF-12P1S8A9V02	1613961	20
	9 ... 13,2	RF-12S1S8A9V03	1613974	20	RF-12P1S8A9V03	1613962	20
M23 high-grade steel coupling plug connector, 12-pos., N coding, opposite	universal 5.5 ... 13,2	RF-12S2N8A9VDU	1613978	20	RF-12P2N8A9VDU	1613966	20
	6 ... 10,0	RF-12S2N8A9V02	1613976	20	RF-12P2N8A9V02	1613964	20
	9 ... 13,2	RF-12S2N8A9V03	1613977	20	RF-12P2N8A9V03	1613965	20
M23 high-grade steel coupling plug connector, 16-pos., N coding, opposite	universal 5.5 ... 13,2	RF-16S2N8A9VDU	1613993	20	RF-16P2N8A9VDU	1613987	20
	6 ... 10,0	RF-16S2N8A9V02	1613991	20	RF-16P2N8A9V02	1613985	20
	9 ... 13,2	RF-16S2N8A9V03	1613992	20	RF-16P2N8A9V03	1613986	20
M23 high-grade steel coupling plug connector, 17-pos., N coding, opposite	universal 5.5 ... 13,2	RF-17S2N8A9VDU	1614005	20	RF-17P2N8A9VDU	1613999	20
	6 ... 10,0	RF-17S2N8A9V02	1614003	20	RF-17P2N8A9V02	1613997	20
	9 ... 13,2	RF-17S2N8A9V03	1614004	20	RF-17P2N8A9V03	1613998	20
M23 high-grade steel coupling plug connector, 12-pos., S/N encoding, opposite	universal 5.5 ... 13,2	RF-12S2S8A9VDU	1613981	20	RF-12P2S8A9VDU	1613969	20
	6 ... 10,0	RF-12S2S8A9V02	1613979	20	RF-12P2S8A9V02	1613967	20
	9 ... 13,2	RF-12S2S8A9V03	1613980	20	RF-12P2S8A9V03	1613968	20

Crimp contacts Ø 1.0 mm

Order separately, see page 70 onwards

Order separately, see page 70 onwards

Clamping ranges Universal seals	Cable Ø [mm]
State of delivery	3 ... 5
Section 1	9 ... 13,2
Section 2	6 ... 10
Section 3	5 ... 7



RF-..S..8A9V.., RF-..P..8A9V..

Signal plug connector - PLUSCON circular

M23 - RF series

Appliance plug connector, stainless steel housing, front mounting, shielded

The appliance plug connectors with stainless steel housing are available in straight version. In these versions, the contact carrier fits through the boreholing of the housing. Reverse fastening in the housing is ensured by a half-open plastic screen. The contact carrier can be opened easily without any tool. Flange versions for M2.5 and M3 screws are available for mounting.



RF-..S..8AW.00

High-grade steel appliance plug connector, straight, 4-hole fastening, **socket**



RF-..P..8AW.00

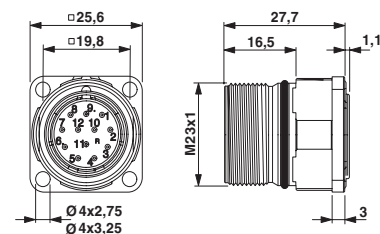
High-grade steel appliance plug connector, straight, 4-hole mounting, **pin**

Description	No. of positions / direction of rotation	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M23 high-grade steel appliance plug connector, straight, N coding, 4-hole mounting Ø 3.2 mm	12-pos., standard	RF-12S1N8AWV00	1613708	40	RF-12P1N8AWV00	1613701	40
	16-pos., standard	RF-16S1N8AWV00	1613729	40	RF-16P1N8AWV00	1613719	40
	17-pos., standard	RF-17S1N8AWV00	1613740	40	RF-17P1N8AWV00	1613736	40
	12-pos., opposite	RF-12S2N8AWV00	1613712	40	RF-12P2N8AWV00	1614414	40
	16-pos., opposite	RF-16S2N8AWV00	1613734	40	RF-16P2N8AWV00	1613724	40
	17-pos., opposite	RF-17S2N8AWV00	1613742	40	RF-17P2N8AWV00	1613738	40
	12-pos., standard	RF-12S1S8AWV00	1613710	40	RF-12P1S8AWV00	1613703	40
	12-pos., opposite	RF-12S2S8AWV00	1613714	40	RF-12P2S8AWV00	1613706	40
M23 high-grade steel appliance plug connector, straight, S/N encoding, 4-hole fastening Ø 3.2 mm	12-pos., standard	RF-12S1N8AWU00	1613707	40	RF-12P1N8AWU00	1613700	40
	16-pos., standard	RF-16S1N8AWU00	1613728	40	RF-16P1N8AWU00	1613718	40
	17-pos., standard	RF-17S1N8AWU00	1613739	40	RF-17P1N8AWU00	1613735	40
	12-pos., opposite	RF-12S2N8AWU00	1613711	40	RF-12P2N8AWU00	1613704	40
	16-pos., opposite	RF-16S2N8AWU00	1613733	40	RF-16P2N8AWU00	1613723	40
	17-pos., opposite	RF-17S2N8AWU00	1613741	40	RF-17P2N8AWU00	1613737	40
	12-pos., standard	RF-12S1S8AWU00	1613709	40	RF-12P1S8AWU00	1613702	40
	12-pos., opposite	RF-12S2S8AWU00	1613713	40	RF-12P2S8AWU00	1613705	40
M23 high-grade steel appliance plug connector, straight, N encoding, 4-hole fastening Ø 2.7 mm	12-pos., standard	RF-12S1N8AWU00	1613707	40	RF-12P1N8AWU00	1613700	40
	16-pos., standard	RF-16S1N8AWU00	1613728	40	RF-16P1N8AWU00	1613718	40
	17-pos., standard	RF-17S1N8AWU00	1613739	40	RF-17P1N8AWU00	1613735	40
	12-pos., opposite	RF-12S2N8AWU00	1613711	40	RF-12P2N8AWU00	1613704	40
	16-pos., opposite	RF-16S2N8AWU00	1613733	40	RF-16P2N8AWU00	1613723	40
	17-pos., opposite	RF-17S2N8AWU00	1613741	40	RF-17P2N8AWU00	1613737	40
	12-pos., standard	RF-12S1S8AWU00	1613709	40	RF-12P1S8AWU00	1613702	40
	12-pos., opposite	RF-12S2S8AWU00	1613713	40	RF-12P2S8AWU00	1613705	40

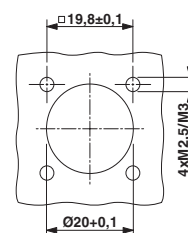
Crimp contacts Ø 1.0 mm

Order separately, see page 70 onwards

Order separately, see page 70 onwards



RF-..S..8AW.00, RF-..P..8AW.00



Installation dimensions

Signal plug connector - PLUSCON circular
M23 - RF series

Crimp contacts, punched-rolled

C-HC® are punched-rolled female contacts with hyperboloid-shaped contact ridges and integrated wire and insulation crimp. The high-performance crimp contacts are designed for up to 10,000 insertion/withdrawal cycles.

The contacts are available taped on rolls for manual or automatic processing.

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



SF-10KS3.0
C-HC female contacts
for processing with manual crimping machines



SF-10KS3.0
C-HC female contacts
for processing with crimping machines

Description	Connection cross section [mm² / AWG]
C-HC female contacts, punched-rolled, Taped, Ø 1 mm, 2500 pieces/ roll	0,08 ... 0,2 / AWG 28-24
	0,2 ... 0,56 / AWG 24-20
C-HC female contacts, punched-rolled, Taped, Ø 1 mm, 10,000 pieces/ roll	0,08 ... 0,2 / AWG 28-24
	0,2 ... 0,56 / AWG 24-20

Type	Order No.	Pcs. / Pkt.
SF-10KS320 SF-10KS350	1607031	1
	1607032	1

Type	Order No.	Pcs. / Pkt.
SF-10KS330 SF-10KS360	1607358	1
	1607361	1

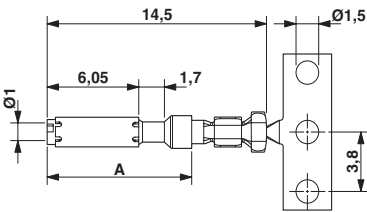
Crimping tools for punched-rolled C-HC crimp contacts

Order separately, see page 144 onwards

Order separately, see page 144 onwards

Notes:
Every connector housing type can be equipped with male or female contacts.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.



C-HC female contact Ø 1 mm
A = D-SUB dimension

Crimp contacts, turned

The RF series connectors are designed for 12, 16 or 17 signal contacts Ø 1 mm of the SF series depending on the number of positions.

These contacts are also used as signal contacts in the P30 power connectors. In this way, handling and storage processes are simplified to a great extent.

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



SF-....00.
Crimp contacts
socket



SF-....00.
Crimp contacts
pin

Description	Connection cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Contact socket Ø 1.0 mm		SF-6CS2000	1605562	100			
	0,08 ... 0,2 / AWG 28-24	SF-10KS004	1607356	100			
	0,14 ... 0,5 / AWG 26-20	SF-6AS2000	1605557	100			
	0,5 ... 1,0 / AWG 20-18						
Contact pin Ø 1.0 mm	Wire spring contact, 0,14 ... 1,0	SF-10KS010	1605481	100			
	0,08 ... 0,2 / AWG 28-24				SF-6CP2000	1605559	100
	0,14 ... 0,5 / AWG 26-20				SF-10KP004	1607355	100
	0,5 ... 1,0 / AWG 20-18				SF-6AP2000	1605554	100

Crimping tools	Order separately, see from page 146 onwards	Order separately, see from page 146 onwards
Crimping tool with digital display	Order separately, see page 150	Order separately, see page 150

Notes:
Every connector housing type can be equipped with male or female contacts.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Signal plug connectors - PLUSCON circular

M27 - HC series

Mechanical and electrical data

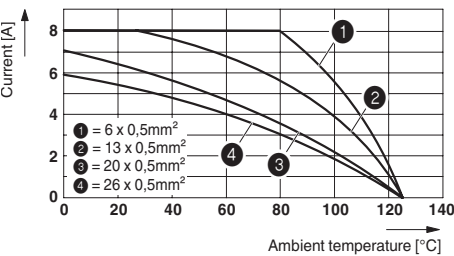
Mechanical data	
Housing material:	Rotating part: copper-zinc alloy (CuZn), die-cast part: zinc (GD-Zn)
Housing surface:	Nickel-plated
Insulating bodies:	Polyamide (PA66) Storage at 15 ... 35°C, 40 ... 70% rel. humidity
Contact material:	Copper-zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	Solder cup, crimp version, solder-in pin
Gasket and O ring:	Fluorine rubber (FPM)
Flat gasket:	perbunane (NBR with fabric insert) fluorine rubber (FPM)
Ambient temperature:	-20°C ... 125°C
Conductor entry:	EMC version for external cable diameter 2 ... 14.5 mm
Locking type:	M27 screw locking
Mechanical insertion/withdrawal cycles:	Standard: 50, more on request
Degree of protection:	IP67 when locked

Electrical data			
Number of positions	26	26 (25+PE)	28
Contacts	26	25+PE	28
Contact Ø [mm]	1	1	1
Connection cross section:			
Solder connection max. [mm² / AWG]	1.0 / AWG 18	–	1.0 / AWG 18
Crimp connection [mm² / AWG]	0.08 ... 1.0 / AWG 28-18	0.08 ... 1.0 / AWG 28-18	–
Nominal current per contact at 25°C ¹⁾ [A]	8	8	8
Specifications as per DIN EN 61984:2001			
Nominal/operating voltage [V AC / DC]	150	150	150
Test/surge voltage [kV]	1.5	1.5	1.5
Surge voltage category	II	II	II
Pollution degree ²⁾	3	3	3
Installation height [m]	Up to 2,000	Up to 2,000	Up to 2,000

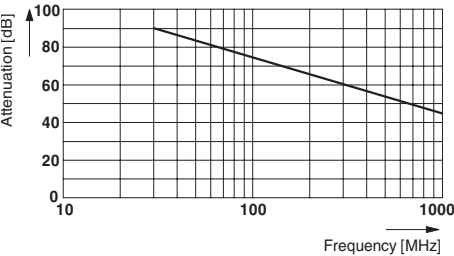
¹⁾ If required, the effective current carrying capacity must be determined using a derating curve according to the application.

²⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using a ≥ IP 54 protective cap.

Derating curve based on DIN EN 60512-5-2 Cable plug connector (26-pos.)



Shield attenuation curve based on DIN EN 50289-1-6



Note:
Plug connectors may only be inserted or removed when the power supply is disconnected.

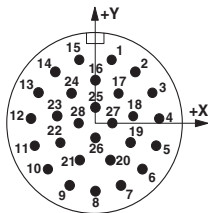
Connector pin assignments and coding

Contact insert numbering (view of plug-in side)		
Number of positions	Clockwise (standard)	Counter-clockwise (standard)
	Pin	Socket
26-pos. Solder / crimp Solder-in (only pin)		
26-pos. (25+PE) Crimp		
28-pos. Solder Solder-in (only pin)		

Note:
The connectors can be equipped with male or female contacts according to the application.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

PCB hole pattern 26/28-pos. for PCB mounting (solder-in contacts)
Centerline deviation ± 0.1 mm
(Solder-in pin Ø, see product description, page 77).



Pos.	(X / Y)	Pos.	(X / Y)	Pos.	(X / Y)
Pos. 1	(+1.95 / +7.47)	Pos. 10	(-5.67 / -5.20)	Pos. 20	(+1.83 / -4.17)
Pos. 2	(+4.80 / +6.05)	Pos. 11	(-7.28 / -2.53)	Pos. 21	(-1.83 / -4.17)
Pos. 3	(+6.82 / +3.65)	Pos. 12	(-7.70 / +0.60)	Pos. 22	(-4.20 / -2.13)
Pos. 4	(+7.70 / +0.60)	Pos. 13	(-6.82 / +3.65)	Pos. 23	(-4.55 / +0.97)
Pos. 5	(+7.28 / -2.35)	Pos. 14	(-4.80 / +6.05)	Pos. 24	(-2.82 / +3.60)
Pos. 6	(+5.67 / -5.20)	Pos. 15	(-1.95 / +7.47)	Pos. 25	(0 / +1.88)
Pos. 7	(+3.08 / -7.08)	Pos. 16	(0 / +5.03)	Pos. 26	(0 / -1.60)
Pos. 8	(0 / -7.73)	Pos. 17	(+2.82 / +3.60)	Pos. 27	(+2.02 / +0.14)
Pos. 9	(-3.08 / -7.08)	Pos. 18	(+4.55 / +0.97)	Pos. 28	(-2.02 / +0.14)
		Pos. 19	(+4.20 / -2.13)		

Signal plug connector - PLUSCON circular
M27 - HC series

Cable plug connector, shielded

The 26 and 28 pos. signal plug connectors of the HC series are available in male or female versions with the connection methods solder, solder-in or crimp. Crimp contacts are available for wire cross-sections of 0.08 mm² to 1 mm² /AWG 28 to 18.

The cable plug connectors are equipped with a universal cable clamping and shield connection for external cable diameters from 2 mm to 14.5 mm.



HC-..S1N..80DU
M27 cable plug connector, shielded,
for female contacts



HC-..P1N..80DU
M27 cable plug connector, shielded,
for male contacts

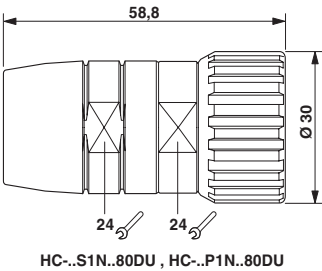
Description	Connection method	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M27 cable plug connector, straight, shielded, 26-pos.	Solder	HC-26S1N1280DU	1590354	10	HC-26P1N1280DU	1590285	10
	Crimp	HC-26S1NRA80DU	1590387	10	HC-26P1NRA80DU	1590319	10
M27 cable plug connector, straight, shielded, 26-pos. (25+PE)	Crimp	HC-ARS1NRA80DU	1608323	10	HC-ARP1NRA80DU	1608319	10
	Solder	HC-28S1N1280DU	1590432	10	HC-28P1N1280DU	1590412	10

For crimp connection:
Crimp contacts Ø 1.0 mm

Order separately, see page 80

Order separately, see page 80

Note:
For higher cable strain relief requirements, the HC cable plug connectors and coupling connectors are available on request with Pg/metric connecting threads and double bracket strain relief.



Coupling plug connector, shielded

The 26 and 28 pos. signal plug connectors of the HC series are available in male or female versions with the connection methods solder, solder-in or crimp. Crimp contacts are available for wire cross-sections of 0.08 mm² to 1 mm² / AWG 28 to 18.

The coupling plug connectors are equipped with a universal cable clamping and shield connection for external cable diameters from 2 mm to 14.5 mm.



HC-..S1N..90DU
M27 coupling plug connector, shielded,
for female contacts



HC-..P1N..90DU
M27 coupling plug connector, shielded,
for male contacts

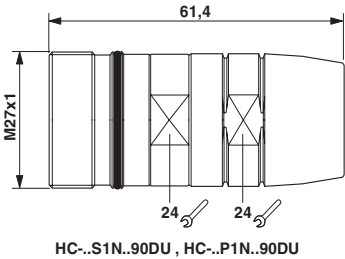
Description	Connection method	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M27 coupling plug connector, straight, shielded, 26-pos.	Solder	HC-26S1N1290DU	1590357	10	HC-26P1N1290DU	1590289	10
	Crimp	HC-26S1NRA90DU	1590388	10	HC-26P1NRA90DU	1590321	10
M27 coupling plug connector, straight, shielded, 26-pos. (25+PE)	Crimp	HC-ARS1NRA90DU	1615320	10	HC-ARP1NRA90DU	1615342	10
	Solder	HC-28S1N1290DU	1590434	10	HC-28P1N1290DU	1590415	10

For crimp connection:
Crimp contacts Ø 1.0 mm

Order separately, see page 80

Order separately, see page 80

Note:
For higher cable strain relief requirements, the HC cable plug connectors and coupling connectors are available on request with Pg/metric connecting threads and double bracket strain relief.



Signal plug connector - PLUSCON circular
M27 - HC series

Appliance plug connector,
front mounting, central fastening

In the case of front mounting, the connector housing is fitted to the device from "outside" using the Pg21 screw-in thread.



HC-..S1N1.6300

M27 appliance plug connector, front mounting,
central fastening Pg21, for **female contacts**



HC-..P1N1.6300

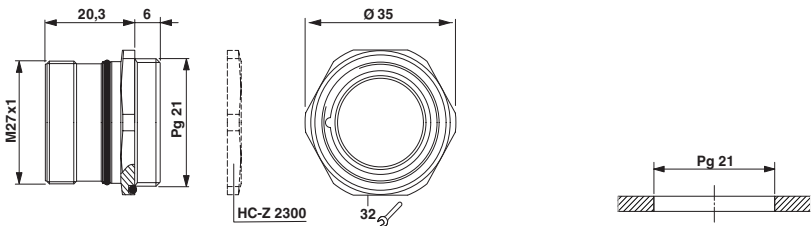
M27 appliance plug connector, front mounting,
central fastening Pg21, for **male contacts**

Description	Connection method	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M27 appliance plug connector, 26-pos.	Solder	HC-26S1N126300	1590349	24	HC-26P1N126300	1590282	24
	Crimp	HC-26S1NRA6300	1590383	24	HC-26P1NRA6300	1590316	24
M27 appliance plug connector, 26-pos. (25+PE)	Crimp	HC-ARS1NRA6300	1615319	24	HC-ARP1NRA6300	1614648	24
M27 appliance plug connector, 28-pos.	Solder	HC-28S1N126300	1590428	24	HC-28P1N126300	1590409	24
Locking nut PG21, order separately		HC-Z2300	1590498	25	HC-Z2300	1590498	25

For crimp connection:
Crimp contacts Ø 1.0 mm

Order separately, see page 80

Order separately, see page 80



HC-..S1N1.6300
Axial O-ring

Installation dimensions

Appliance plug connector,
front mounting, flat gasket

The HC versions provide solder-in contacts for an effective PCB connection.

The free solder pin length is the distance between the mounting flange of the device connector and end of the soldered-in pin. In this measurement, the housing wall thickness and distance to the PCB are included.



HC-..S1N..2300

M27 appliance plug connector, front mounting,
flat gasket, for female contacts



HC-..P1N..2300

M27 appliance plug connector, front mounting,
flat gasket, for male contacts

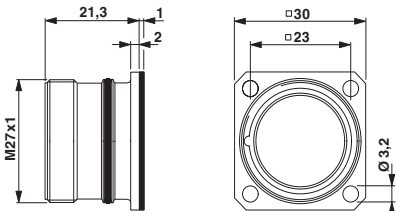
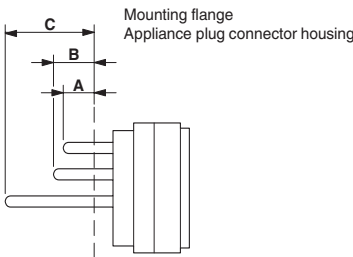
Description	Connection method	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M27 appliance plug connector, 26-pos.	Solder	HC-26S1N122300	1590345	24	HC-26P1N122300	1590276	24
	Crimp	HC-26S1NRA2300	1590381	24	HC-26P1NRA2300	1590313	24
	Solder-in, pin Ø 0.6 mm, free solder pin length A: 3.5 mm				HC-26P1N222300	1615308	12
	Solder in, pin Ø 1.0 mm, free solder pin length B: 4.5 mm				HC-26P1N322300	1615309	12
	Solder-in, pin Ø 0.8 mm, free solder pin length C: 10 mm				HC-26P1NT22300	1590338	12
M27 appliance plug connector, 26-pos. (25+PE)	Crimp	HC-ARS1NRA2300	1590467	24	HC-ARP1NRA2300	1590454	24
M27 appliance plug connector, 28-pos.	Solder	HC-28S1N122300	1590427	24	HC-28P1N122300	1590407	24
	Solder-in, pin Ø 0.6 mm, free solder pin length A: 3.5 mm				HC-28P1N222300	1615312	12
	Solder in, pin Ø 1.0 mm, free solder pin length B: 4.5 mm				HC-28P1N322300	1615314	12
	Solder-in, pin Ø 0.8 mm, free solder pin length C: 10 mm				HC-28P1NT22300	1615316	12

For crimp connection:
Crimp contacts Ø 1.0 mm

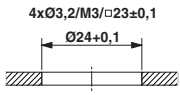
Order separately, see page 80

Order separately, see page 80

Type	Free solder pin length		
	A	B	C
M27 - HC series	[mm]	[mm]	[mm]
HC-.....2300	3.5	4.5	10



HC-...1N..2300
Flat gasket



Installation dimensions

Signal plug connector - PLUSCON circular
M27 - HC series

Appliance plug connector,
front mounting, O-ring

In the case of front mounting, the connector housing is fitted to the device from "outside" using screws, nuts or screw-in threads.



HC-..S1N..WA00

M27 appliance plug connector, front mounting,
radial O-ring, for **female contacts**



HC-..P1N..WA00

M27 appliance plug connector, front mounting,
radial O-ring, for **male contacts**

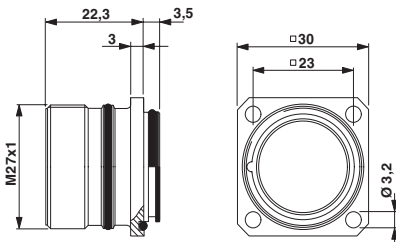
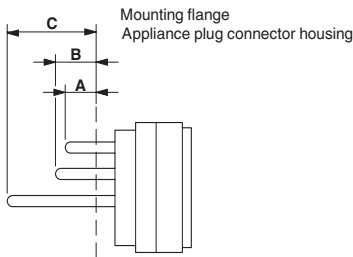
Description	Connection method	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M27 appliance plug connector, 26-pos.	Solder	HC-26S1N12WA00	1590373	24	HC-26P1N12WA00	1590303	24
	Crimp	HC-26S1NRAWA00	1590403	24	HC-26P1NRAWA00	1590333	24
	Solder-in, pin Ø 0.8 mm, free solder pin length C: 10 mm				HC-26P1NT2WA00	1615310	12
M27 appliance plug connector, 26-pos. (25+PE)	Crimp	HC-ARS1NRAWA00	1615321	24	HC-ARP1NRAWA00	1590458	24
M27 appliance plug connector, 28-pos.	Solder	HC-28S1N12WA00	1590439	24	HC-28P1N12WA00	1590418	24
	Solder-in, pin Ø 0.8 mm, free solder pin length C: 10 mm				HC-28P1NT2WA00	1615317	12

For crimp connection:
Crimp contacts Ø 1.0 mm

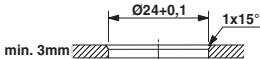
Order separately, see page 80

Order separately, see page 80

Type	Free solder pin length		
M27 - HC series	A	B	C
	[mm]	[mm]	[mm]
HC-.....WA00			10



HC-...1N..WA00
Radial O-ring



Installation dimensions

**Appliance plug connector,
rear mounting, O-ring**

Housings for rear mounting are fed through the mounting panel from the inside and screwed tight from the outside.



HC-..S1N..4300

M27 appliance plug connector, rear mounting, radial O-ring, for **female** contacts



HC-..P1N..4300

M27 appliance plug connector, rear mounting, radial O-ring, for **male** contacts

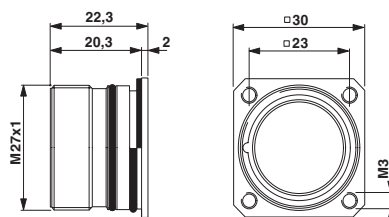
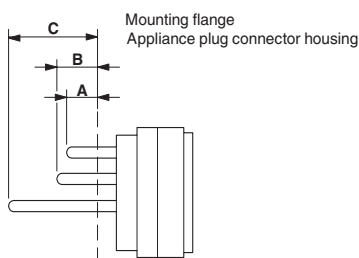
Description	Connection method	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M27 appliance plug connector, 26-pos.	Solder	HC-26S1N124300	1590347	24	HC-26P1N124300	1590280	24
	Crimp	HC-26S1NRA4300	1590382	24	HC-26P1NRA4300	1590314	24
	Solder-in, pin Ø 0.6 mm, free solder pin length A: 3.5 mm				HC-26P1N224300	1590307	12
	Solder in, pin Ø 1.0 mm, free solder pin length B: 4.5 mm				HC-26P1N324300	1590311	12
	Solder-in, pin Ø 0.8 mm, free solder pin length C: 10 mm				HC-26P1NT24300	1615340	12
M27 appliance plug connector, 26-pos. (25+PE)	Crimp	HC-ARS1NRA4300	1615318	24	HC-ARP1NRA4300	1615341	24
M27 appliance plug connector, 28-pos.	Solder	HC-28S1N124300	1607139	24	HC-28P1N124300	1590408	24
	Solder-in, pin Ø 0.6 mm, free solder pin length A: 3.5 mm				HC-28P1N224300	1615313	12
	Solder in, pin Ø 1.0 mm, free solder pin length B: 4.5 mm				HC-28P1N324300	1615315	12
	Solder-in, pin Ø 0.8 mm, free solder pin length C: 10 mm				HC-28P1NT24300	1590423	12

For crimp connection:
Crimp contacts Ø 1.0 mm

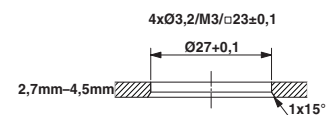
Order separately, see page 80

Order separately, see page 80

Type	Free solder pin length		
M27 - HC series	A	B	C
	[mm]	[mm]	[mm]
HC-.....4300	3.5	4.5	10



HC-...1N..4300
Radial O-ring



Installation dimensions

Signal plug connector - PLUSCON circular
M27 - HC series

Crimp contacts, turned

Every housing type of the M27 signal plug connector of the HC series can be equipped with male or female contacts.

For reasons of safety, only female contacts may be used in the live part of the plug.

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



RC-...2000

Crimp contacts,
socket for M27 connectors of HC series



RC-6.P2000

Crimp contacts,
pin for M27 connectors of HC series

Description	Connection cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Contacts Ø1.0 mm for HC contact carriers, 26-pos. and 26-pos. (25+PE)	0,08 ... 0,22 / AWG 28-24	RC-6RS2000	1603846	100	RC-6RP2000	1603836	100
	0,25 ... 0,5 / AWG 24-20	RC-6LS2000	1603823	100	RC-6LP2000	1603819	100
	0,5 ... 0,75 / AWG 20-18	RC-6KS2000	1603816	100	RC-6KP2000	1603814	100
	0,75 ... 1,0 / AWG 18	RC-6TS2000	1603800	500	RC-6TP2000	1603797	500
Contact PE Ø1.0 mm, for HC contact carrier, 26-pos. (25+PE)	0,75 ... 1,0 / AWG 18	RC-6MS2000	1603829	100	RC-6MP2000	1603826	100
Crimping pliers		Order separately, see page 140			Order separately, see page 140		
Positioning and contact removal tool		Order separately, see page 140			Order separately, see page 140		



Power connectors – PLUSCON circular

Flexible machine and system cabling also requires device flanges and panel feed-throughs in different versions in addition to cable plug connectors and coupling connectors.

All power connectors are fully assembled. Crimp contacts are ordered separately, depending on the conductor size.

P20 series

Power connectors up to 20 A / 630 V, crimp ranges of up to 2.5 mm² / AWG 14, 3+PE to 5+3+PE

P30 series

Power connectors up to 30 A / 630 V, crimp ranges of up to 4 mm² / AWG 12, 5+PE / 4+3+PE

P70 series

Power connectors up to 70 A / 630 V, crimp ranges of up to 10 mm² / AWG 8, 2+3+PE / 4+3+PE

P150 series

Power connectors up to 150 A / 630 V, crimp ranges of up to 50 mm² / AWG 1, 2+3+PE / 4+3+PE

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Cable plug connectors	90
Coupling connectors	92
Appliance plug connectors	93
Crimp contacts	96

M23 - P30 series

Mechanical and electrical data	98
Selection guide	100
Cable plug connectors and coupling connectors	102
Appliance plug connectors	105
Panel feed-throughs	110
Crimp contacts	112

M40 - P70 series

Mechanical and electrical data	114
Selection guide	116
Cable plug connectors and coupling connectors	118
Appliance plug connectors	120
Panel feed-throughs	124
Crimp contacts	128

M58 - P150 series

Mechanical and electrical data	130
Selection guide	132
Cable plug connectors, coupling connectors and appliance plug connectors	134
Crimp contacts	137

The complete range for electrical power applications

Whether signal or power – circular connectors are the right choice for an easy and time-saving connection of electrical wires, with transmission capacities of up to 150 A / 630 V.

Time-saving connection

All power connectors – also the 12 and 17-pos. feedback connectors - now have snap load contacts and a pull apart contact carrier as a characteristic feature. This saves installation time, is safe and quick.

For efficient processing and high insertion/withdrawal cycles – up to 10,000 – the range offers punched-rolled C-HC crimp contacts in taped versions in plug-in diameters of 1 mm and 2 mm.



P20 series:
M17 · up to 20 A/630 V,
from page 86 onwards

RF series:
M23 · signal feedback,
from page 54 onwards



P30 series:
M23 · up to 30 A/630 V,
from page 98 onwards

P70 series:
M40 · up to 70 A/630 V,
from page 114 onwards

P150 series:
M58 · up to 150 A/630 V,
from page 130 onwards

Quick locking

The SPEEDCON connectors are locked with approx. a 1/2 rotation of the knurled nut, without compromising on density and vibration resistance. The SPEEDCON concept also allows "blind" connection on the device flange. This considerably simplifies handling in narrow installation conditions.



Quick contact clip-in

This saves installation time: Pull apart contact carrier and snap-in loading contacts are a characteristic feature of all power connectors.

Quick shielding

A special feature of the power connectors is the extremely elegant shielding that can be carried out with minimal effort. Depending on the design of the braided shield, shield trimming can be avoided completely under certain circumstances. Extra length of braided shield is simply screwed into the housing. This makes it much easier and saves a considerable amount of time especially in the case of solid wires and large connection cross sections.



Power connectors - PLUSCON circular

M17 - P20 series

Mechanical and electrical data

Mechanical data	
Housing material:	Rotating part: copper-zinc alloy (CuZn), die-cast part: zinc (GD-Zn)
Housing surface:	Nickel-plated; appliance plug connector: nickel-plated/thick layer passivated (can be painted over)
Insulating bodies:	Polyamide (PA 66)
Contact material:	Copper-zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	Crimp version
Gasket and O ring:	Fluorine rubber (FKM)
Ambient temperature:	-20°C ... 125°C
Conductor entry:	cable plug connectors and coupling connectors for external cable diameters of 3.5 - 10 mm, shielded (3.5 - 11.5 mm on request)
Locking type:	M17 SPEEDCON quick locking, cable plug connector optionally with M17 x 1 control thread
Mechanical insertion/withdrawal cycles:	Standard: 50, punched-rolled C-HC crimp contacts: up to 10,000
Degree of protection:	IP67 when locked

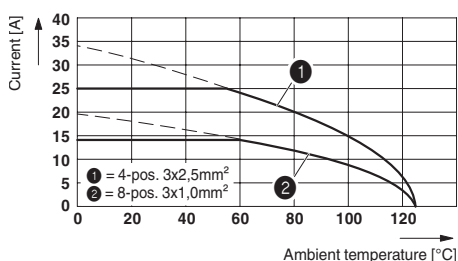
Electrical data								
Number of positions	4 (3+PE)	6 (5+PE)	7 (6+PE)	8 (7+PE)	9 (5+3+PE)			
Contacts	3 + PE	5 + PE	6 + PE	7 + PE	5	+	3	+ PE
Contact Ø [mm]	2	1	1	1	06		1	1
Stranded wire cross section, crimp contacts turned [mm²/AWG]	0.25 ... 2.5/ 24-14	0.08 ... 1.0/ 28-18	0.08 ... 1.0/ 28-18	0.08 ... 1.0/ 28-18	0.08 ... 0.5/ 28-20		0.08 ... 0.5/ 28-20	0.08 ... 1.0/ 28-18
Stranded wire cross section, C-HC crimp contacts [mm²/AWG]	–	0.08 ... 0.56/ 28-20	0.08 ... 0.56/ 28-20	0.08 ... 0.56/ 28-20	–		–	–
Cable clamping range max Ø [mm]	10	10	10	10			10	
Nominal current per contact at 25°C ¹⁾	20 (25) ²⁾	14	14	14	36		14	–
Specifications as per DIN EN 61984:2001								
Nominal/rated voltage [V]	630	630	630	630	60		630	–
Test/surge voltage [kV AC]	4	6	6	6	15		6	–
Surge voltage category	III	III	III	III			III	
Pollution degree ³⁾	3	3	3	3			3	
Installation height [m]	Up to 3,000	Up to 3,000	Up to 3,000	Up to 3,000			Up to 3,000	

¹⁾ If required, the effective current carrying capacity must be determined according to the application using a derating curve.

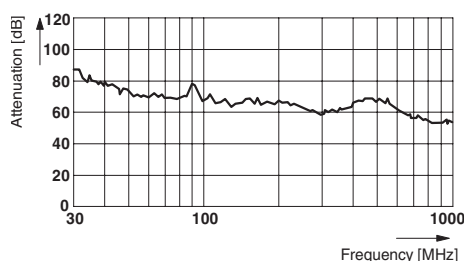
²⁾ 25 A when occupied with 3 x 2.5 mm²

³⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using a ≥ IP 54 protective cap.

Derating curve (for 3 x 2.5 mm² / 3 x 1.0 mm²) based on DIN EN 60512-5-2 (cable plug connector mounted)

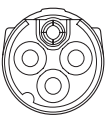
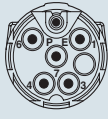
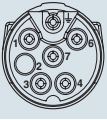
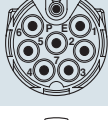
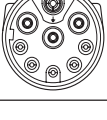


Shield attenuation curve based on DIN EN 50289-1-6 SPEEDCON cable connector and appliance connector, angled on the base plate



Note:
Plug connectors may only be inserted or removed when the power supply is disconnected.

Connector pin assignments and coding

Contact insert numbering (view of plug-in side)		
Number of positions	Pin	Socket
4-pos. (3+PE) Crimp		
6-pos. (5+PE) (contact inserts 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 equipped with male or female contacts according to the application.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Power connectors - PLUSCON circular

M17 - P20 series

Selection guide

M17 power and feedback connectors 4 / 6 / 7 / 8 / 9-pos., up to 20 A / 630 V, crimp ranges of 0.08 mm² to 2.5 mm² / AWG 28 to 14

- Cable plug connectors
- Coupling connectors
- Appliance plug connectors (device flange)

The P20 connectors are fully assembled and the respective crimp contacts must be ordered separately.

Every housing type can be equipped with male or female contacts. The P20 connectors are equipped with SPEEDCON quick locking or with standard M17 screw thread. The connectors with an external thread are fully compatible with standard threads and with the SPEEDCON quick locking.

The product chart provides an overview of the available components.

Connector type

Cable plug connectors

SPEEDCON quick locking, page 90

Square mounting flange for cable plug connectors and coupling connectors for wall mounting, page 152

shielded



ST-...1N8A80..S

M17 x 1 standard locking, page 91



ST-...1N8A80..



Coupling connectors

page 92

Square mounting flange for cable plug connectors and coupling connectors for wall mounting, page 152

shielded



ST-...1N8A90..S



Appliance plug connectors

straight, page 93

straight, with contact carriers for snapping in, page 93



ST-...1N8AWQ00S



ST-...1N8AW400S

straight, with central fastening thread, front mounting, page 95

straight, with central fastening thread, rear mounting, page 95

shielded

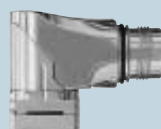


ST-...1N8A6100S



ST-...1N8AH100S

angled rotatable, page 94



ST-...1N8AAD00S,
ST-...1N8AAC00S

Crimp contacts

Female contacts

Turned, page 97



Punched-rolled, taped, page 96



Male contacts

Turned, page 97



All housings can be equipped with male or female crimp contacts

Tools / accessories

Crimping tools

Crimping pliers for punched-rolled C-HC crimp contacts, page 144



Crimping pliers for turned crimp contacts, page 145



Crimping pliers with digital display for turned crimp contacts, page 150



Removal tool for contact carrier

For appliance plug connectors with contact carriers snapping in from the device side, page 152



Note:

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Power connector - PLUSCON circular

M17 - P20 series

Cable plug connector with SPEEDCON quick locking

The SPEEDCON thread allows quick locking of cable connector and coupling connector or device flange. They are locked by rotating the knurled nut clockwise until it stops. The knurled nut has a left stop. This allows "blind" connection of the connector.

Cable plug connectors of the P20 series are either provided with the standard M17 screw locking or with the SPEEDCON quick locking.



ST-ES1N8A800.S

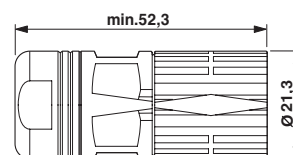
Cable plug connector SPEEDCON quick locking,
for female contacts



ST-EP1N8A800.S

Cable plug connector SPEEDCON quick locking,
for male contacts

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M17 cable plug connector SPEEDCON, 4-pos. (3+PE), straight	3.5 ... 5	ST-3ES1N8A8002S	1607681	30	ST-3EP1N8A8002S	1607662	30
	5 ... 8	ST-3ES1N8A8003S	1607683	30	ST-3EP1N8A8003S	1607665	30
	8 ... 10	ST-3ES1N8A8004S	1607685	30	ST-3EP1N8A8004S	1607667	30
M17 cable plug connector SPEEDCON, 6-pos. (5+PE), straight	3.5 ... 5	ST-5ES1N8A8002S	1607715	30	ST-5EP1N8A8002S	1607698	30
	5 ... 8	ST-5ES1N8A8003S	1607718	30	ST-5EP1N8A8003S	1607700	30
	8 ... 10	ST-5ES1N8A8004S	1607720	30	ST-5EP1N8A8004S	1607702	30
M17 cable plug connector SPEEDCON, 7-pos. (6+PE), straight	3.5 ... 5	ST-6ES1N8A8002S	1613576	30	ST-6EP1N8A8002S	1613557	30
	5 ... 8	ST-6ES1N8A8003S	1613578	30	ST-6EP1N8A8003S	1613559	30
	8 ... 10	ST-6ES1N8A8004S	1613580	30	ST-6EP1N8A8004S	1613561	30
M17 cable plug connector SPEEDCON, 8-pos. (7+PE), straight	3.5 ... 5	ST-7ES1N8A8002S	1607753	30	ST-7EP1N8A8002S	1607734	30
	5 ... 8	ST-7ES1N8A8003S	1607756	30	ST-7EP1N8A8003S	1607736	30
	8 ... 10	ST-7ES1N8A8004S	1607759	30	ST-7EP1N8A8004S	1607738	30
M17 cable plug connector SPEEDCON, 9-pos. (5+3+PE), straight	3.5 ... 5	ST-8ES1N8A8002S	1613618	30	ST-8EP1N8A8002S	1613599	30
	5 ... 8	ST-8ES1N8A8003S	1613620	30	ST-8EP1N8A8003S	1613601	30
	8 ... 10	ST-8ES1N8A8004S	1613622	30	ST-8EP1N8A8004S	1613603	30
Crimp contacts: 4-pos.: Ø 2 mm, 6-/7-/8-pos.: Ø 1 mm, 9-pos.: Ø 1 mm / Ø 0.6 mm		Order separately, see page 96 onwards			Order separately, see page 96 onwards		



ST-ES1N8A800.S , ST-EP1N8A800.S

Cable plug connector with standard interlocking

For reasons of backwards compatibility, the cable plug connector is also provided with a standard screw locking. In this version, it is suitable for a standard screw thread as well as a SPEEDCON external thread of the mating connector, e.g. a straight device flange.

A special feature is the availability of the connector as a female version and male version.



ST-ES1N8A800.

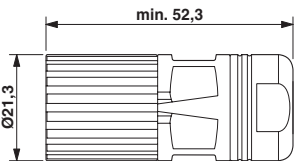
Cable plug connector standard interlocking,
for female contacts



ST-EP1N8A800.

Cable plug connector standard interlocking,
for male contacts

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M17 cable plug connector, 4-pos. (3+PE), straight	3.5 ... 5	ST-3ES1N8A8002	1607679	30	ST-3EP1N8A8002	1607661	30
	5 ... 8	ST-3ES1N8A8003	1607682	30	ST-3EP1N8A8003	1607663	30
	8 ... 10	ST-3ES1N8A8004	1607684	30	ST-3EP1N8A8004	1607666	30
M17 cable plug connector, 6-pos. (5+PE), straight	3.5 ... 5	ST-5ES1N8A8002	1607714	30	ST-5EP1N8A8002	1607697	30
	5 ... 8	ST-5ES1N8A8003	1607717	30	ST-5EP1N8A8003	1607699	30
	8 ... 10	ST-5ES1N8A8004	1607719	30	ST-5EP1N8A8004	1607701	30
M17 cable plug connector, 7-pos. (6+PE), straight	3.5 ... 5	ST-6ES1N8A8002	1613575	30	ST-6EP1N8A8002	1613556	30
	5 ... 8	ST-6ES1N8A8003	1613577	30	ST-6EP1N8A8003	1613558	30
	8 ... 10	ST-6ES1N8A8004	1613579	30	ST-6EP1N8A8004	1613560	30
M17 cable plug connector, 8-pos. (7+PE), straight	3.5 ... 5	ST-7ES1N8A8002	1607752	30	ST-7EP1N8A8002	1607733	30
	5 ... 8	ST-7ES1N8A8003	1607755	30	ST-7EP1N8A8003	1607735	30
	8 ... 10	ST-7ES1N8A8004	1607758	30	ST-7EP1N8A8004	1607737	30
M17 cable plug connector, 9-pos. (5+3+PE), straight	3.5 ... 5	ST-8ES1N8A8002	1613617	30	ST-8EP1N8A8002	1613598	30
	5 ... 8	ST-8ES1N8A8003	1613619	30	ST-8EP1N8A8003	1613600	30
	8 ... 10	ST-8ES1N8A8004	1613621	30	ST-8EP1N8A8004	1613602	30
Crimp contacts: 4-pos.: Ø 2 mm, 6-/7-/8-pos.: Ø 1 mm, 9-pos.: Ø 1 mm / Ø 0.6 mm		Order separately, see page 96 onwards			Order separately, see page 96 onwards		



ST-ES1N8A800, ST-EP1N8A800.

Power connector - PLUSCON circular

M17 - P20 series

Coupling plug connector

The coupling plug connector is available only with SPEEDCON thread. They can be screwed together with the SPEEDCON thread as well as with the full thread of the mating connector.

The plug-in position is marked clearly using an arrow.



ST-ES1N8A900.S

Coupling plug connector SPEEDCON/standard interlocking,
for female contacts



ST-EP1N8A900.S

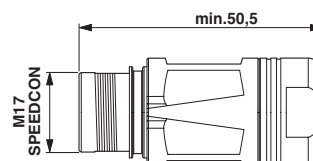
Coupling plug connector SPEEDCON/standard interlocking,
for male contacts

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M17 coupling plug connector,4-pos. (3+PE), straight	3.5 ... 5	ST-3ES1N8A9002S	1607687	30	ST-3EP1N8A9002S	1607669	30
	5 ... 8	ST-3ES1N8A9003S	1607688	30	ST-3EP1N8A9003S	1607670	30
	8 ... 10	ST-3ES1N8A9004S	1607689	30	ST-3EP1N8A9004S	1607671	30
M17 coupling plug connector,6-pos. (5+PE), straight	3.5 ... 5	ST-5ES1N8A9002S	1607722	30	ST-5EP1N8A9002S	1607705	30
	5 ... 8	ST-5ES1N8A9003S	1607723	30	ST-5EP1N8A9003S	1607706	30
	8 ... 10	ST-5ES1N8A9004S	1607724	30	ST-5EP1N8A9004S	1607707	30
M17 coupling plug connector,7-pos. (6+PE), straight	3.5 ... 5	ST-6ES1N8A9002S	1613582	30	ST-6EP1N8A9002S	1613563	30
	5 ... 8	ST-6ES1N8A9003S	1613583	30	ST-6EP1N8A9003S	1613564	30
	8 ... 10	ST-6ES1N8A9004S	1613584	30	ST-6EP1N8A9004S	1613565	30
M17 coupling plug connector,8-pos. (7+PE), straight	3.5 ... 5	ST-7ES1N8A9002S	1607763	30	ST-7EP1N8A9002S	1607740	30
	5 ... 8	ST-7ES1N8A9003S	1607764	30	ST-7EP1N8A9003S	1607741	30
	8 ... 10	ST-7ES1N8A9004S	1607765	30	ST-7EP1N8A9004S	1607742	30
M17 coupling plug connector,9-pos. (5+3+PE), straight	3.5 ... 5	ST-8ES1N8A9002S	1613624	30	ST-8EP1N8A9002S	1613605	30
	5 ... 8	ST-8ES1N8A9003S	1613625	30	ST-8EP1N8A9003S	1613606	30
	8 ... 10	ST-8ES1N8A9004S	1613626	30	ST-8EP1N8A9004S	1613607	30

Crimp contacts: 4-pos.: Ø 2 mm, 6-/7-/8-pos.: Ø 1 mm,
9-pos.: Ø 1 mm / Ø 0.6 mm

Order separately, see page 96 onwards

Order separately, see page 96 onwards



ST-ES1N8A900.S , ST-EP1N8A900.S

Appliance plug connector, straight, front mounting

Devices are partially supplied with punched on and pre-assembled contact carriers, e.g. encoder for servo motors. It is practical in such cases to install the insulation body into the pre-assembled housing from behind. This version with contact carrier for snapping-in requires a removal tool for removing the contact carrier again from the front.



ST-E.1N8AWQ00S

Appliance plug connector, straight, SPEEDCON/standard interlocking



ST-E.1N8AW400S

Appliance plug connector, straight, SPEEDCON/standard interlocking contact insert for snapping in

Description	No. of pos.	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M17 appliance plug connector, straight, for female contacts	4(3+PE)	ST-3ES1N8AWQ00S	1607694	30	ST-3ES1N8AW400S	1607692	30
	6(5+PE)	ST-5ES1N8AWQ00S	1607728	30	ST-5ES1N8AW400S	1607727	30
	7(6+PE)	ST-6ES1N8AWQ00S	1613589	30	ST-6ES1N8AW400S	1613588	30
	8(7+PE)	ST-7ES1N8AWQ00S	1607769	30	ST-7ES1N8AW400S	1607768	30
	9(5+3+PE)	ST-8ES1N8AWQ00S	1613631	30	ST-8ES1N8AW400S	1613630	30
M17 appliance plug connector, straight, for male contacts	4(3+PE)	ST-3EP1N8AWQ00S	1607675	30	ST-3EP1N8AW400S	1607674	30
	6(5+PE)	ST-5EP1N8AWQ00S	1607711	30	ST-5EP1N8AW400S	1607710	30
	7(6+PE)	ST-6EP1N8AWQ00S	1613570	30	ST-6EP1N8AW400S	1613569	30
	8(7+PE)	ST-7EP1N8AWQ00S	1607747	30	ST-7EP1N8AW400S	1607746	30
	9(5+3+PE)	ST-8EP1N8AWQ00S	1613612	30	ST-8EP1N8AW400S	1613611	30

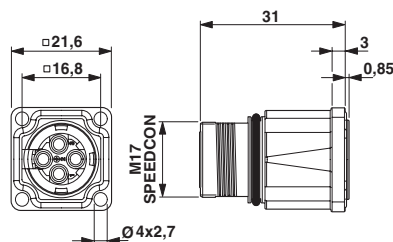
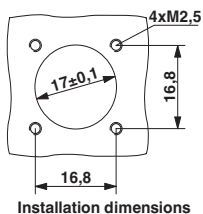
Crimp contacts: 4-pos.: Ø 2 mm, 6-/7-/8-pos.: Ø 1 mm, 9-pos.: Ø 1 mm / Ø 0.6 mm

Removal tool for contact carrier

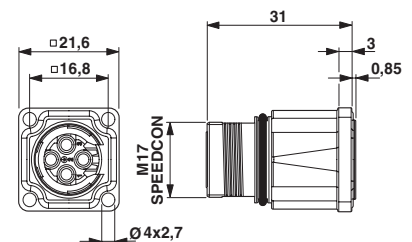
Order separately, see page 96 onwards

Order separately, see page 96 onwards

Order separately, see page 152



ST-E.1N8AWQ00S



ST-E.1N8AW400S

Power connector - PLUSCON circular

M17 - P20 series

Appliance plug connector, angled, rotatable, front mounting

The angled panel mounting bases are progressively rotatable up to 308° for optimum adjustment to the respective application.

In addition, two flange dimension versions with 21.6 mm x 21.6 mm or 25 mm x 25 mm are available.

Panel mounting plug connector angled, rotatable, flange dimensions 28 x 28 mm on request.



ST-E.1N8AAD00S

Appliance plug connector, angled, rotatable, SPEEDCON/standard interlocking, flange dimension: 21.6 mm



ST-E.1N8AAC00S

Appliance plug connector, angled, rotatable, SPEEDCON/standard interlocking, flange dimension: 25 mm

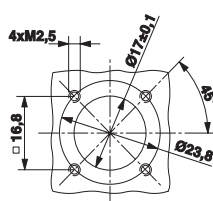
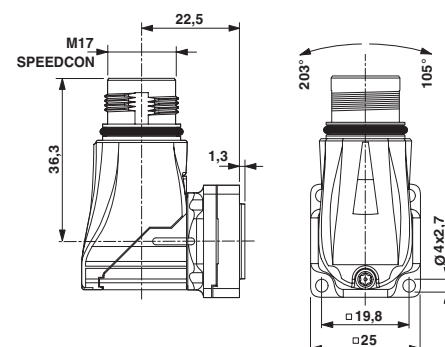
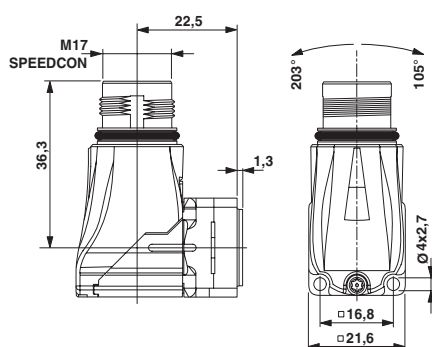
Description	No. of pos.	Type	Order No.	Pcs. / Pkt.
M17 appliance plug connector, angled, rotatable, for female contacts	4(3+PE)	ST-3ES1N8AAD00S	1607691	16
	6(5+PE)	ST-5ES1N8AAD00S	1607726	16
	7(6+PE)	ST-6ES1N8AAD00S	1613586	16
	8(7+PE)	ST-7ES1N8AAD00S	1607767	16
	9(5+3+PE)	ST-8ES1N8AAD00S	1613628	16
M17 appliance plug connector, angled, rotatable, for male contacts	4(3+PE)	ST-3EP1N8AAD00S	1607673	16
	6(5+PE)	ST-5EP1N8AAD00S	1607709	16
	7(6+PE)	ST-6EP1N8AAD00S	1613567	16
	8(7+PE)	ST-7EP1N8AAD00S	1607744	16
	9(5+3+PE)	ST-8EP1N8AAD00S	1613609	16

Crimp contacts: 4-pos.: Ø 2 mm, 6-/7-/8-pos.: Ø 1 mm, 9-pos.: Ø 1 mm / Ø 0.6 mm

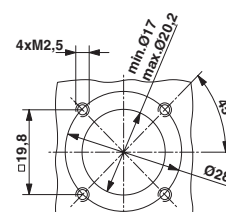
Order separately, see page 96 onwards

Type	Order No.	Pcs. / Pkt.
ST-3ES1N8AAC00S	1607690	16
ST-5ES1N8AAC00S	1607725	16
ST-6ES1N8AAC00S	1613585	16
ST-7ES1N8AAC00S	1607766	16
ST-8ES1N8AAC00S	1613627	16
ST-3EP1N8AAC00S	1607672	16
ST-5EP1N8AAC00S	1607708	16
ST-6EP1N8AAC00S	1613566	16
ST-7EP1N8AAC00S	1607743	16
ST-8EP1N8AAC00S	1613608	16

Order separately, see page 96 onwards



ST-ES1N8AAD00S, ST-EP1N8AAD00S



ST-ES1N8AAC00S, ST-EP1N8AAC00S

**Appliance plug connector,
central fastening thread,
front and rear mounting**

The device flanges with central fastening thread are screwed onto the mounting panel from outside or inside.

The contact carriers are fastened from the device side by clipping them in and snapping them in place. A removal tool is required for removing the contact carrier again from the front.



ST-E.1N8A6100S

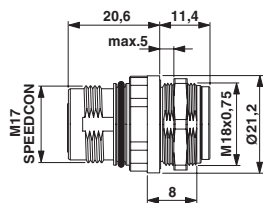
Appliance plug connector, **front mounting**,
SPEEDCON/standard interlocking,
central fastening thread M18 x 0.75



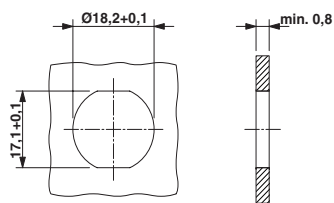
ST-E.1N8AH100S

Appliance plug connector, **rear mounting**,
SPEEDCON/standard interlocking,
central fastening thread M20 x 1.5

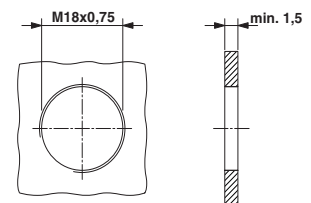
Description	No. of pos.	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
M17 appliance plug connector, for female contacts	4(3+PE)	ST-3ES1N8A6100S	1613546	30	ST-3ES1N8AH100S	1613547	30
	6(5+PE)	ST-5ES1N8A6100S	1613550	30	ST-5ES1N8AH100S	1613551	30
	7(6+PE)	ST-6ES1N8A6100S	1613572	30	ST-6ES1N8AH100S	1613587	30
	8(7+PE)	ST-7ES1N8A6100S	1613592	30	ST-7ES1N8AH100S	1613593	30
	9(5+3+PE)	ST-8ES1N8A6100S	1613614	30	ST-8ES1N8AH100S	1613629	30
M17 appliance plug connector, for male contacts	4(3+PE)	ST-3EP1N8A6100S	1613544	30	ST-3EP1N8AH100S	1613545	30
	6(5+PE)	ST-5EP1N8A6100S	1613548	30	ST-5EP1N8AH100S	1613549	30
	7(6+PE)	ST-6EP1N8A6100S	1613553	30	ST-6EP1N8AH100S	1613568	30
	8(7+PE)	ST-7EP1N8A6100S	1613590	30	ST-7EP1N8AH100S	1613591	30
	9(5+3+PE)	ST-8EP1N8A6100S	1613595	30	ST-8EP1N8AH100S	1613610	30
Locking nut, for mounting bore holes and polarization							
	M18 x 0.75	ST-E2015151	1613831	25			
	M20 x 1.5				RC-13041	1600417	25
Crimp contacts: 4-pos.: Ø 2 mm, 6-/7-/8-pos.: Ø 1 mm, 9-pos.: Ø 1 mm / Ø 0.6 mm		Order separately, see page 96 onwards			Order separately, see page 96 onwards		
Removal tool for contact carrier		Order separately, see page 152			Order separately, see page 152		



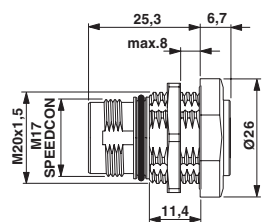
ST-ES1N8A6100S, ST-EP1N8A6100S
Separate ordering for locking nut



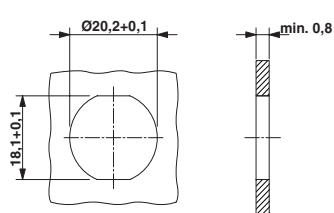
Installation dimensions: ST-E.1N8A6100S, bore hole with polarization and locking nut (recommended for installation in steel sheet panel)



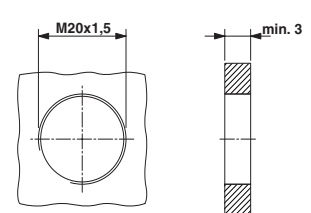
Installation dimensions: ST-E.1N8AH100S, feed-through hole with thread (recommended for installation in steel sheet panel)



ST-ES1N8AH100S, ST-EP1N8AH100S
Separate ordering for locking nut



Installation dimensions: ST-E.1N8AH100S, bore hole with polarization and locking nut (recommended for installation in steel sheet panel)



Installation dimensions: ST-E.1N8AH100S, feed-through hole with thread (recommended for installation in steel sheet panel)

Power connector - PLUSCON circular
M17 - P20 series

Crimp contacts, punched-rolled

C-HC® are punched-rolled female contacts with hyperboloid-shaped contact ridges and integrated wire and insulation crimp. The high-performance crimp contacts are designed for up to 10,000 insertion/withdrawal cycles.

The contacts are available taped on rolls for manual or automatic processing.

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



SF-10KS3.0
C-HC female contacts
for processing with manual crimping machines



SF-10KS3.0
C-HC female contacts
for processing with crimping machines

Description	Connection cross section [mm² / AWG]
C-HC female contacts, punched-rolled, Taped, Ø 1 mm, 2500 pieces/ roll	0,08 ... 0,2 / 28-24
	0,2 ... 0,56 / 24-20
C-HC female contacts, punched-rolled, Taped, Ø 1 mm, 10,000 pieces/ roll	0,08 ... 0,2 / 28-24
	0,2 ... 0,56 / 24-20

Type	Order No.	Pcs. / Pkt.
SF-10KS320	1607031	1
SF-10KS350	1607032	1

Type	Order No.	Pcs. / Pkt.
SF-10KS330	1607358	1
SF-10KS360	1607361	1

Crimping tools for punched-rolled C-HC crimp contacts

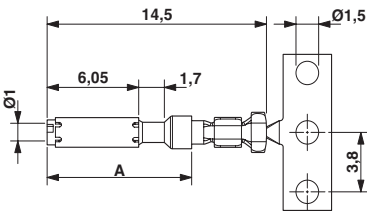
Order separately, see page 144 onwards

Order separately, see page 144 onwards

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
12 *)	12	0,6
17	17	0,6

*) in preparation



C-HC female contact Ø 1 mm
A = D-SUB dimension

Crimp contacts, turned

The P20 series connectors are equipped with contacts Ø 2 mm, Ø 1 mm or Ø 0.6 mm depending on the number of positions (see table below).

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



S.-....0..
Crimp contacts
socket



S.-....0..
Crimp contacts
pin

Description	Connection cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Contact socket Ø 2.0 mm	0,25 ... 1,0 / 24-18 1,0 ... 2,5 / 18-14	ST-20KS010 ST-20KS020	1607657 1607658	100 100			
Contact socket Ø 1.0 mm	0,08 ... 0,2 / 24-18 0,14 ... 0,5 / 26-20 0,5 ... 1,0 / 20-18	SF-6CS2000 SF-10KS004 SF-6AS2000	1605562 1607356 1605557	100 100 100			
Wire spring contact, 0,14 ... 1,0 / 26-18		SF-10KS010	1605481	100			
Contact socket Ø 0.6 mm	0,08 ... 0,25 / 28-24 0,14 ... 0,34 / 26-22 0,34 ... 0,5 / 22-20	ST-06KS010 ST-06KS020 ST-06KS030	1607580 1607581 1607582	100 100 100			
Contact pin Ø 2.0 mm	0,25 ... 1,0 / 24-18 1,0 ... 2,5 / 18-14				ST-20KP010 ST-20KP020	1607655 1607656	100 100
Contact pin Ø 1.0 mm	0,08 ... 0,2 / 28-24 0,14 ... 0,5 / 26-20 0,5 ... 1,0 / 20-18				SF-6CP2000 SF-10KP004 SF-6AP2000	1605559 1607355 1605554	100 100 100
Contact pin Ø 0.6 mm	0,08 ... 0,25 / 28-24 0,14 ... 0,34 / 26-22 0,34 ... 0,5 / 22-20				ST-06KP010 ST-06KP020 ST-06KP030	1607577 1607578 1607579	100 100 100

Crimping tools
Crimping tool with digital display

Order separately, see page 145 onwards
Order separately, see page 150

Order separately, see page 145 onwards
Order separately, see page 150

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
12 *)	12	0,6
17	17	0,6

*) in preparation

Notes:
Every connector housing type can be equipped with male or female contacts.

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Power connectors - PLUSCON circular

M23 - P30 series

Mechanical and electrical data

Mechanical data

Housing material:	Rotating part: copper-zinc alloy (CuZn), die-cast part: zinc (GD-Zn)
Housing surface:	Nickel-plated; appliance plug connector: nickel-plated/thick layer passivated (can be painted over)
Insulating bodies:	Polyamide (PA 66)
Contact material:	Copper-zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	Crimp version
Gasket and O ring:	Fluorine rubber (FKM)
Ambient temperature:	-20°C ... 125°C
Conductor entry:	Cable plug connectors and coupling connectors for external cable diameters of 7.5 - 18 mm shielded
Locking type:	M23 screw locking
Mechanical insertion/withdrawal cycles:	Standard: 50, punched-rolled C-HC crimp contacts: up to 10,000
Degree of protection:	IP67 when locked
Approval:	An overview of the listed connectors as per UL, cUL and VDE will be available on request.

Electrical data

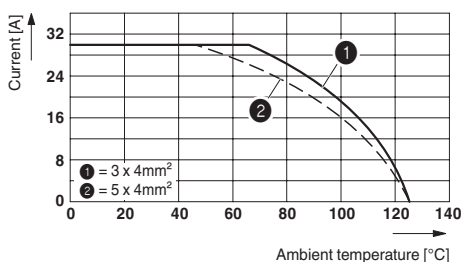
Number of positions	6 (5+PE)	8 (4+3+PE)				
Contacts	5 + PE	4	+	3	+	PE
Contact Ø [mm]	2	1		2		2
Stranded wire cross sections						
Short version, cable Ø max. 14 mm [mm²/AWG]	0.25 ... 2.5 / 24-14	0.08 ... 1.0 / 28-18		0.25 ... 2.5 / 24-14		0.25 ... 2.5 / 24-14
Long version, cable Ø max. 18 mm [mm²/AWG]	0.25 ... 4.0 / 24-12	0.08 ... 1.0 / 28-18		0.25 ... 4.0 / 24-12		0.25 ... 4.0 / 24-12
Appliance plug connectors [mm²/AWG]	0.25 ... 4.0 / 24-12	0.08 ... 1.0 / 28-18		0.25 ... 4.0 / 24-12		0.25 ... 4.0 / 24-12
Nominal current per contact at 25°C ¹⁾	30	9		30		–
Specifications as per DIN EN 61984:2001						–
Nominal/rated voltage [V]	630 ²⁾	250		630 ²⁾		–
Test/surge voltage [kV AC]	6	4		6		–
Surge voltage category	III			III		
Pollution degree ³⁾	3			3		
Installation height [m]	Up to 3,000			Up to 3,000		

¹⁾ If required, the effective current carrying capacity must be determined according to the application using a derating curve.

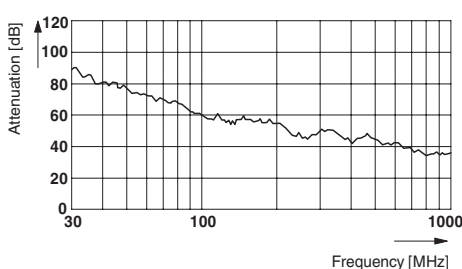
²⁾ 400 V when equipped with punched-rolled C-HC contacts

³⁾ The values specified require a correctly locked pair of connectors that are disconnected only for testing and maintenance. If an unlocked connector is exposed to ambient conditions and if there is a danger of contamination, the connector should be sealed using a ≥ IP 54 protective cap.

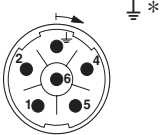
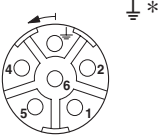
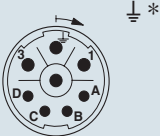
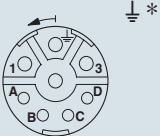
Derating curve (for 3 x 4 mm² / 5 x 4 mm²) based on DIN EN 60512-5-2 (cable plug connector mounted)



Shield attenuation curve based on DIN EN 50289-1-6 SPEEDCON (cable connectors and appliance plug connectors, angled on the base plate)



Connector pin assignments and coding

Contact insert numbering (view of plug-in side)				
Number of positions	Pin		Socket	
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

Power connectors - PLUSCON circular

M23 - P30 series

Selection guide

M23 power connectors up to 30 A / 630 V, crimp ranges of up to 4 mm² / AWG 12

- Cable plug connectors
- Coupling connectors
- Appliance plug connectors (device flange)

– Feed-throughs / panel feed-throughs
The P30 connectors are fully assembled and the respective crimp contacts must be ordered separately.

The product chart provides an overview of the available components.

Connector type

Cable plug connectors

short, page 102

long, page 102

with M20x1.5 for ext. cable gland, page 104



SF-..S1N8A80..



SF-..S1N8A8L..



SF-..S1N8AR4DU

Appliance plug connector with knurled nut

Outside panel assembly, page 109

2-part housing for higher loads, page 109



SF-..S1N8AY000



SF-..S1N8AYW00

shielded

Coupling connectors

short, page 103

long, page 103

with M20x1.5 for ext. cable gland, page 104



SF-..P1N8A90..



SF-..P1N8A9L..



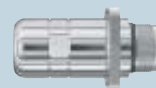
SF-..P1N8AF4DU

with mounting flange short, page 110

with mounting flange long, page 110



SF-..P1N8AC0..



SF-..P1N8ACL..

shielded

Appliance plug connectors

straight, page 105

straight low design, page 105

2-part housing for higher loads, page 106



SF-..P1N8AWA00



SF-..P1N8AWK00



SF-..P1N8AA200

rotatable, page 108

rotatable, larger flange dimensions, page 108

fixed, page 107

fixed, larger flange dimensions, page 107



SF-..P1N8AAD00



SF-..P1N8AAC00



SF-..P1N8AAF00



SF-..P1N8AAK00

shielded

Panel feed-through

socket outside - pin inside, page 111



SF-..E1N8AS000

Panel feed-throughs are delivered in a fully wired state

Crimp contacts

Female contacts

Turned, page 113



Punched-rolled taped, page 112



Female contacts

Male contacts

Male contacts

Male contacts

Turned, page 113



Tools / accessories

Crimping tools

Crimping pliers for punched-rolled C-HC crimp contacts, page 144



Crimping pliers for turned crimp contacts, page 147



Crimping pliers with digital display for turned crimp contacts, page 150



Note:

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Power connector - PLUSCON circular
M23 - P30 series

Cable plug connector - socket,
long and short type

P30 are M23 power connectors for higher transmission capacities and connection cross-sections. Electrical power up to 250/630 V at 9/30 A can be transmitted with connection cross-sections of 4 mm² / AWG 12.

Two connector lengths are available for the cable and coupling plug connectors for power and cable-side adjustment to the respective application:

- Short version: for connection cross-sections up to 2.5 mm² / AWG 14 and max. cable diameter of 14 mm, shielded.
- Long version: for connection cross-sections up to 4 mm² / AWG 12 and max. cable diameter of 18 mm, shielded.

The crimp contacts can be quickly assembled by snapping into place in the contact carrier and allow short assembly times.

The braided shield directly contacts the housing over a 360° all-round contact, irrespective of the cable diameter.

The cable and coupling plug connectors are supplied with cable gaskets for various conductor diameters.

Crimp contacts are ordered separately depending on the respective connection cross-sections.

The cable plug connectors must be equipped with female contacts.



SF-.ES1N8A8...

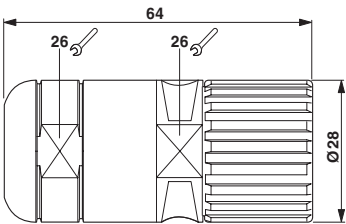
Cable plug connector in short / long versions

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Cable plug connector P30, 6-pos. (5+PE), shielded, straight, short for a Ø 7.5 mm to 14 mm cable, connection cross section of up to 2.5 mm² / AWG 14				
	universal 7.5 ... 14,0	SF-5ES1N8A80DU	1605532	20
	7,5 ... 9,0	SF-5ES1N8A80A1	1605524	20
	9,0 ... 11,0	SF-5ES1N8A80A2	1605526	20
	11,0 ... 14,0	SF-5ES1N8A80A3	1605529	20
Cable plug connector P30, 6-pos. (5+PE), shielded, straight, long for a Ø 7.5 mm to 18 mm cable, connection cross section of up to 4 mm² / AWG 12				
	universal 7.5 ... 18,0	SF-5ES1N8A8LDL	1605549	20
	7,5 ... 9,0	SF-5ES1N8A8LB4	1605548	20
	9,0 ... 12,0	SF-5ES1N8A8LB3	1605546	20
	12,0 ... 15,0	SF-5ES1N8A8LB2	1605545	20
	15,0 ... 18,0	SF-5ES1N8A8LB1	1605543	20
Cable plug connector P30, 8-pos. (4+3+PE), shielded, straight, short for a Ø 7.5 mm to 14 mm cable, connection cross section of up to 2.5 mm² / AWG 14				
	universal 7.5 ... 14,0	SF-7ES1N8A80DU	1605602	20
	7,5 ... 9,0	SF-7ES1N8A80A1	1605595	20
	9,0 ... 11,0	SF-7ES1N8A80A2	1605596	20
	11,0 ... 14,0	SF-7ES1N8A80A3	1605597	20
Cable plug connector P30, 8-pos. (4+3+PE), shielded, straight, long for a Ø 7.5 mm to 18 mm cable, connection cross section of up to 4 mm² / AWG 12				
	universal 7.5 ... 18,0	SF-7ES1N8A8LDL	1605617	20
	7,5 ... 9,0	SF-7ES1N8A8LB4	1605614	20
	9,0 ... 12,0	SF-7ES1N8A8LB3	1605610	20
	12,0 ... 15,0	SF-7ES1N8A8LB2	1605607	20
	15,0 ... 18,0	SF-7ES1N8A8LB1	1605605	20

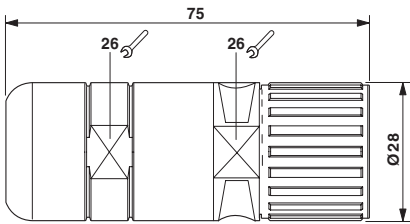
Crimp contacts
Signal contacts Ø 1 mm
Power and PE contacts Ø 2 mm

Order separately, see page 112 onwards

Cable clamping ranges, universal seals		
Housing version	Short	Long
	Cable Ø [mm]	Cable Ø [mm]
State of delivery	7.5 ... 9	7,5 ... 8
Section 1	11 ... 14	16 ... 18
Section 2	9 ... 11	14 ... 16
Section 3		12 ... 14
Section 4		10 ... 12
Section 5		8 ... 10



SF-.ES1N8A80..



SF-.ES1N8A8L..

Coupling plug connector - pin, long and short type

P30 coupling plug connectors are available in two lengths:

- Short version: for connection cross-sections up to 2.5 mm² / AWG 14 and max. cable diameter of 14 mm, shielded.
 - Long version: for connection cross-sections up to 4 mm² / AWG 12 and max. cable diameter of 18 mm, shielded.
- Both versions are available in 6-pos. (5+PE) and 8-pos (4+3+PE).



SF-.EP1N8A90..

Coupling plug connector,
short version



SF-.EP1N8A9L..

Coupling plug connector,
long version

Description	Cable seal Ø [mm]
Coupling plug connector P30, 6-pos. (5+PE), shielded, straight, short for a Ø 7.5 mm to 14 mm cable, connection cross section of up to 2.5 mm ² / AWG 14	universal 7.5 ... 14,0 7,5 ... 9,0 9,0 ... 11,0 11,0 ... 14,0
Coupling plug connector P30, 8-pos. (4+3+PE), shielded, straight, short for a Ø 7.5 mm to 14 mm cable, connection cross section of up to 2.5 mm ² / AWG 14	universal 7.5 ... 14,0 7,5 ... 9,0 9,0 ... 11,0 11,0 ... 14,0
Coupling plug connector P30, 6-pos. (5+PE), shielded, straight, long for a Ø 7.5 mm ... 18 mm cable, connection cross section of up to 4 mm ² / AWG 12	universal 7.5 ... 18,0 7,5 ... 9,0 9,0 ... 12,0 12,0 ... 15,0 15,0 ... 18,0
Coupling plug connector P30, 8-pos. (4+3+PE), shielded, straight, long for a Ø 7.5 mm to 18 mm cable, connection cross section of up to 4 mm ² / AWG 12	universal 7.5 ... 18,0 7,5 ... 9,0 9,0 ... 12,0 12,0 ... 15,0 15,0 ... 18,0

Type	Order No.	Pcs. / Pkt.
SF-5EP1N8A90DU	1605499	20
SF-5EP1N8A90A1	1605494	20
SF-5EP1N8A90A2	1605496	20
SF-5EP1N8A90A3	1605498	20
SF-7EP1N8A90DU	1605575	20
SF-7EP1N8A90A1	1605568	20
SF-7EP1N8A90A2	1605570	20
SF-7EP1N8A90A3	1605571	20

Type	Order No.	Pcs. / Pkt.
SF-5EP1N8A9LDL	1605510	20
SF-5EP1N8A9LB4	1605509	20
SF-5EP1N8A9LB3	1605508	20
SF-5EP1N8A9LB2	1605507	20
SF-5EP1N8A9LB1	1605505	20
SF-7EP1N8A9LDL	1605583	20
SF-7EP1N8A9LB4	1605582	20
SF-7EP1N8A9LB3	1605581	20
SF-7EP1N8A9LB2	1605580	20
SF-7EP1N8A9LB1	1605578	20

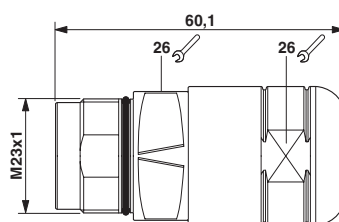
Crimp contacts
Signal contacts Ø 1 mm
Power and PE contacts Ø 2 mm

Order separately, see page 112 onwards

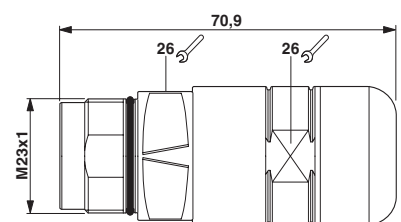
Order separately, see page 112 onwards

Cable clamping ranges, universal seals

Housing version	Short	Long
	Cable Ø [mm]	Cable Ø [mm]
State of delivery	7.5 ... 9	7.5 ... 8
Section 1	11 ... 14	16 ... 18
Section 2	9 ... 11	14 ... 16
Section 3		12 ... 14
Section 4		10 ... 12
Section 5		8 ... 10



SF-.EP1N8A90..



SF-.EP1N8A9L..

Power connector - PLUSCON circular
M23 - P30 series

Cable and coupling plug connector -
socket and pin with M20 thread for
external cable gland

The P30 cable and coupling plug
connector with M20 x 1.5 thread for
additional external cable glands is available
for special requirements, for example drag
chain suitability.



SF-.ES1N8AR4DU

Cable plug connector with additional thread

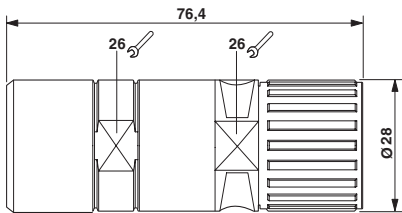


SF-.EP1N8AF4DU

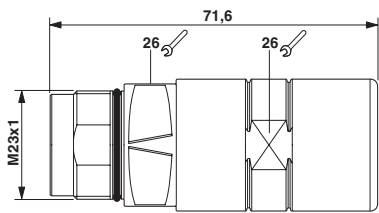
Coupling plug connector with additional thread

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Connector P30, 6-pos. (5+PE), with additional thread M20 x 1.5 for cable gland, for a Ø 7.5 mm to 14 mm cable, connection cross section of up to 2.5 mm² / AWG 14	SF-5ES1N8AR4DU	1605553	20	SF-5EP1N8AF4DU	1605519	20
Connector P30, 8-pos. (4+3+PE), with additional thread M20 x 1.5 for cable gland, for a Ø 7.5 mm to 14 mm cable, connection cross section of up to 2.5 mm² / AWG 14	SF-7ES1N8AR4DU	1605621	20	SF-7EP1N8AF4DU	1605588	20
Crimp contacts	Order separately, see page 112 onwards			Order separately, see page 112 onwards		
Signal contacts Ø 1 mm						
Power and PE contacts Ø 2 mm						
Additional cable gland	Order separately, see page 143			Order separately, see page 143		

Clamping ranges	Cable Ø[mm]
Universal seals	
State of delivery	7,5 ... 9
Section 1	11 ... 14
Section 2	9 ... 11



SF-.ES1N8AR4DU



SF-.EP1N8AF4DU

**Straight appliance plug connector,
pin, lower and higher type**

The P30 range offers various appliance
plug connectors adapted to the respective
application, e.g.: straight housing, also as a
lower type for space-saving installation.



SF-EP1N8AW.00

Appliance plug connector, straight,
low design



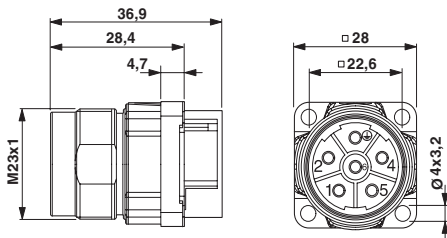
SF-EP1N8AW.00

Appliance plug connector, straight,
high design

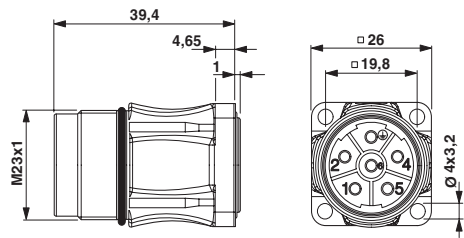
Description	No. of pos.
Appliance plug connector P30, straight	
	6-position (5+PE)
	8-position (4+3+PE)
Crimp contacts	
Signal contacts Ø 1 mm	
Power and PE contacts Ø 2 mm	

Type	Order No.	Pcs. / Pkt.
SF-5EP1N8AWK00	1607043	20
SF-7EP1N8AWK00	1605591	20
Order separately, see page 112 onwards		

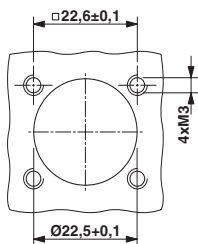
Type	Order No.	Pcs. / Pkt.
SF-5EP1N8AWA00	1605520	20
SF-7EP1N8AWA00	1605589	20
Order separately, see page 112 onwards		



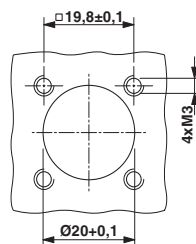
SF-EP1N8AWK00



SF-EP1N8AWA00



Installation dimensions: SF-EP1N8AWK00



Installation dimensions: SF-EP1N8AWA00

Power connector - PLUSCON circular
M23 - P30 series

Angled, fixed appliance plug
connector, pin, for higher loads,
flange dimension 26 mm

Some applications require shock-resistant housing versions. To meet these requirements, a specially robust version of the angled device connector is available.

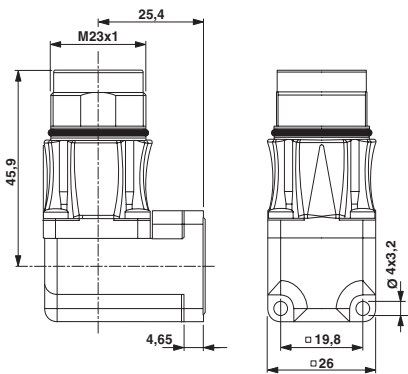
The housing has a two-piece design, consisting of a solid, fixed angular part and the straight standard flange.



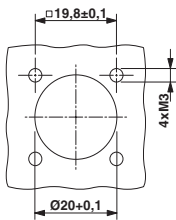
SF-EP1N8AA200

Appliance plug connector, angled fixed

Description	Type	Order No.	Pcs. / Pkt.
Appliance plug connector P30, 6-pos. (5+PE), angled fixed, 2-part housing for higher loads	SF-5EP1N8AA200	1607906	16
Appliance plug connector P30, 8-pos. (4+3+PE), angled fixed, 2-part housing for higher loads	SF-7EP1N8AA200	1607908	16
Crimp contacts Signal contacts Ø 1 mm Power and PE contacts Ø 2 mm	Order separately, see page 112 onwards		



SF-EP1N8AA200



Installation dimensions: SF-EP1N8AA200

Angled, fixed appliance plug connector, pin, flange dimensions 26 and 28 mm

The angled appliance plug connectors are also available with enlarged flange dimensions for high vibration loads.



SF-EP1N8AAF00

Appliance plug connector, angled fixed, flange dimension 26 mm



SF-EP1N8AAK00

Appliance plug connector, angled fixed, flange dimension 28 mm

Description	Flange dimension:
Appliance plug connector P30, 6-pos. (5+PE), angled, fixed	26 mm x 26 mm
Appliance plug connector P30, 8-pos. (4+3+PE), angled, fixed	26 mm x 26 mm
Appliance plug connector P30, 6-pos. (5+PE), angled, fixed	28 mm x 28 mm
Appliance plug connector P30, 8-pos. (4+3+PE), angled, fixed	28 mm x 28 mm

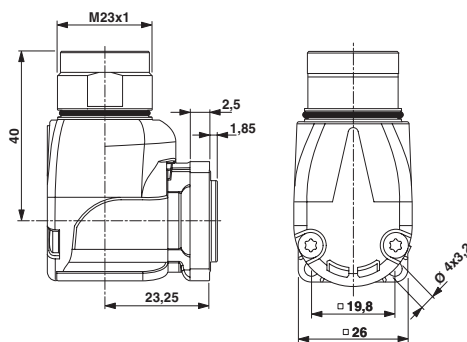
Crimp contacts
Signal contacts Ø 1 mm
Power and PE contacts Ø 2 mm

Type	Order No.	Pcs. / Pkt.
SF-5EP1N8AAF00	1607036	16
SF-7EP1N8AAF00	1607046	16

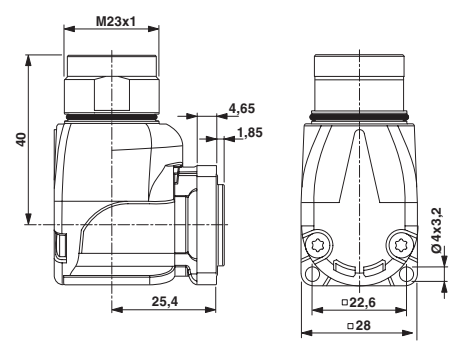
Order separately, see page 112 onwards

Type	Order No.	Pcs. / Pkt.
SF-5EP1N8AAK00	1605515	16
SF-7EP1N8AAK00	1607047	16

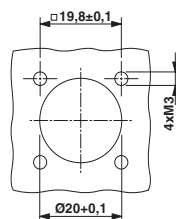
Order separately, see page 112 onwards



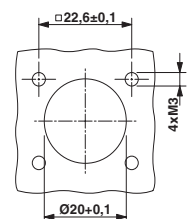
SF-EP1N8AAF00



SF-EP1N8AAK00



Installation dimensions: SF-EP1N8AAF00



Installation dimensions: SF-EP1N8AAK00

Power connector - PLUSCON circular
M23 - P30 series

Angled, rotatable appliance plug
connector, pin,
flange dimensions 26 and 28 mm

The P30 range offers various appliance
plug connectors, adapted to the respective
application:
– Angled housing, rotatable and fixed, also
with enlarged flange dimension for high
vibration loads.



SF-EP1N8AA.00

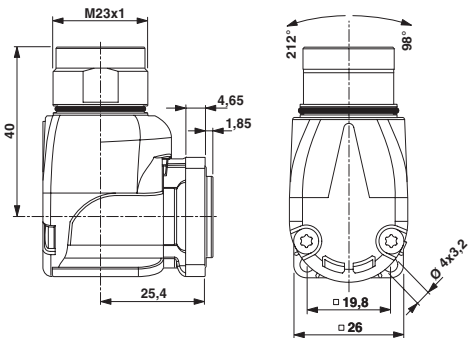
Appliance plug connector, angled rotatable

Description	Flange dimension:
Appliance plug connector P30, 6-pos. (5+PE), angled, rotatable	26 mm x 26 mm
	28 mm x 28 mm
Appliance plug connector P30, 8-pos. (4+3+PE), angled, rotatable	26 mm x 26 mm
	28 mm x 28 mm

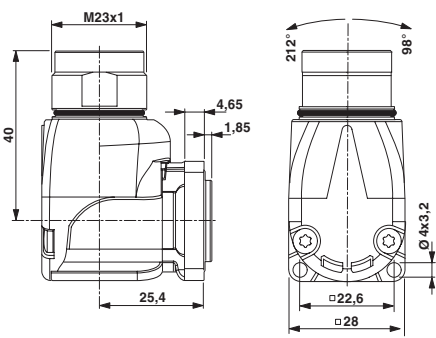
Crimp contacts
Signal contacts Ø 1 mm
Power and PE contacts Ø 2 mm

Type	Order No.	Pcs. / Pkt.
SF-5EP1N8AAD00	1605512	16
SF-5EP1N8AAC00	1607035	16
SF-7EP1N8AAD00	1605586	16
SF-7EP1N8AAC00	1607045	16

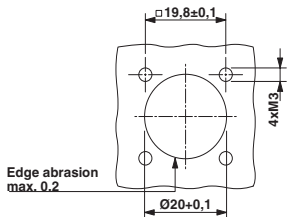
Order separately, see page 112 onwards



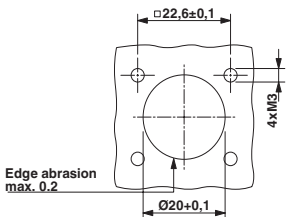
SF-EP1N8AAD00



SF-EP1N8AAC00



Installation dimensions: SF-EP1N8AAD00



Installation dimensions: SF-EP1N8AAC00

Appliance plug connectors
straight/angled, fixed, socket, with
knurls, flange dimension 26 mm

Some applications require shock-resistant housing versions. Robust versions of the angled device connector are available to meet these requirements.

The housing has a two-piece design, consisting of a solid, fixed angular part and the straight standard flange.

Note:

Power appliance plug connectors with knurled nuts must be equipped with female contacts.



SF-ES1N8AY000

Appliance plug connector with knurled nut



SF-ES1N8AYW00

Appliance plug connector with knurled nut, angled fixed

Description
Appliance plug connector P30, with knurled nut, 6-pos. (5+PE), straight
Appliance plug connector P30, with knurled nut, 8-pos. (4+3+PE), straight
Appliance plug connector P30, 6-pos. (5+PE), angled fixed, 2-part housing with knurled nut, for higher loads
Appliance plug connector P30, 8-pos. (4+3+PE), angled fixed, 2-part housing with knurled nut, for higher loads

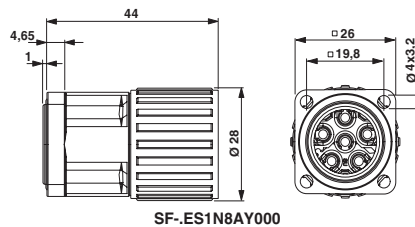
Type	Order No.	Pcs. / Pkt.
SF-5ES1N8AY000	1607082	20
SF-7ES1N8AY000	1605622	20

Crimp contacts
Signal contacts $\varnothing$ 1 mm
Power and PE contacts $\varnothing$ 2 mm

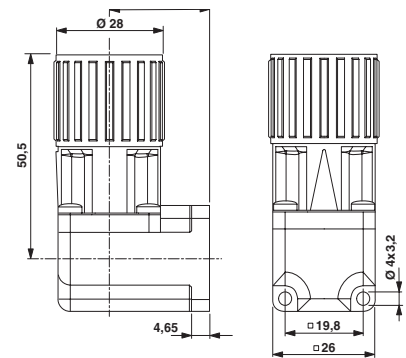
Order separately, see page 112 onwards

Type	Order No.	Pcs. / Pkt.
SF-5ES1N8AYW00	1607405	20
SF-7ES1N8AYW00	1607429	20

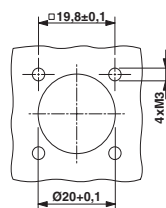
Order separately, see page 112 onwards



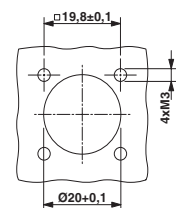
SF-ES1N8AY000



SF-ES1N8AYW00



Installation dimensions: SF-ES1N8AY000



Installation dimensions: SF-ES1N8AYW00

Power connector - PLUSCON circular

M23 - P30 series

Panel feed-through, pin, long and short type

The P30 series provides a complete range of panel feed-throughs in different versions for flexible power cabling of machines and systems.



SF-EP1N8AC...

Panel feed-through for inside panel mounting

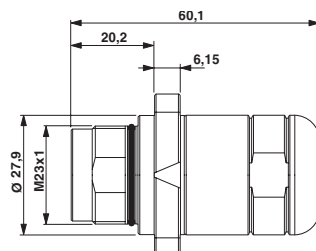
Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Panel feed-through P30, 6-pos. (5+PE), inside, 4xM3 thread mounting, short for a Ø 7.5 mm to 14 mm cable, connection cross section of up to 2.5 mm² / AWG 14				
	universal 7.5 ... 14,0	SF-5EP1N8AC0DU	1605517	10
	7,5 ... 9,0	SF-5EP1N8AC0A1	1605516	10
	9,0 ... 11,0	SF-5EP1N8AC0A2	1607037	10
	11,0 ... 14,0	SF-5EP1N8AC0A3	1607038	10
Panel feed-through P30, 6-pos. (5+PE), inside, 4xM3 thread mounting, long for a Ø 7.5 mm to 18 mm cable, connection cross section of up to 4 mm² / AWG 12				
	universal 7.5 ... 18,0	SF-5EP1N8ACLDL	1605518	10
	7,5 ... 9,0	SF-5EP1N8ACLB4	1607042	10
	9,0 ... 12,0	SF-5EP1N8ACLB3	1607041	10
	12,0 ... 15,0	SF-5EP1N8ACLB2	1607040	10
	15,0 ... 18,0	SF-5EP1N8ACLB1	1607039	10
Panel feed-through P30, 8-pos. (4+3+PE), inside, 4xM3 thread mounting, short for a Ø 7.5 mm to 14 mm cable, 4 connection cross section of up to 2.5 mm² / AWG 14				
	universal 7.5 ... 14,0	SF-7EP1N8AC0DU	1607051	10
	7,5 ... 9,0	SF-7EP1N8AC0A1	1607048	10
	9,0 ... 11,0	SF-7EP1N8AC0A2	1607049	10
	11,0 ... 14,0	SF-7EP1N8AC0A3	1607050	10
Panel feed-through P30, 8-pos. (4+3+PE), inside, 4xM3 thread mounting, long for a Ø 7.5 mm to 18 mm cable, connection cross section of up to 4 mm² / AWG 12				
	universal 7.5 ... 18,0	SF-7EP1N8ACLDL	1607056	10
	7,5 ... 9,0	SF-7EP1N8ACLB4	1607055	10
	9,0 ... 12,0	SF-7EP1N8ACLB3	1607054	10
	12,0 ... 15,0	SF-7EP1N8ACLB2	1607053	10
	15,0 ... 18,0	SF-7EP1N8ACLB1	1607052	10

Crimp contacts

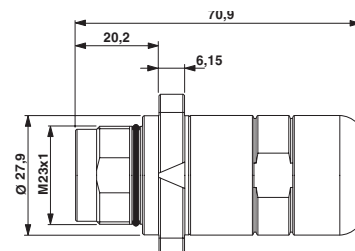
Signal contacts Ø 1 mm

Power and PE contacts Ø 2 mm

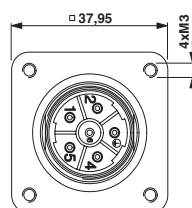
Order separately, see page 112 onwards



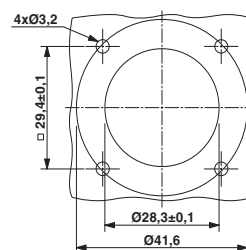
SF-EP1N8AC0..



SF-EP1N8ACL..



Flange dimensions: SF-EP1N8AC0.., SF-EP1N8ACL..



Installation dimensions: SF-EP1N8AC0.., SF-EP1N8ACL..

Cable clamping ranges, universal seals

Housing version	Short	Long
	Cable Ø [mm]	Cable Ø [mm]
State of delivery	7.5 ... 9	7,5 ... 8
Section 1	11 ... 14	16 ... 18
Section 2	9 ... 11	14 ... 16
Section 3		12 ... 14
Section 4		10 ... 12
Section 5		8 ... 10

Panel feed-through, fully wired,
pin/socket

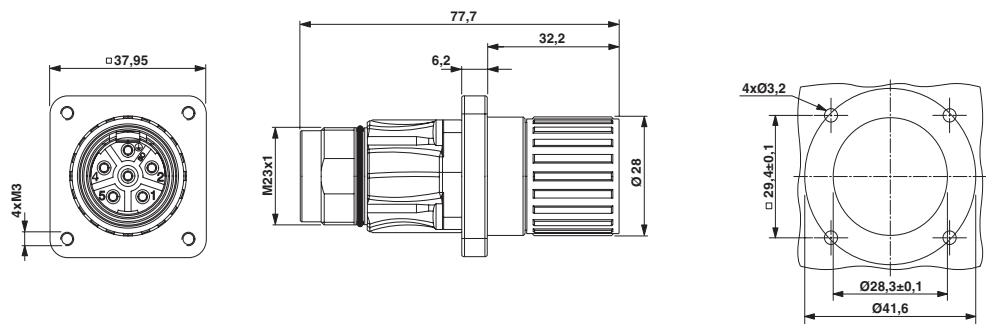
The power panel feed-throughs for outside panel assembly are supplied completely wired internally and equipped with contacts.



SF-EE1N8AS000

Panel feed-through for outside panel assembly

Description	Type	Order No.	Pcs. / Pkt.
Panel feed-through P30, 6-pos. (5+PE), outside, pin inside - socket outside, completely wired	SF-5EE1N8AS000	1605492	1
Panel feed-through P30, 8-pos. (4+3+PE), outside, pin inside - socket outside, completely wired	SF-7EE1N8AS000	1605567	1



SF-5EE1N8AS000 , SF-7EE1N8AS000

Installation dimensions

Power connector - PLUSCON circular
M23 - P30 series

Crimp contacts, punched-rolled

C-HC® are punched-rolled female contacts with hyperboloid-shaped contact ridges and integrated wire and insulation crimp. The high-performance crimp contacts are designed for up to 10,000 insertion/withdrawal cycles.

The contacts are available taped on rolls for manual or automatic processing.

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



SF-.0KS3.0
C-HC female contacts
for processing with manual crimping machines



SF-10KS3.0
C-HC female contacts
for processing with crimping machines

Description	Connection cross section [mm² / AWG]
C-HC female contacts, punched-rolled, Taped, Ø 1 mm, 2,500 pieces / roll	0,08 ... 0,2 / AWG 28-24 0,2 ... 0,56 / AWG 24-20
C-HC female contacts, punched-rolled, Taped, Ø 1 mm, 10,000 pieces/ roll	0,08 ... 0,2 / AWG 28-24 0,2 ... 0,56 / AWG 24-20
C-HC female contacts, punched-rolled, Taped, Ø 2 mm, 1000 pieces / roll	1,0 ... 2,5 / AWG 18-14
C-HC female contacts, punched-rolled, Taped, Ø 2 mm, 4000 pieces / roll	1,0 ... 2,5 / AWG 18-14

Type	Order No.	Pcs. / Pkt.
SF-10KS320	1607031	1
SF-10KS350	1607032	1
SF-20KS350	1607034	1

Type	Order No.	Pcs. / Pkt.
SF-10KS330	1607358	1
SF-10KS360	1607361	1
SF-20KS360	1607381	1

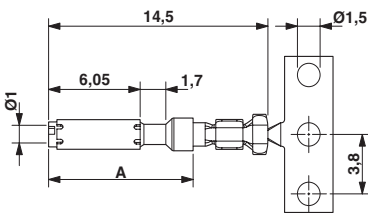
Crimping tools for punched-rolled C-HC crimp contacts

Order separately, see page 144

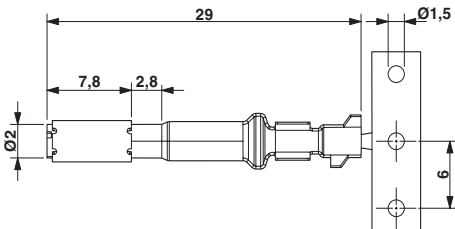
Order separately, see page 144

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



C-HC female contact Ø 1 mm
A = D-SUB dimension



C-HC female contact Ø 2 mm

Crimp contacts, turned

The 6-pos. (5+PE) versions are equipped with Ø 2 mm contacts. The 8-pos. (4+3+PE) versions are equipped with four Ø 1 mm signal contacts and four 2 mm contacts (three power, 1 PE contact).

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



SF-....0..
Crimp contacts
socket



SF-....00.
Crimp contacts
pin

Description	Connection cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Contacts, socket Ø 2.0 mm for P30 cable and appliance plug connectors with knurled nuts, power and PE contacts							
	0,25 ... 1,0 / AWG 24-18	SF-7PS2000	1605636	100			
	0,75 ... 1,5 / AWG 18-16	SF-7NS2000	1605631	100			
	1,0 ... 2,5 / AWG 18-14	SF-7QS2000	1605643	100			
	4,0 / AWG 12	SF-7MS2000	1605628	50			
	Wire spring contact, 0,75 ... 2,5 / AWG 18-14	SF-20KS010	1605491	100			
Contacts, socket Ø 1.0 mm for P30 cable and appliance plug connectors with knurled nuts, signal contacts							
	0,08 ... 0,2 / AWG 24-24	SF-6CS2000	1605562	100			
	0,14 ... 0,5 / AWG 26-20	SF-10KS004	1607356	100			
	0,5 ... 1,0 / AWG 20-18	SF-6AS2000	1605557	100			
	0,5 ... 1,0/1,5 / AWG 20-18	SF-6FS2000	1605566	100			
	Wire spring contact, 0,14 ... 1,0 / AWG 26-18	SF-10KS010	1605481	100			
Contacts, pin Ø 2.0 mm for P30 coupling connector, power and PE contacts							
	0,14 ... 0,25 / AWG 26-24				SF-7RP2000	1605646	100
	0,25 ... 1,0 / AWG 24-18				SF-7PP2000	1605634	100
	0,75 ... 1,5 / AWG 18-16				SF-20KP004	1607376	100
	1,0 ... 2,5 / AWG 18-14				SF-7QP2000	1605639	100
	4,0 / AWG 12				SF-7MP2000	1605626	50
Contacts, pin Ø 1.0 mm for P30 coupling connector, signal contacts							
	0,08 ... 0,2 / AWG 24-24				SF-6CP2000	1605559	100
	0,14 ... 0,5 / AWG 26-20				SF-10KP004	1607355	100
	0,5 ... 1,0 / AWG 20-18				SF-6AP2000	1605554	100
	0,5 ... 1,0/1,5 / AWG 20-18				SF-6DP2000	1607406	100
Contacts, pin Ø 2.0 mm for P30 appliance plug connector, power and PE contacts							
	0,14 ... 0,25 / AWG 26-24				SF-7RP2000	1605646	100
	0,25 ... 1,0 / AWG 24-18				SF-7PP2000	1605634	100
	0,75 ... 1,5 / AWG 18-16				SF-20KP004	1607376	100
	1,0 ... 2,5 / AWG 18-14				SF-7QP2000	1605639	100
	4,0 / AWG 12				SF-7MP2000	1605626	50
Contacts, pin Ø 1.0 mm for P30 appliance plug connector, signal contacts							
	0,08 ... 0,2 / AWG 28-24				SF-6CP2000	1605559	100
	0,14 ... 0,5 / AWG 26-20				SF-10KP004	1607355	100
	0,5 ... 1,0 / AWG 20-18				SF-6AP2000	1605554	100
	0,5 ... 1,0/1,5 / AWG 20-18				SF-6DP2000	1607406	100

Crimping tools
Crimping tool with digital display

Order separately, see page 147 onwards
Order separately, see page 150

Note:
Please pay attention to crimp ranges for cable plug connectors and coupling connectors.

Short version:
for connection cross sections of up to 2.5 mm² / AWG 14 and max. cable Ø 14 mm, shielded.

Long version:
for connection cross sections of up to 4.0 mm² / AWG 12 and max. cable Ø 18 mm, shielded.

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

Power connectors - PLUSCON circular

M40 - P70 series

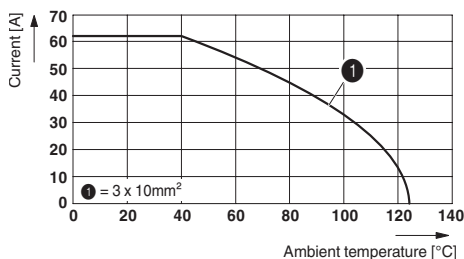
Mechanical and electrical data

Mechanical data	
Housing material:	Rotating part: copper-zinc alloy (CuZn), die-cast part: zinc (GD-Zn)
Housing surface:	Nickel-plated; appliance plug connector: nickel-plated/thick layer passivated (can be painted over)
Insulating bodies:	Polyamide (PA 66)
Contact material:	Copper-zinc alloy (CuZn)
Contact surface:	Nickel-plated (Ni) with a gold layer (Au)
Contact connection method:	Crimp version
Gasket and O ring:	Fluorine rubber (FKM)
Ambient temperature:	-20°C ... 125°C
Conductor entry:	External cable diameter 9.0 - 26.5 mm, shielded
Locking type:	M40 x 1.5 screw locking / M40 SPEEDCON quick locking
Mechanical insertion/withdrawal cycles:	Standard: 50
Degree of protection:	IP67 when locked
Approval:	An overview of the listed connectors as per UL, cUL and VDE will be available on request.

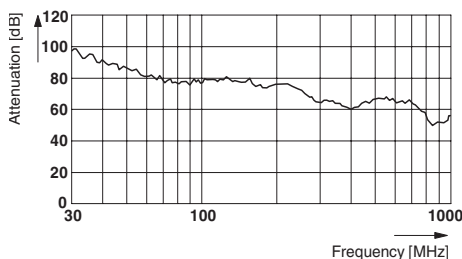
Electrical data											
Number of positions		6 (2+3+PE)					8 (4+3+PE)				
Contacts		2	+	3	+	PE	4	+	3	+	PE
Contact Ø	[mm]	2,0		3,6		3,6	2,0		3,6		3,6
Stranded wire cross sections											
Short version, cable Ø max. 25.5 mm	[mm²/AWG]	0.14 ... 4.0/26-12		0.75 ... 10/18-8		0.75 ... 10/18-8	0.14 ... 4.0/26-12		0.75 ... 10/18-8		0.75 ... 10/18-8
Long version, cable Ø max. 26.5 mm	[mm²/AWG]	0.14 ... 4.0/26-12		0.75 ... 10/18-8		0.75 ... 10/18-8	0.14 ... 4.0/26-12		0.75 ... 10/18-8		0.75 ... 10/18-8
Appliance plug connectors	[mm²/AWG]	0.14 ... 4.0/26-12		0.75 ... 10/18-8		0.75 ... 10/18-8	0.14 ... 4.0/26-12		0.75 ... 10/18-8		0.75 ... 10/18-8
Nominal current per contact at 25°C ¹⁾		[A]	30		70	–	30		70		–
Specifications as per DIN EN 61984:2001											
Nominal/operating voltage		[V AC / DC]	250		630	–	250		630		–
Test/surge voltage		[kV]	4		6	–	4		6		–
Surge voltage category			III				III				
Pollution degree			3				3				
Installation height		[m]	Up to 3,000				Up to 3,000				

¹⁾ If required, the effective current carrying capacity must be determined according to the application using a derating curve.

Derating curve for 3 x 10 mm² based on DIN EN 60512-5-2 (cable plug connector mounted)



Shield attenuation curve based on DIN EN 50289-1-6 SPEEDCON cable connector and appliance connector, angled on the base plate



Note:
Plug connectors may only be inserted or removed when the power supply is disconnected.

Connector pin assignments and coding

Contact insert numbering (view of plug-in side)		
Number of positions	Pin	Socket
6-pos. (2 + 3 + PE) Crimp		
8-pos. (4 + 3 + PE) Crimp		

* with grounding spring

Power connectors - PLUSCON circular

M40 - P70 series

Selection guide

M40 power connectors up to 70 A / 630 V, crimp ranges up to 10 mm² / AWG 8

- Cable plug connectors
- Coupling connectors
- Appliance plug connectors (device flange)

– Feed-throughs / panel feed-throughs
The P70 connectors are fully assembled and the respective crimp contacts must be ordered separately.

P70 connectors with a knurled nut are available with SPEEDCON quick locking or with the M40 x 1,5 control thread.

The product chart provides an overview of the available components.

Connector type

Cable plug connectors

SPEEDCON quick locking, page 118



SM-..S1N8A8L..S

Standard locking short/long, page 122



SM-..S1N8A8...

Mounting flange for wall mounting, page 148.



Appliance plug connectors

SPEEDCON quick locking, page 121



SM-..S1N8AY000S

Standard locking, page 127

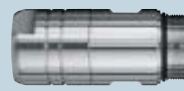


SM-..S1N8AYW00

shielded

Coupling connectors

short, page 123



SM-..P1N8A90..

with mounting flange short, long, page 124



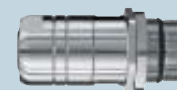
SM-..P1N8AC0.., SM-..P1N8ACL..

long, page 119



SM-..P1N8A9L..S

with hexagonal flange short, long, page 125



SM-..P1N8AQ0.., SM-..P1N8AQL..

shielded

Appliance plug connectors

angled rotatable, page 120



SM-..PWN8AAD00S

straight, page 120



SM-..PWN8AWT00

angled fixed, page 120

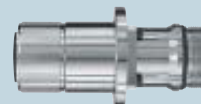


SM-..PWN8AA200

shielded

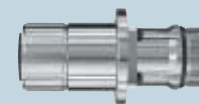
Panel feed-through

pin inside - socket outside, Mounting flange: 4 x Ø 4.2, page 126



SM-..E1N8AS000

pin inside - socket outside, Mounting flange: 4 x M4, page 126



SM-..E1N8ASA00

Panel feed-throughs are delivered in a fully wired state

Crimp contacts

Female contacts

Turned, page 128



Female contacts

Male contacts

Turned, page 128



Male contacts

Tools / accessories

Crimping tools

Crimping pliers, page 148



Crimping pliers with digital display for turned crimp contacts, page 150



Note:

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Power connector - PLUSCON circular
M40 - P70 series

Cable plug connector, socket,
SPEEDCON quick locking

P70 connectors with SPEEDCON quick locking are equipped with the same performance characteristics as the P70 connector with standard M40 locking.

The very elegant shielding function is a special feature of the new cable plug connectors. Splicing the shield can be totally omitted in some cases, depending on the version of the braided shield. Overlaying braided shield is simply folded in. This simplifies handling and saves a lot of time especially in rigid wires and large connection cross-sections.

Note:

Connectors must be plugged in or unplugged only if the power supply is disconnected.



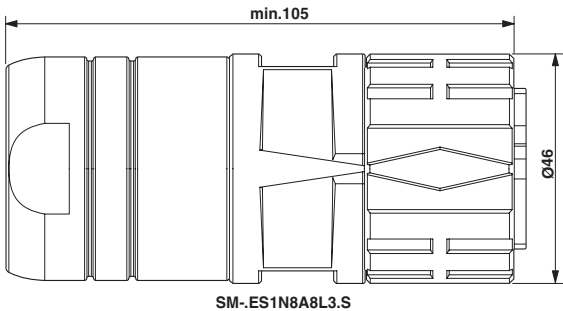
SM-.ES1N8A8L3.S

Cable plug connector,
SPEEDCON quick locking

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Cable plug connector P70, SPEEDCON, 6-pos. (2+3+PE), shielded, straight, for a Ø 9.0 mm to 26.5 mm cable, connection cross section of up to 10 mm² / AWG 8				
	9,0 ... 14,0	SM-5ES1N8A8L32S	1613428	12
	14,0 ... 20,5	SM-5ES1N8A8L33S	1613429	12
	20,5 ... 26,5	SM-5ES1N8A8L34S	1613430	12
Cable plug connector P70, SPEEDCON, 8-pos. (4+3+PE), shielded, straight, for a Ø 9.0 mm to 26.5 mm cable, connection cross section of up to 10 mm² / AWG 8				
	9,0 ... 14,0	SM-7ES1N8A8L32S	1613434	12
	14,0 ... 20,5	SM-7ES1N8A8L33S	1613435	12
	20,5 ... 26,5	SM-7ES1N8A8L34S	1613436	12

Crimp contacts
Signal contacts Ø 2 mm
Power and PE contacts Ø 3.6 mm

Order separately, see page 128



Coupling plug connector, pin

A connector with SPEEDCON knurled nut as well as a connector with M40 standard locking thread can be screwed onto the new coupling plug connectors with segmented external thread.

The coupling plug connectors are designed for connection cross-sections up to 10 mm² /AWG 8 and conductor diameters of 9.0 mm to 26.5 mm.

The housings provide a generously dimensioned cable storage space. A special feature of the new coupling plug connectors is the very elegant shield function, which can be executed without a lot of force. Splicing the shield can be totally omitted in some cases, depending on the version of the braided shield. Overlaying braided shield is simply folded in. This simplifies handling and saves a lot of time especially in solid wires and large connection cross-sections.



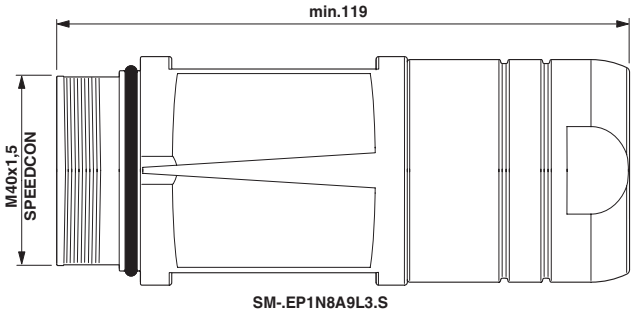
SM-EP1N8A9L3.S

Coupling plug connector
SPEEDCON/standard interlocking

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Coupling plug connector P70, 6-pos. (2+3+PE), shielded, straight, for a Ø 9.0 mm to 26.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 14,0	SM-5EP1N8A9L32S	1613425	12
	14,0 ... 20,5	SM-5EP1N8A9L33S	1613426	12
	20,5 ... 26,5	SM-5EP1N8A9L34S	1613427	12
Coupling plug connector P70, 8-pos. (4+3+PE), shielded, straight, for a Ø 9.0 mm to 26.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 14,0	SM-7EP1N8A9L32S	1613431	12
	14,0 ... 20,5	SM-7EP1N8A9L33S	1613432	12
	20,5 ... 26,5	SM-7EP1N8A9L34S	1613433	12

Crimp contacts
Signal contacts Ø 2 mm
Power and PE contacts Ø 3.6 mm

Order separately, see page 128



Power connector - PLUSCON circular M40 - P70 series

Appliance plug connector, pin (compatible to SPEEDCON and standard interlocking)

A SPEEDCON cable plug connector as well as a cable connector with standard locking thread can be screwed onto the appliance plug connector with segmented external thread.

The rotatable angular housing can be rotated progressively in the range of 310°.



SM-EPWN8AAD00S

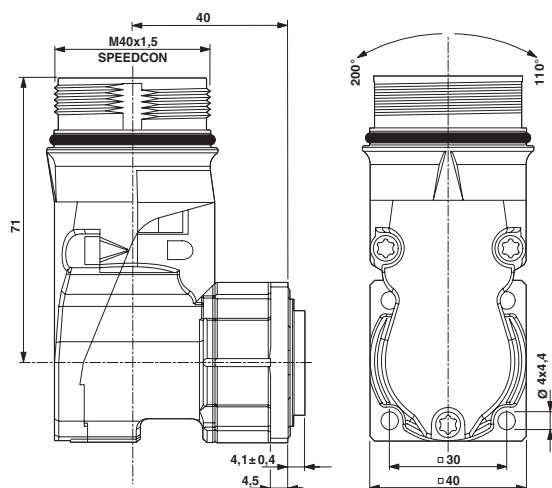
Appliance plug connector, **angled rotatable**, with SPEEDCON/standard interlocking



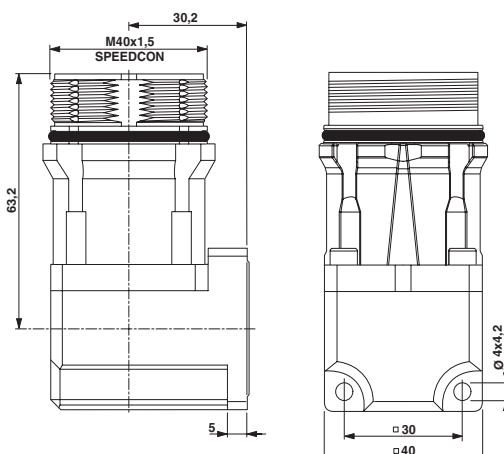
SM-EPWN8A..00

Appliance plug connector, **fixed**, with SPEEDCON/standard interlocking

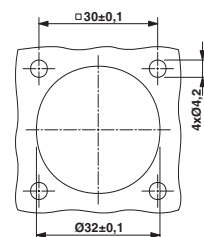
Description	No. of pos.	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Appliance plug connector P70, angled, rotatable , connection cross section... 10 mm ² / AWG 8	6-position (2+3+PE)	SM-5EPWN8AAD00S	1607927	6			
Appliance plug connector P70, angled, rotatable , connection cross section... 10 mm ² / AWG 8	8-position (4+3+PE)	SM-7EPWN8AAD00S	1607931	6			
Appliance plug connector P70, angled, fixed , connection cross section... 10 mm ² / AWG 8	6-position (2+3+PE)				SM-5EPWN8AA200	1613516	6
Appliance plug connector P70, angled, fixed , connection cross section... 10 mm ² / AWG 8	8-position (4+3+PE)				SM-7EPWN8AA200	1613526	6
Appliance plug connector P70, straight , connection cross section... 10 mm ² / AWG 8	6-position (2+3+PE)				SM-5EPWN8AWT00	1613517	12
Appliance plug connector P70, straight , connection cross section... 10 mm ² / AWG 8	8-position (4+3+PE)				SM-7EPWN8AWT00	1613527	12
Crimp contacts		Order separately, see page 128			Order separately, see page 128		
Signal contacts Ø 2 mm							
Power and PE contacts Ø 3.6 mm							



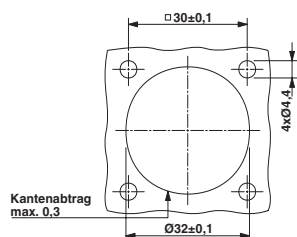
SM-EPWN8AAD00S



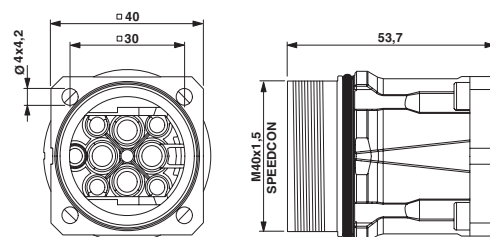
SM-EPWN8AA200



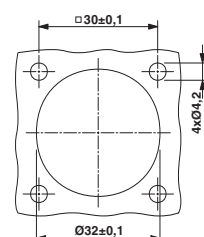
Installation dimensions: SM-EPWN8AA200



Installation dimensions: SM-EPWN8AAD00S



SM-EPWN8AWT00



Installation dimensions: SM-EPWN8AWT00

Appliance plug connectors with SPEEDCON knurl, socket, straight and angled fixed

P70 appliance plug connectors with knurled nut make control cabinets and system parts "pluggable". The connectors are available in straight version and with 2-section angular housing.

Note:

Appliance plug connectors with knurled nuts must be equipped with female contacts.



SM-ES1N8AY000S

Appliance plug connector, **straight**,
with SPEEDCON knurled nut



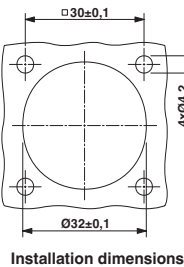
SM-ES1N8AYW00S

Appliance plug connector, **angled fixed**,
with SPEEDCON knurled nut

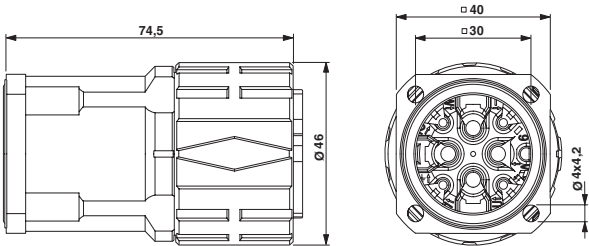
Description	No. of pos.	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Appliance plug connector P70 , with SPEEDCON knurled nut, straight, connection cross section... 10 mm² / AWG 8	6-position (2+3+PE)	SM-5ES1N8AY000S	1613524	12			
	8-position (4+3+PE)	SM-7ES1N8AY000S	1613534	12			
Appliance plug connector P70 , with SPEEDCON knurled nut, angled, connection cross section... 10 mm² / AWG 8	6-position (2+3+PE)				SM-5ES1N8AYW00S SM-7ES1N8AYW00S	1613525	6
	8-position (4+3+PE)					1613535	6
Crimp contacts		Order separately, see page 128			Order separately, see page 128		
Signal contacts Ø 2 mm							
Power and PE contacts Ø 3.6 mm							

Notes:
The appliance plug connectors with a SPEEDCON knurled nut can only be screwed onto mating connectors with a segmented thread.

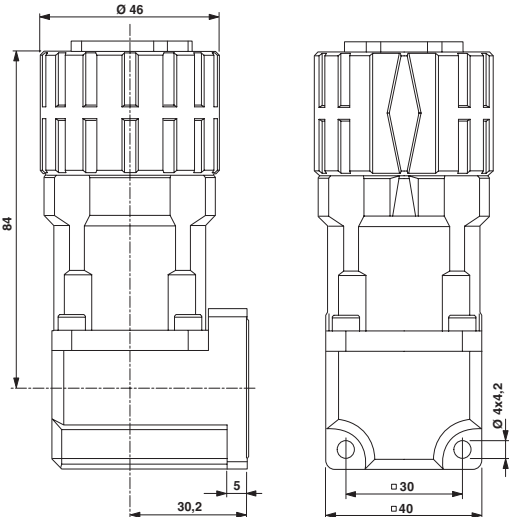
Appliance plug connectors with a knurled nut must be equipped with female contacts.



Installation dimensions



SM-ES1N8AY000S



SM-ES1N8AYW00S

Power connector - PLUSCON circular
M40 - P70 series

Cable plug connector, socket,
standard interlocking

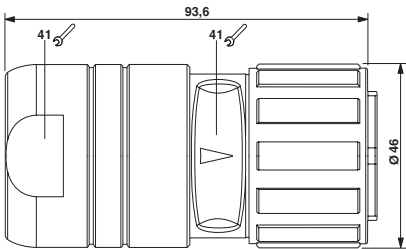
The P70 cable plug connectors with standard M40 locking threads are available in two housing lengths depending on the required cable storage space.



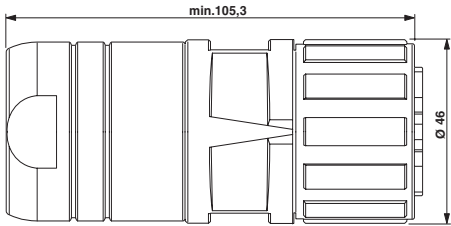
SM-ES1N8A8...

Cable plug connector in short and long versions

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Cable plug connector P70, 6-pos. (2+3+PE), shielded, straight, short , for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-5ES1N8A8002	1605803	12
	12,5 ... 17,0	SM-5ES1N8A8003	1605805	12
	17,0 ... 21,0	SM-5ES1N8A8004	1605807	12
	21,0 ... 25,5	SM-5ES1N8A8005	1605809	12
Cable plug connector P70, 6-pos. (2+3+PE), shielded, straight, long , for a Ø 9.0 mm to 26.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 14,0	SM-5ES1N8A8S22	1613518	12
	14,0 ... 20,5	SM-5ES1N8A8S23	1613519	12
	20,5 ... 26,5	SM-5ES1N8A8S24	1613520	12
Cable plug connector P70, 8-pos. (4+3+PE), shielded, straight, short , for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-7ES1N8A8002	1605851	12
	12,5 ... 17,0	SM-7ES1N8A8003	1605852	12
	17,0 ... 21,0	SM-7ES1N8A8004	1605854	12
	21,0 ... 25,5	SM-7ES1N8A8005	1605856	12
Cable plug connector P70, 8-pos. (4+3+PE), shielded, straight, long , for a Ø 9.0 mm to 26.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 14,0	SM-7ES1N8A8S22	1613528	12
	14,0 ... 20,5	SM-7ES1N8A8S23	1613529	12
	20,5 ... 26,5	SM-7ES1N8A8S24	1613530	12
Crimp contacts		Order separately, see page 128		
Signal contacts Ø 2 mm				
Power and PE contacts Ø 3.6 mm				



SM-ES1N8A80..



SM-ES1N8A8S..

Coupling plug connector, pin,
standard interlocking

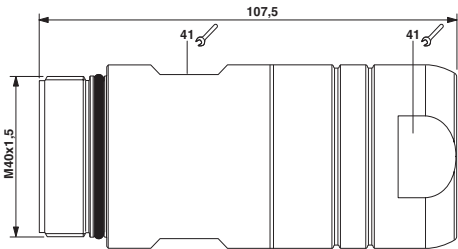
The P70 coupling plug connectors with
standard locking threads have a short
housing for space-saving installation.



SM-EP1N8A900.

Coupling plug connector,
short version

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Coupling plug connector P70, 6-pos. (2+3+PE) , shielded, straight, short , for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-5EP1N8A9002	1605769	12
	12,5 ... 17,0	SM-5EP1N8A9003	1605771	12
	17,0 ... 21,0	SM-5EP1N8A9004	1605773	12
	21,0 ... 25,5	SM-5EP1N8A9005	1605775	12
Coupling plug connector P70, 8-pos. (4+3+PE) , shielded, straight, short , for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-7EP1N8A9002	1607063	12
	12,5 ... 17,0	SM-7EP1N8A9003	1605826	12
	17,0 ... 21,0	SM-7EP1N8A9004	1607064	12
	21,0 ... 25,5	SM-7EP1N8A9005	1607065	12
Crimp contacts		Order separately, see page 128		
Signal contacts Ø 2 mm				
Power and PE contacts Ø 3.6 mm				



SM-EP1N8A900.

Power connector - PLUSCON circular
M40 - P70 series

Panel feed-through, square flange,
pin, standard interlocking

The P70 range provides the suitable power panel feed-throughs for cabling machines, systems and control cabinets.



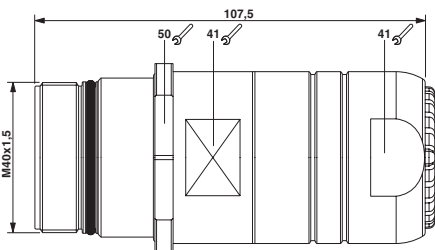
SM-EP1N8AC.0.

Panel feed-through with 50 mm mounting flange,
Inside panel mounting

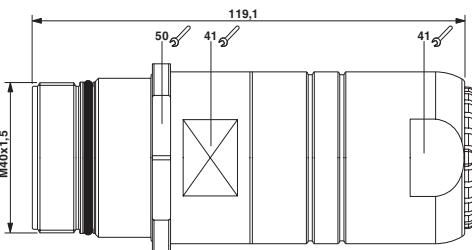
Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Panel feed-through P70, 6-pos. (2+3+PE), inside, short, square flange, for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-5EP1N8AC002	1605782	6
	12,5 ... 17,0	SM-5EP1N8AC003	1605783	6
	17,0 ... 21,0	SM-5EP1N8AC004	1605784	6
	21,0 ... 25,5	SM-5EP1N8AC005	1605785	6
Panel feed-through P70, 6-pos. (2+3+PE), inside, long, square flange, for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-5EP1N8ACL02	1605786	6
	12,5 ... 17,0	SM-5EP1N8ACL03	1605787	6
	17,0 ... 21,0	SM-5EP1N8ACL04	1605788	6
	21,0 ... 25,5	SM-5EP1N8ACL05	1605789	6
Panel feed-through P70, 8-pos. (4+3+PE), inside, short, square flange, for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-7EP1N8AC002	1605830	6
	12,5 ... 17,0	SM-7EP1N8AC003	1605831	6
	17,0 ... 21,0	SM-7EP1N8AC004	1605832	6
	21,0 ... 25,5	SM-7EP1N8AC005	1605833	6
Panel feed-through P70, 8-pos. (4+3+PE), inside, long, square flange, for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-7EP1N8ACL02	1605834	6
	12,5 ... 17,0	SM-7EP1N8ACL03	1605835	6
	17,0 ... 21,0	SM-7EP1N8ACL04	1605836	6
	21,0 ... 25,5	SM-7EP1N8ACL05	1605837	6

Crimp contacts
Signal contacts Ø 2 mm
Power and PE contacts Ø 3.6 mm

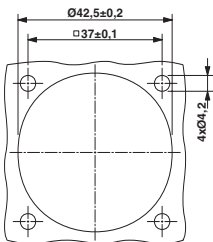
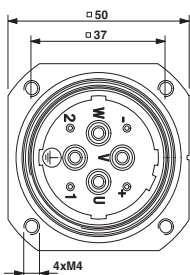
Order separately, see page 128



SM-EP1N8AC00.



SM-EP1N8ACL0.



Installation dimensions

Panel feed-through, hexagonal flange, pin, standard interlocking

The P70 panel feed-throughs are available in two housing lengths for the cable-side adjustment. The long version offers more cable storage space and the short version provides smaller dimensions.



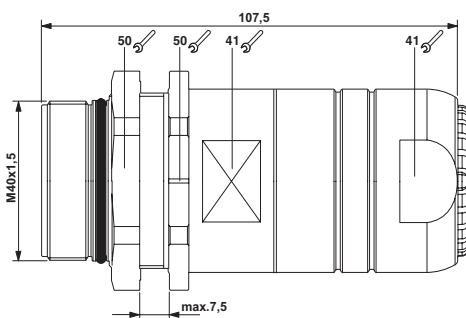
SM-EP1N8AQ.0.

Panel feed-through with hexagonal flange,
Inside panel mounting

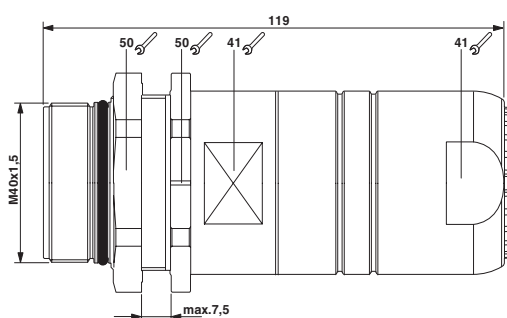
Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Panel feed-through P70, 6-pos. (2+3+PE), inside, short, hexagonal flange, for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-5EP1N8AQ002	1605790	6
	12,5 ... 17,0	SM-5EP1N8AQ003	1605791	6
	17,0 ... 21,0	SM-5EP1N8AQ004	1605792	6
	21,0 ... 25,5	SM-5EP1N8AQ005	1605793	6
Panel feed-through P70, 6-pos. (2+3+PE), inside, long, hexagonal flange, for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-5EP1N8AQL02	1605794	6
	12,5 ... 17,0	SM-5EP1N8AQL03	1605795	6
	17,0 ... 21,0	SM-5EP1N8AQL04	1605796	6
	21,0 ... 25,5	SM-5EP1N8AQL05	1605797	6
Panel feed-through P70, 8-pos. (4+3+PE), inside, short, hexagonal flange, for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-7EP1N8AQ002	1605838	6
	12,5 ... 17,0	SM-7EP1N8AQ003	1605839	6
	17,0 ... 21,0	SM-7EP1N8AQ004	1605840	6
	21,0 ... 25,5	SM-7EP1N8AQ005	1605841	6
Panel feed-through P70, 8-pos. (4+3+PE), inside, long, hexagonal flange, for a Ø 9.0 mm to 25.5 mm cable, connection cross section of up to 10 mm² / AWG 8	9,0 ... 12,5	SM-7EP1N8AQL02	1605842	6
	12,5 ... 17,0	SM-7EP1N8AQL03	1605843	6
	17,0 ... 21,0	SM-7EP1N8AQL04	1605844	6
	21,0 ... 25,5	SM-7EP1N8AQL05	1605845	6

Crimp contacts
Signal contacts Ø 2 mm
Power and PE contacts Ø 3.6 mm

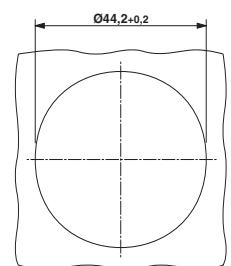
Order separately, see page 128



SM-EP1N8AQ00.



SM-EP1N8AQL0.



Installation dimensions

Power connector - PLUSCON circular
M40 - P70 series

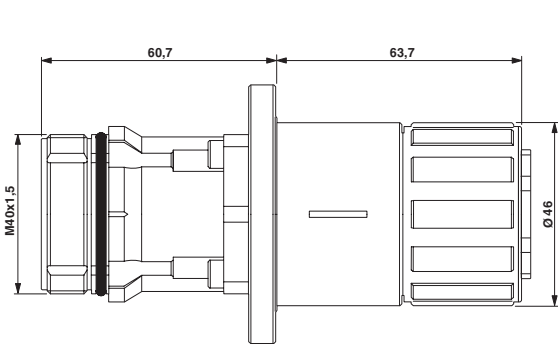
Panel feed-through, internal pin and
external socket, standard interlocking

Panel feed-throughs are completely
mounted, equipped with contacts and
internally wired when supplied.

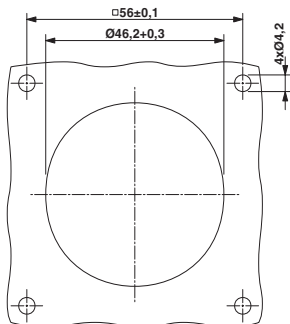
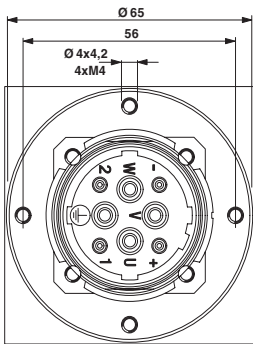


SM-EE1N8AS.00
Panel feed-through

Description	No. of pos.	Type	Order No.	Pcs. / Pkt.
Panel feed-through P70, outside, pin inside - socket outside, completely wired, mounting flange with 4 x Ø 4.2 mm	6-position (2+3+PE)	SM-5EE1N8AS000	1605767	1
	8-position (4+3+PE)	SM-7EE1N8AS000	1605824	1
Panel feed-through P70, outside, pin inside - socket outside, completely wired, mounting flange with 4 x M4	6-position (2+3+PE)	SM-5EE1N8ASA00	1605768	1
	8-position (4+3+PE)	SM-7EE1N8ASA00	1605825	1



SM-EE1N8AS000 , SM-EE1N8ASA00



Installation dimensions

Appliance plug connector with knurls,
standard interlocking, socket, straight
and angled fixed

P70 appliance plug connectors with knurled nut make control cabinets and system parts "pluggable". The connectors are available in straight version and with 2-section angular housing.

Note:

Appliance plug connectors with knurled nuts must be equipped with female contacts.



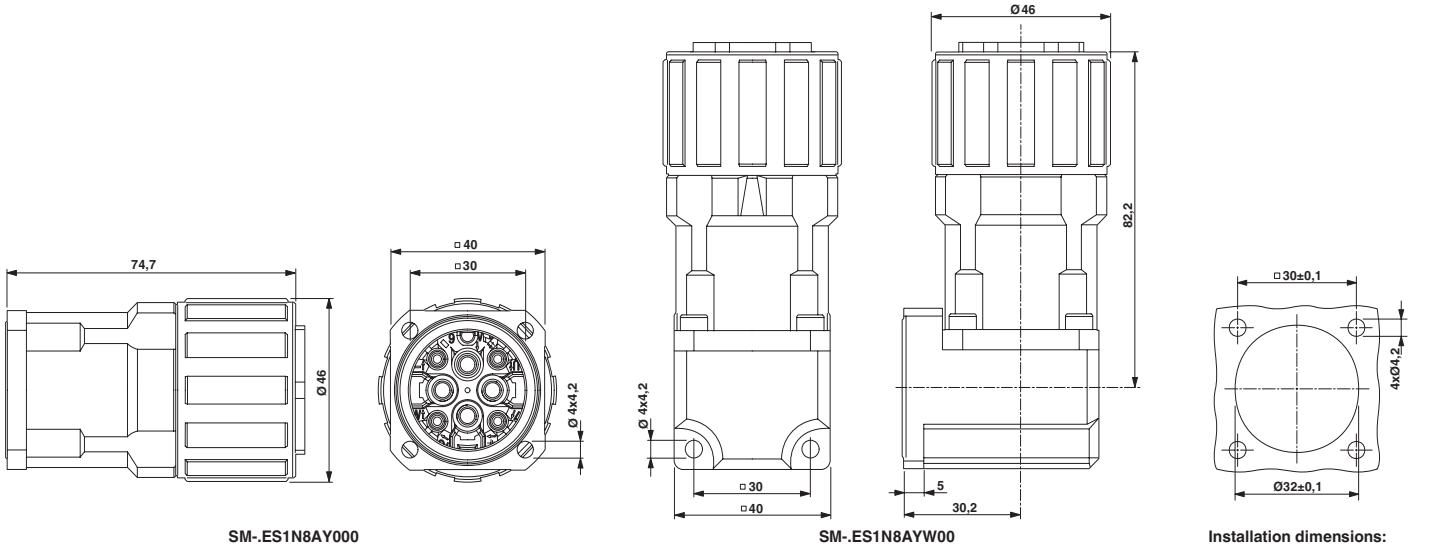
SM-ES1N8AY.00

Appliance plug connector with knurled nut,
Outside panel assembly

Description	No. of pos.	Type	Order No.	Pcs. / Pkt.
Appliance plug connector P70, with knurled nut, straight , outside, connection cross section... 10 mm² / AWG 8	6-position (2+3+PE)	SM-5ES1N8AY000	1605823	12
	8-position (4+3+PE)	SM-7ES1N8AY000	1605865	12
Appliance plug connector P70, with knurled nut, angled fixed , outside, connection cross section... 10 mm² / AWG 8	6-position (2+3+PE)	SM-5ES1N8AYW00	1607532	6
	8-position (4+3+PE)	SM-7ES1N8AYW00	1607543	6

Crimp contacts
Signal contacts Ø 2 mm
Power and PE contacts Ø 3.6 mm

Order separately, see page 128



Power connector - PLUSCON circular M40 - P70 series

Crimp contacts, turned

The 6-pos. (2+3+PE) versions are equipped with two Ø 2 mm signal contacts and four 3.6 mm contacts (three power, 1 PE contact).

The 8-pos. (4+3+PE) versions are equipped with four 2 mm signal contacts and four 3.6 mm contacts (three power, 1 PE contact).

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



S.-....00.
Crimp contacts
socket



S.-....00.
Crimp contacts
pin

Description	Connection cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Contacts, socket Ø 3.6 mm, for P70 cable and appliance plug connectors with knurled nuts, power and PE contacts							
	1.0 ... 2.5 / AWG 18-14	SM-36KS001	1605756	50			
	2.5 ... 4.0 / AWG 14-12	SM-36KS002	1605758	50			
	4.0 ... 6.0 / AWG 12-10	SM-36KS003	1605760	50			
	6.0 ... 10.0 / AWG 10-8	SM-36KS004	1605762	50			
Contact socket Ø 2.0 mm for P70 cable and appliance plug connectors with knurled nuts, signal contacts							
	0.25 ... 1.0 / AWG 24-18	SF-7PS2000	1605636	100			
	0.75 ... 1.5 / AWG 18-16	SF-7NS2000	1605631	100			
	1.0 ... 2.5 / AWG 18-14	SF-7QS2000	1605643	100			
	4.0 / AWG 12	SF-7MS2000	1605628	50			
Contacts, pin Ø 3.6 mm, for P70 coupling plug connector, power and PE contacts							
	1.0 ... 2.5 / AWG 18-14				SM-36KP005	1605749	50
	2.5 ... 4.0 / AWG 14-12				SM-36KP006	1605750	50
	4.0 ... 6.0 / AWG 12-10				SM-36KP008	1605754	50
	6.0 ... 10.0 / AWG 10-8				SM-36KP007	1605752	50
Contacts, pin Ø 2.0 mm, for P70 coupling plug connector, signal contacts							
	0.25 ... 1.0 / AWG 24-18				SM-20KP006	1605738	50
	0.75 ... 1.5 / AWG 18-16				SM-20KP005	1605736	50
	1.0 ... 2.5 / AWG 18-14				SM-20KP007	1605739	50
	4.0 / AWG 12				SM-20KP008	1605741	50
Contacts, pin Ø 3.6 mm for P70 appliance plug connector, power and PE contacts							
	0.75 ... 1.5 / AWG 18-16				SM-36KP001	1605743	50
	1.0 ... 2.5 / AWG 18-14				SM-36KP009	1607057	50
	1.0 ... 4.0 / AWG 18-12				SM-36KP002	1605744	50
	4.0 ... 6.0 / AWG 12-10				SM-36KP003	1605745	50
	6.0 ... 10.0 / AWG 10-8				SM-36KP004	1605747	50
Contact pin Ø 2.0 mm, for P70 appliance plug connector, signal contacts							
	0.14 ... 0.25 / AWG 26-24				SF-7RP2000	1605646	100
	0.25 ... 1.0 / AWG 24-18				SF-7PP2000	1605634	100
	0.75 ... 1.5 / AWG 18-16				SF-20KP004	1607376	100
	1.0 ... 2.5 / AWG 18-14				SF-7QP2000	1605639	100
	4.0 / AWG 12				SF-7MP2000	1605626	50

Crimping tools
Crimping tool with digital display

Order separately, see page 148 onwards
Order separately, see page 150

Order separately, see page 148 onwards
Order separately, see page 150

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

Power connectors - PLUSCON circular

M58 - P150 series

Mechanical and electrical data

Mechanical data

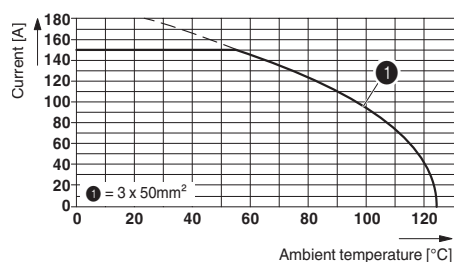
Housing material:	Rotating part, aluminum
Housing surface:	Aluminum, anodized
Insulating bodies:	Polyamide (PA66)
Contact surface:	Power and PE contacts: silver-plated (Ag), signal contacts: gold-plated (Au)
Contact connection method:	Crimp version
Gasket and O ring:	Fluorine rubber (FPM)
Ambient temperature:	-20°C ... 120°C
Conductor entry:	Cable plug connectors and coupling connectors for external cable diameters of 17 ... 36 mm, shielded
Locking type:	M58 x 2 screw locking
Mechanical insertion/withdrawal cycles:	standard: 50, 500 on request
Degree of protection:	IP67 when locked

Electrical data

Number of positions	6 (2+3+PE)			8 (4+3+PE)		
Contacts	2	+	3	+	PE	
Contact Ø [mm]	1.6		10		10	
Stranded wire cross section						
Crimp contacts turned [mm ² /AWG]	0.75 ... 1.5/18-16		10 ... 50/8-1		10 ... 50/8-1	
Cable clamping range max Ø [mm]	–		36		–	
Nominal current per contact at 25°C ¹⁾ [A]	12		150		–	
Specifications as per DIN EN 61984:2001						
Nominal/operating voltage [V AC / DC]	250		630		–	
Test/surge voltage [kV]	4		6		–	
Surge voltage category			III			
Pollution degree			3			
Installation height [m]			Up to 2,000			

¹⁾ If required, the effective current carrying capacity must be determined according to the application using a derating curve.

Derating curve for 3 x 50 mm² based on DIN EN 60512-5-2 (cable plug connector mounted)



Note:
Plug connectors may only be inserted or removed when the power supply is disconnected.

Connector pin assignments and coding

Contact insert numbering (view of plug-in side)		
Number of positions	Pin	Socket
6-pos. (2 + 3 + PE) Crimp		
8-pos. (4 + 3 + PE) Crimp		

* with grounding spring,
PE leading

Power connectors - PLUSCON circular

M58 - P150 series

Selection guide

M58 power connectors up to 150 A / 630 V,
crimp ranges of up to 50 mm² / AWG 1

- Cable plug connectors
- Coupling connectors
- Appliance plug connectors, straight

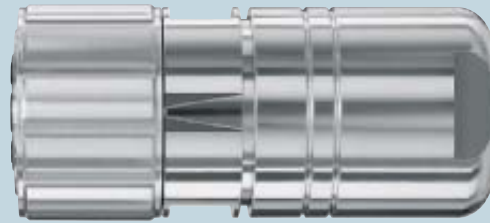
The P150 connectors are fully assembled and the respective crimp contacts must be ordered separately.

The product chart provides an overview of the available components.

Connector type

Cable plug connectors

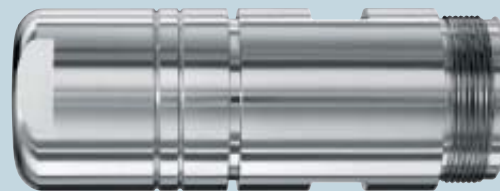
shielded



SL-..S1N8A80..
page 134

Coupling connectors

shielded



SL-..P1N8A90..
page 135

Appliance plug connectors

shielded



SL-..PWN8AWA00
page 136

Female contacts

Male contacts

Male contacts

Crimp contacts

Female contacts

Turned, page 137



Male contacts

Turned, page 137



Tools / accessories

Crimping tools

Crimp device for power and PE contacts Ø 10 mm,
page 149



Crimping pliers for signal contacts Ø 1.6 mm,
page 149



Note:

For reasons pertaining to safety, only female contacts may be used in the live part of the connector.

Power connector - PLUSCON circular
M58 - P150 series

Cable plug connector

P150 are 6/8 pos. power connectors for very high transmission capacities and connection cross-sections. Electrical power up to 630 V and 150 A in connection cross-sections up to 50 mm² /AWG 1 can be transmitted. The cable clamping range is specified for cable diameters from 17 mm to 36 mm.

The very elegant and quick shielding function is a special feature. Splicing the shield can be totally omitted in some cases, depending on the version of the cable or braided shield. This is a big time saving especially in solid wires and large conductors.

The wire stop is supported by mechanically or pneumatically operated crimping pliers.

Note:

The cable plug connectors must be equipped with female contacts.

Connectors must be plugged in or unplugged only if the power supply is disconnected.



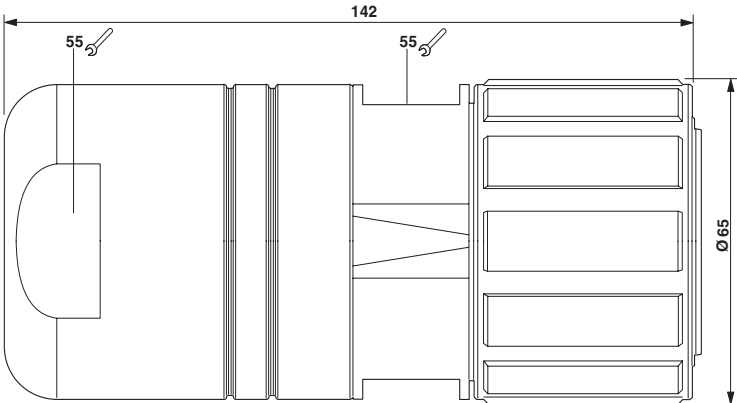
SL-ES1N8A800.

Cable plug connector

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Cable plug connector P150, 6-pos. (2+3+PE), shielded, straight, for a Ø 17.0 mm to 36 mm cable, connection cross section of up to 50 mm ² / AWG 1	17 ... 25	SL-5ES1N8A8002	1607503	1
	25 ... 36	SL-5ES1N8A8001	1607501	1
Cable plug connector P150, 8-pos. (4+3+PE), shielded, straight, for a Ø 17.0 mm to 36 mm cable, connection cross section of up to 50 mm ² / AWG 1	17 ... 25	SL-7ES1N8A8002	1607508	1
	25 ... 36	SL-7ES1N8A8001	1607507	1

Crimp contacts, female
Signal contacts Ø 1.6 mm
Power and PE contacts Ø 10 mm

Order separately, see page 137



SL-ES1N8A800.

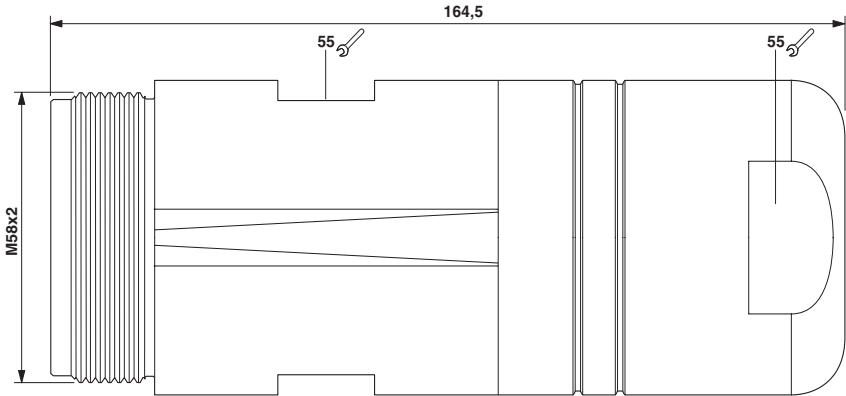
Coupling plug connector

Note:
The coupling and appliance plug connectors must be equipped with male contacts.



SL-EP1N8A900.
Coupling plug connector

Description	Cable seal Ø [mm]	Type	Order No.	Pcs. / Pkt.
Coupling plug connector P150, 6-pos. (2+3+PE), shielded, straight, for a Ø 17 mm ... 36 mm cable, connection cross section of up to 50 mm ² / AWG 1	17 ... 25	SL-5EP1N8A9002	1607500	1
	25 ... 36	SL-5EP1N8A9001	1607499	1
Coupling plug connector P150, 8-pos. (4+3+PE), shielded, straight, for a Ø 17 mm ... 36 mm cable, connection cross section of up to 50 mm ² / AWG 1	17 ... 25	SL-7EP1N8A9002	1607506	1
	25 ... 36	SL-7EP1N8A9001	1607505	1
Crimp contacts, male Signal contacts Ø 1.6 mm Power and PE contacts Ø 10 mm		Order separately, see page 137		



SL-EP1N8A900.

Power connector - PLUSCON circular
M58 - P150 series

Appliance plug connector for front mounting

Note:
The coupling and appliance plug connectors must be equipped with male contacts.



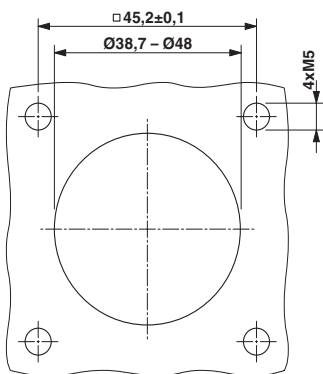
SL-EPWN8AWA00

Appliance plug connector for front mounting

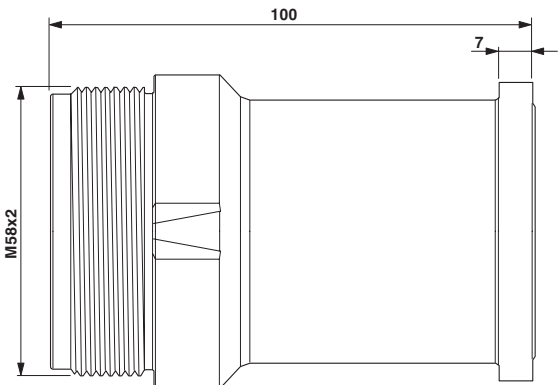
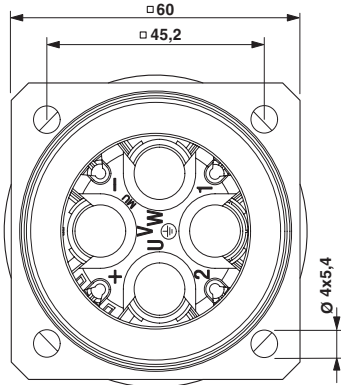
Description	Connection cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.
Appliance plug connector P150, 6-pos. (2+3+PE), front mounting, straight	Up to 50 / AWG 1	SL-5EPWN8AWA00	1615686	1
Appliance plug connector P150, 8-pos. (4+3+PE), front mounting, straight	Up to 50 / AWG 1	SL-7EPWN8AWA00	1615687	1

Crimp contacts
Signal contacts Ø 1.6 mm
Power and PE contacts Ø 10 mm

Order separately, see page 137



Installation dimensions
(wire Ø max. 14 mm)



SL-EPWN8AWA00

Crimp contacts, turned

The 6-pos. (2+3+PE) versions require with two Ø 1.6 mm signal contacts and four 10 mm contacts (three power, 1 PE contact).

The 8-pos. (4+3+PE) versions require with four 1.6 mm signal contacts and four 10 mm contacts (three power, 1 PE contact).

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



SL-1.KS0.0

Crimp contact socket
for cable plug connector



SL-1.KP0.0

Crimp contact pin
for coupling and appliance plug connector

Description	Connection cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Contact socket Ø 10.0 mm for P150 cable plug connector, power and PE contacts	10,0 / AWG 8	SL-1CKS010	1607916	10			
	16,0 / AWG 6	SL-1CKS020	1607917	10			
	25,0 / AWG 4	SL-1CKS030	1607918	5			
	35,0 / AWG 2	SL-1CKS040	1607919	5			
	50,0 / AWG 1	SL-1CKS050	1607920	5			
Contact socket Ø 1.6 mm for P150 cable plug connector, signal contacts	0,75 ... 1,5 / AWG 18-16	SL-16KS010	1607956	10			
Contact pin Ø 10.0 mm for P150 coupling and appliance plug connector, power and PE contacts	10,0 / AWG 8				SL-1CKP010	1607911	10
	16,0 / AWG 6				SL-1CKP020	1607912	10
	25,0 / AWG 4				SL-1CKP030	1607913	5
	35,0 / AWG 2				SL-1CKP040	1607914	5
	50,0 / AWG 1				SL-1CKP050	1607915	5
Contact pin Ø 1.6 mm for P150 coupling and appliance plug connector, signal contacts	0,75 ... 1,5				SL-16KP010	1607909	10

Crimping tools

Order separately, see page 149 onwards

Order separately, see page 149 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



Tools and accessories

Crimping and assembly tools are available for easy and quick assembly of circular connectors. Accessories such as caps with IP40 and IP67 degree of protection are available for special applications.

There are different tools for processing crimp contacts. In addition to manual crimping pliers, pneumatically supported tools simplify the contact connection, particularly in the case of larger cross sections. Punched-rolled C-HC contacts in taped versions can be crimped manually or with conventional automatic devices in an efficient manner.

Accessories such as square flanges for wall mounting of cable plug connectors and coupling connectors extend the product range of circular connectors easily and cost-effectively.

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Tools and accessories

For signal plug connectors and power connectors

Tools and accessories for the
RC, UC, TU, HC series

For RC crimp contacts, the crimping
pliers RC-Z2130 and RC-Z2504 are used
for rolled or turned contacts.

The crimping pliers RC-Z2504 with
4-arbor pressing is suitable for crimping
turned RC contacts. Detailed operating
instructions are enclosed with the packing.



RC-Z2...

Crimping tools for rolled / turned contacts



RC-Z2...

Contact insertion/contact removal tool

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Crimping pliers for rolled RC crimp contacts Ø 1 mm						
Stranded wire cross-section 0.08 ... 0.56 mm²/ AWG 28-20	RC-Z2130	1604267	1			
Crimping pliers for turned RC crimp contacts Ø 1 mm / Ø 1.5 mm / Ø 2 mm						
Stranded wire cross-section 0.14 ... 2.5 mm²/ AWG 26-14	RC-Z2504	1613822	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

Tools and accessories for the RC, UC, TU, HC series

The pipe spanner is used together with a wrench to screw the inner sleeve to the adapter cap in the cable and coupling plug connectors.



RC-Z209.

Pipe spanner for cable and coupling plug connectors



RC-.....

Latching ring contact removal tool
for appliance plug connector housing

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Pipe spanner For cable plug connectors - RC, UC, TU series For coupling plug connectors - RC, UC, TU series	RC-Z2099	1604255	10			
	RC-Z2096	1604249	10			
Contact removal tool for latching rings in appliance plug connector housings For RC, TU series				RC-Z2290	1604417	1
Spare plastic latching ring for appliance plug connector housing For RC, TU series				RC-Z2382	1604442	10
Spacer sleeve for cable and coupling plug connector in connection with 19-pos. (16+2+PE) crimp contact insert For series RC, UC, TU				RC-E0146	1603961	50

Tools and accessories

For signal plug connectors and power connectors

Cable gaskets, double bracket strain reliefs for the UC series

In addition to the universal notched sealing rings included in the scope of supply, fixed gaskets are also available for the cable connector and coupling housings of the M23 UC series. These are available to suit the respective cable diameter.

Housings with additional thread can be equipped with another cable strain relief for exceptional loads.



UC-Z23..

Notched sealing rings, fixed gaskets



.C-Z203.

Double bracket strain relief for connectors with additional thread

Description	Cable Ø D [mm]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Notched sealing ring	2,0-14,5	UC-Z2351	1606846	20			
Fixed gasket	7,0-8,5	UC-Z2343	1612993	20			
	8,0-9,5	UC-Z2344	1606837	20			
	9,5-11,5	UC-Z2346	1606839	20			
	11,5-13,5	UC-Z2348	1606841	20			
	13,5-14,5	UC-Z2349	1606843	20			
Double bracket strain relief	Cable entry Pg 13.5 Cable entry Pg 16				RC-Z2036 UC-Z2039	1604206 1606834	20 20

Cable gland for P30 series

The P30 cable and coupling plug connectors with additional thread M20 x 1.5 can be equipped with an IP68 cable gland for exceptional loads.



RC-Z2417

Cable glands with metric thread

Description	Additional thread / cable Ø [mm]	Type	Order No.	Pcs. / Pkt.
Cable gland IP68 , for P30 power connectors with M20 x 1.5 additional thread	M20 x 1,5 / 9 ... 13	RC-Z2417	1607019	20

Tools and accessories

For signal plug connectors and power connectors

Crimping tools for punched-rolled crimp contacts P20, RF, P30

The punched-rolled C-HC crimp contacts can be crimped quickly and efficiently, manually or automatically.

The manual crimping pliers are suitable for individual processing. An electric table crimping device with integrated feed mechanics is available for processing taped products. The tool heads are adapted to the respective contacts and connection cross-sections.



SF-Z00..

Hand crimping tools for punched-rolled C-HC crimp contacts



SF-Z00..

Electrical crimp device for punched-rolled C-HC crimp contacts

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Hand crimping pliers , basic tool for individual processing						
for C-HC crimp contacts	SF-Z0029	1607458	1			
Tool head for crimping pliers SF-Z0029 , for C-HC crimp contacts						
Contacts Ø 2 mm	SF-Z0030	1607459	1			
Contacts Ø 1 mm	SF-Z0031	1607461	1			
Electrical crimp device						
for C-HC crimp contacts				SF-Z0032	1607462	1
Tool head for electrical crimp device SF-Z0032 , for C-HC crimp contacts, processing for taped articles						
Contacts Ø 2.0 mm / connection 1.0 mm²/AWG 18				SF-Z0033	1607463	1
Contacts Ø 2.0 mm / connection 1.5 mm²/AWG 16				SF-Z0047	1614689	1
Contacts Ø 2.0 mm / connection 2.5 mm²/AWG 14				SF-Z0035	1607465	1
Contacts Ø 1.0 mm / connection 0.08 ... 0.2 mm²/AWG 28-24				SF-Z0039	1607470	1
Contacts Ø 1.0 mm / connection 0.2 ... 0.56 mm²/AWG 24-20				SF-Z0040	1607471	1
Media hub for elec. crimping device SF-Z0032						
for accommodating rolls up to Ø 60 cm				SF-Z0052	1615413	1
Adapter for electrical crimp device SF-Z0032 , for accommodating tool heads for single processing						
				SF-Z0041	1607472	1

Notes:

The SF-Z0041 adapter allows the use of manual crimping pliers for individual processing with the electrical crimp device.

Stranded wire stripping lengths for punched-rolled C-HC crimp contacts

	Connection cross-section [mm²]	Wire stripping length [mm]
Socket Ø 1 mm	0,08 ... 2	2,5
	0,2 ... 0,56	2,5
Socket Ø 2 mm,	1,0 ... 2,5	5

The required settings of the crimping pliers and stripping lengths can deviate from the specified values, depending on the wire used.

Crimping tools for turned contacts of the P20 and ST series

Manually or pneumatically supported crimping pliers are used for turned crimp contacts of the P20 series connectors.

The crimping pliers are suitable for crimping turned contacts Ø 0.6 mm, Ø 1 mm and Ø 2 mm.

Four-arbor crimping pliers with digital display are available as an alternative to the manual crimping pliers with positioner and eccentric setting, see page 150.



SF-Z00...

Crimp tools, for turned contacts



SF-Z00..

Crimp head and positioners for crimping pliers

Description	Stranded wire cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Crimping tool, pneumatic , for turned crimp contacts Ø 1 mm / Ø 2 mm							
	0,14 ... 6 / AWG 26-10	SF-Z0022	1607450	1			
Crimping pliers for turned crimp contacts Ø 1 mm / Ø 2 mm							
	0,14 ... 6 / AWG 26-10	SF-Z0008	1605668	1			
Crimping pliers for turned crimp contacts Ø 1 mm / Ø 0.6 mm							
	0,08 ... 0,25 / AWG 28-24 / // 0,5 / AWG 20	SF-Z0007	1605665	1			
Crimp head for crimping pliers SF-Z0022, SF-Z0008					SF-Z0003	1605657	1
Crimp head for crimping pliers SF-Z0007					SF-Z0004	1605661	1
Positioners for crimp head SF-Z0003 , contacts Ø 1 mm, Ø 2 mm					ST-Z0011	1607939	1
"G" marking							
Positioners for crimp head SF-Z0004 , contacts Ø 1.0 mm					SF-Z0002	1605655	1
"C" marking					ST-Z0010	1607938	1
Positioners for crimp head SF-Z0004 , contacts Ø 0.6 mm							
"H" marking							

Tools and accessories

For signal plug connectors and power connectors

Crimping tools for turned contacts, RF series

Manually or pneumatically supported crimping pliers are used for turned crimp contacts for the RF series connectors.

The crimping pliers are suitable for crimping turned contacts Ø 1 mm.

Four-arbor crimping pliers with digital display are available as an alternative to the manual crimping pliers with positioner and eccentric setting, see page 150.



SF-Z00...

Crimp tools, for turned contacts



SF-Z00..

Crimp head and positioners for crimping pliers

Description	Stranded wire cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Crimping tool, pneumatic , for turned crimp contacts Ø 1 mm							
	0,14 ... 6 / AWG 26-10	SF-Z0022	1607450	1			
Crimping pliers , for turned crimp contacts Ø 1 mm							
	0,14 ... 6 / AWG 26-10	SF-Z0008	1605668	1			
Crimping pliers , for turned crimp contacts Ø 1 mm							
	0,08 ... 0,25 / AWG 28-24 // 0,5 / AWG 20	SF-Z0007	1605665	1			
Crimp head for crimping pliers SF-Z0022, SF-Z0008							
Crimp head for crimping pliers SF-Z0007					SF-Z0003	1605657	1
Positioners for crimping head SF-Z0003					SF-Z0004	1605661	1
	Marking "E"				SF-Z0012	1605678	1
Positioners for crimp head SF-Z0004					SF-Z0002	1605655	1
	"C" marking						

Crimping tools for turned contacts, P30 series

Manually or pneumatically supported crimping pliers are used for turned crimp contacts for the P30 series.

The crimping pliers are suitable for crimping turned contacts with Ø 1 mm and Ø 2 mm.

Four-armor crimping pliers with digital display are available as an alternative to the manual crimping pliers with positioner and eccentric setting, see page 150.



SF-Z00...

Crimp tools, for turned contacts



SF-Z00..

Crimp head and positioners for crimping pliers

Description	Stranded wire cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Crimping tool, pneumatic , for turned crimp contacts Ø 1 mm / Ø 2 mm							
	0,14 ... 6 / AWG 26-10	SF-Z0022	1607450	1			
Crimping pliers for turned crimp contacts Ø 1 mm / Ø 2 mm							
	0,14 ... 6 / AWG 26-10	SF-Z0008	1605668	1			
Crimping pliers , for turned crimp contacts Ø 1 mm							
	0,08 ... 0,25 / AWG 28-24 // 0,5 / AWG 20	SF-Z0007	1605665	1			
Crimp head for crimping pliers SF-Z0022, SF-Z0008							
Crimp head for crimping pliers SF-Z0007					SF-Z0003	1605657	1
Positioners for crimp head SF-Z0003 for appliance plug connectors					SF-Z0004	1605661	1
Positioners for SF-Z0003 crimp head, for cable and coupling connectors					SF-Z0011	1605675	1
Positioners for crimp head SF-Z0004					SF-Z0012	1605678	1
					SF-Z0002	1605655	1

Notes:

For the connection cross sections of 0.08 mm² and 0.14 mm² (SF signal contacts Ø 1 mm), use the SF-Z0007 crimping pliers.

Tools and accessories

For signal plug connectors and power connectors

Crimping tools for turned contacts, P70 series

Manually or pneumatically supported crimping pliers are used for turned crimp contacts for the P70 series.

The crimping pliers are suitable for crimping turned contacts with Ø 2 mm and Ø 3.6 mm.

Four-arbor crimping pliers with digital display are available as an alternative to the manual crimping pliers with positioner and eccentric setting, see page 150.



SF-Z00..

Crimp tools, for turned contacts



SF-Z00..

Crimp head and positioners for crimping pliers

Description	Stranded wire cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Crimping tool, pneumatic for turned crimp contacts Ø 3.6 mm							
	6,0 ... 16 / AWG10-6	SF-Z0014	1607446	1			
Crimping tool, pneumatic , for inverted Ø 2 mm / Ø 3.6 mm crimp contacts							
	0,14 ... 6 / AWG 26-10	SF-Z0022	1607450	1			
Crimping pliers for turned crimp contacts Ø 3.6 mm							
	6 ... 10 / AWG 10-8	SF-Z0009	1605672	1			
Crimping pliers for inverted Ø 2 mm / Ø 3.6 mm crimp contacts							
	0,14 ... 6 / AWG 26-10	SF-Z0008	1605668	1			
Crimp head for crimping pliers SF-Z0014 , SF-Z0022 , SF-Z0009 , SF-Z0008					SF-Z0003	1605657	1
Positioners for SF-Z0003 crimp head , for appliance connectors					SF-Z0011	1605675	1
	Marking "D"						
Positioners for SF-Z0003 crimp head , for cable and coupling connectors					SF-Z0013	1605681	1
	"F" marking						

Crimping tools for turned contacts, P150 series

The SF-Z0025 manual crimping pliers are used for turned Ø 1.6 mm crimp contacts of the P150 series connectors. The electrically operated SL-Z0007 crimping tool is available for crimping the Ø 10 mm contacts comfortably.

The crimping stamps for processing the Ø 10 mm contacts are used in pairs in each case. The stamps are adapted to the connection cross-sections and labelled.



SL-Z0007

Crimping tools for turned contacts Ø 10 mm



SF-Z0025

Manual crimping pliers with digital display, 0.08 mm² to 6.0 mm²

Description	Connection cross section [mm² / AWG]	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Electro-hydraulic crimping device incl. charger and rechargeable battery , for 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 / AWG 8	SL-Z0011	1613488	1			
Crimping stamp for crimping device SL-Z0007	16 / AWG 6	SL-Z0012	1613489	1			
Crimping stamp for crimping device SL-Z0007	25 / AWG 4	SL-Z0013	1613490	1			
Crimping stamp for crimping device SL-Z0007	35 / AWG 2	SL-Z0014	1613491	1			
Crimping stamp for crimping device SL-Z0007	50 / AWG 1	SL-Z0015	1613492	1			
Manual crimping pliers with digital display for turned crimp contacts	0,08 ... 6 / AWG 28-10				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 manual crimping pliers SF-Z0025 with digital display are also suitable for crimping turned crimp contacts ST / SF / SM.

Tools and accessories

For signal plug connectors and power connectors

Crimping tools with digital display for turned contacts P20, RF, P30, P70

Four-arbor crimping pliers with digital display are available as an alternative to the manual crimping pliers with positioner and eccentric setting.

The crimping pliers are suitable for crimping turned contacts with Ø 1 mm, Ø 2 mm and Ø 3.6 mm.



SF-Z0025
Manual crimping pliers with digital display,
0.08 mm² to 6.0 mm²



SF-Z0026
Manual crimping pliers with digital display,
6.0 mm² to 10.0 mm²

Description	Stranded wire cross section [mm² / AWG]
Manual crimping pliers with digital display for turned crimp contacts	0,08 ... 6 / AWG 28-10
Positioners for crimping the SF-6FS2000 / SF-6DP2000 contacts with a connection cross section of 1.5 mm²	
Manual crimping pliers with digital display for turned crimp contacts	6 ... 10 / AWG 10-8

Type	Order No.	Pcs. / Pkt.
SF-Z0025	1607452	1
SF-Z0042	1613666	1

Type	Order No.	Pcs. / Pkt.
SF-Z0026	1607454	1

Crimping machine for turned contacts P20, RF, P30, P70

The pneumatic table crimping device is available as an alternative to the SF-Z0025 manual crimping pliers. The crimping device offers convenient operation and saves a lot of time, especially when crimping bigger quantities and/or bigger connection cross-sections.

Compressed air with 6 bar operating pressure is required to operate the table-top version. The crimping procedure is activated easily using a manual or foot switch.

The table crimping device uses the same crimp head (locator) as the manual crimping pliers. The adjustable parameters for turned crimp contacts of the SF and SM series for connection cross-sections of 0.14 mm² to 6 mm² are also applicable. Detailed operating instructions containing the crimp settings are enclosed with the packaging.



SF-Z0043

Pneumatic table crimping device

Description	Stranded wire cross section [mm ² / AWG]	Type	Order No.	Pcs. / Pkt.
Pneumatic table crimping device for turned SF / SM crimp contacts	0,14 ... 6 / AWG 26-10	SF-Z0043	1614571	1

Tools and accessories

For signal plug connectors and power connectors

Contact removal tools, square mounting flanges for P20, RF, P70

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 plug connectors. In this way, the product range is easily expanded with connectors as panel feed-throughs.



..-Z0001

Removal tool for snap-in contact carriers



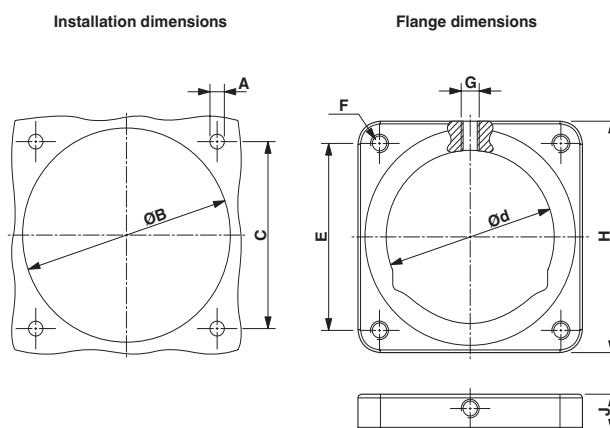
..-Z000.

Square mounting flange for cable/coupling plug connector for wall mounting

Description	Wall mounting	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Removal tool for contact carriers snapped-in from the front							
	for P20 series for RF series	ST-Z0001 RF-Z0001	1607770 1607904	1 1			
Square mounting flange, metal, with O ring seal, for P20 cable and coupling connector for wall mounting					ST-Z0002 ST-Z0003	1607771 1607772	5 5
4 x Ø 2.7 mm 4 x M3							
Square mounting flange, metal, without seal, for P20 cable and coupling connector for wall mounting					ST-Z0004 ST-Z0005	1607773 1607775	5 5
4 x Ø 2.7 mm 4 x M3							
Square mounting flange, metal, without seal, for RF cable and coupling plug connector for wall mounting					RF-Z0003	1607905	5
4 x M3							
Square mounting flange, metal, with O ring seal, for P70 cable and coupling connector for wall mounting					SM-Z0003	1607935	5
4 x Ø 4.3 mm							
Square mounting flange, metal, without seal, for P70 cable and coupling plug connector for wall mounting					SM-Z0004	1607937	5
4 x Ø 4.3 mm							

Type	Installation dimensions			Flange dimensions					
	A	B	C	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

Note:
Plastic mounting flanges can be supplied on request for insulating wall mounting.



Special wrench for P20, RF, P30, P70, P150 series

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.



SF-Z002.

Torque screw driver for M23 connectors with knurled nuts



..-Z00..

Special screw key for screwing the adapter

Description	Wrench size [mm]	Type	Order No.	Pcs. / Pkt.	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/coupling plug connectors for screwing the adapter							
	for P20, SW 19 series				ST-Z0012	1613667	1
	for RF, SW 24 series				RF-Z0007	1614347	1
	for P70, SW 41 series				SM-Z0012	1614349	1
	for P150, SW 55 series				SL-Z0016	1614348	1

Special screw keys are available for the screw connection of the adapter cap for cable plug connectors and coupling connectors of the RF, P20, P70 and P150 series.

The tool can be used with conventional torque spanners in order to tighten the adapter cap with the specified torque.

Tools and accessories

For signal plug connectors and power connectors

Dust protection caps, plastic

A range of protective caps is available for signal and power plug connectors.

These prevent penetration of dust and humidity to unmated connectors.

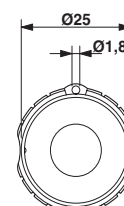
Plastic protective caps enable IP40 degree of protection when locked.



..-Z....

Plastic dust protection caps

Description	Degree of protection when locked	Type	Order No.	Pcs. / Pkt.
Plastic dust protection cap , for signal plug connector/power connector, with M17 outer thread				
	IP40	ST-Z0006	1607776	25
Plastic dust protection cap , for signal plug connector/power connector, with M17 knurled nut (SPEEDCON and standard)				
	IP40	ST-Z0007	1607777	25
Plastic dust protection cap with eye for signal/power connector, series RF , P30 , with M23 outer thread				
	IP40	SF-Z0019	1607449	25
Plastic dust protection cap , for signal plug connector/power connector, with M23 knurled nut				
	IP40	RC-Z2058	1604223	25
Plastic dust protection cap , for signal plug connector/power connector, with M23 outer thread				
	IP40	RC-Z2059	1604225	25
Plastic dust protection cap, anti-static , black, for signal plug connector/power connector, with M23 knurled nut				
	IP40	RC-Z2468	1611796	25
Plastic dust protection cap, anti-static , black, for signal plug connector/power connector, RF series , P30 , with M23 outer thread				
	IP40	RC-Z2469	1611797	25
Plastic dust protection cap for bayonet cable plug connector, TU series				
	IP40	TU-Z2003	1606023	25
Plastic dust protection cap for bayonet coupling and appliance plug connector, TU series				
	IP40	TU-Z2002	1607778	25
Plastic dust protection cap for signal plug connector, HC series , with M27 outer thread				
	IP40	HC-Z2292	1590492	25
Plastic dust protection cap for signal plug connector, HC series , with M27 knurled nut				
	IP40	HC-Z2293	1590493	25
Plastic dust protection cap for power connector, P70 series , with M40 outer thread				
	IP40	SM-Z0001	1605866	10
Plastic dust protection cap for power connector, P150 series , with M58 outer thread				
	IP40	SL-Z0005	1607926	1



SF-Z0019, eye for fixing rope

Dust protection caps, metal

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

The wire is fixed to the housing panel and prevents the metal protective caps from being lost.



..-Z2...

Metal dust protection caps

Description	Degree of protection when locked	Type	Order No.	Pcs. / Pkt.
Metal dust protection cap , for power connectors series P30 , with M23 outer thread	IP67	SC-Z2319	1605456	10
Metal dust protection cap with steel wire , for power connectors series P30 , with M23 outer thread	IP67	SC-Z2320	1605457	10
Metal dust protection cap with steel wire , for power connectors series P30 , with M23 knurled nuts	IP67	SC-Z2322	1605459	10
Metal dust protection cap , for signal plug connector, with M23 outer thread	IP67	RC-Z2104	1604260	10
Metal dust protection cap with steel wire , for signal plug connector, with M23 outer thread	IP67	RC-Z2068	1604236	10
Metal dust protection cap with steel wire , for signal plug connector, with M23 knurled nut	IP67	RC-Z2062	1604228	10
Metal dust protection cap with steel wire , for bayonet coupling and appliance plug connector, TU series	IP67	TU-Z2317	1606025	10
Metal dust protection cap with steel wire , for signal plug connector HC series , with M27 outer thread	IP67	HC-Z2291	1590491	10
Metal dust protection cap with steel wire , for signal plug connector HC series , with M27 knurled nut	IP67	HC-Z2329	1613829	10

Ordering examples and type descriptions

Ordering examples

The modular circular connectors are delivered as individual components. Flexible combination options for housings, cable glands and contact inserts allow easy storage.

M23 modular signal plug connectors - RC series

Ordering example: 17-pos. conductor connection (cable plug connector and coupling connector)



Description	Type	Order No.	Number
Cable plug connector housing, unshielded, with Pg11	RC-00000001200	1592539	1
Solder contact insert incl. contacts, 17-pos. pin	RC-17P1N120000	1601193	1
Cable gland for unshielded applications, PG 11, IP 68	RC-Z2196	1604338	2
Coupling connector housing, unshielded, with Pg11	RC-00000007200	1592621	1
Solder contact insert incl. contacts, 17-pos. socket	RC-17S1N120000	1601799	1

M23 modular signal plug connectors - RC series

Ordering example: 17-pos. appliance plug connector



Description	Type	Order No.	Number
Appliance plug connector housing, straight, front mounting	RC-00000002200	1592574	1
Solder contact carrier incl. contacts, 17-pos. socket	RC-17S1N120000	1601799	1

Modular signal plug connectors - RC series

Ordering example: 6-pos. crimp contact carrier and crimp contacts separate



Description	Type	Order No.	Number
Crimp contact carrier, pin, 6-pos., contact insert numbering, standard	RC-06P1N8A0000	1593412	1
Crimp contacts, pin, turned Ø 2.0 mm, crimp range of 1.0 - 1.5 mm ² / AWG 18-16	RC-5CP2000	1603513	6

Plug connectors are fully assembled upon delivery and the respective crimp contacts must be ordered separately. These are delivered along with the connectors in separate packing.

M23 power connectors - P30 series

Ordering example: 8-pos. (4+3+PE) cable plug connector with additional cable gland



Description	Type	Order No.	Number
Power cable plug connector, 8-pos. (4+3+PE), with additional M20 x 1.5 thread for ext. cable gland, universal cable seal Ø 7.5 ... 14 mm	SF-7ES1N8AR4DU	1605621	1
Crimp contacts turned, socket Ø 2.0 mm (power contacts and PE contact), crimp range of 0.25 ... 1.0 mm² / AWG 24-18	SF-7PS2000	1605636	4
Crimp contacts turned, socket Ø 1.0 mm (signal contacts), crimp range of 0.08 ... 0.2 mm² / AWG 28-24	SF-6CS2000	1605562	4
M20 x 1.5 cable gland, IP 68, for conductor diameter of 9 ... 13 mm	RC-Z2417	1607019	1

M23 power connectors - P30 series

Ordering example: 8-pos. (4+3+PE), appliance plug connector, angled, fixed



Description	Type	Order No.	Number
Power appliance plug connector, angled, fixed, 8-pos. (4+3+PE)	SF-7EP1N8AAF00	1607046	1
Crimp contacts turned, pin Ø 2.0 mm (power contacts and PE contact), crimp range of 4 mm² / AWG 12	SF-7MP2000	1605626	4
Crimp contacts turned, pin Ø 1.0 mm (signal contacts), crimp range of 0.5-1.0 mm² / AWG 20-18	SF-6AP2000	1605554	4

M23 signal plug connector - RF series

Ordering example: 12-pos. cable plug connector for the transmission of feedback signals



Description	Type	Order No.	Number
Signal cable plug connector, 12-pos., N coding, direction of rotation standard, universal cable seal Ø 3-13.2 mm	RF-12S1N8A80DU	1607276	1
Crimp contacts turned Socket Ø 1.0 mm, crimp range of 0.08-0.2 mm²	SF-6CS2000	1605562	12

Ordering examples and type descriptions

Modular signal plug connectors - PLUSCON circular

Bayonet housing TU series

Type description

TU 00 00 0 00 8U DU

Signal plug connectors

TU Bayonet

Number of positions

00 Free,
see contact insert

Contact type/direction of rotation

00 Free,
see contact insert

Coding

0 Free,
see contact insert

Contact connection

00 Free,
see contact insert

Housing type

41 Appliance plug connectors, rear mounting,
4 x M3, flat gasket

53 Appliance plug connectors, rear mounting,
4 x Ø 3.2 mm, radial O ring

8U Cable plug connectors, shielded

9U Coupling connectors, shielded

TU Cable plug connectors, angled,
shielded

WB Appliance plug connectors, front mounting,
4 x Ø 3.2 mm, axial O ring

Cable clamping/shield accessories

00 No cable clamping

DU Universal seal/shield

M23 housing RC, UC series

Type description

RC 00 00 0 00 80 FZ

Signal plug connectors

RC M23 standard types

NC Types with plastic cap

RM Types with metric
connecting threads

UC Types with universal
shield connection,
extended cable entry range
up to Ø 14.5 mm

Number of positions

00 Free,
see contact insert

Contact type/direction of rotation

00 Free,
see contact insert

Coding

0 Free,
see contact insert

Contact connection

00 Free,
see contact insert

Housing type

see housing type table (on the right)

Cable clamping/shield accessories

00 No cable clamping

DU Universal seal/shield

FZ Depending on the cable, to be ordered separately

Type description

80

Housing type

11 Cable plug connectors, unshielded, connecting thread
Pg9 / M16

12 Cable plug connectors, unshielded, connecting thread
Pg11

13 Cable plug connectors, unshielded, connecting thread
Pg13.5 / M20

22 Appliance plug connectors, front mounting, 4 x Ø 2.7 mm,
flat gasket

42 Appliance plug connectors, rear mounting, 4 x M2.5,
radial O ring

52 Appliance plug connectors, rear mounting, 4 x Ø 2.7 mm,
radial O ring

61 Appliance plug connectors, front mounting, central
fastening thread M20

71 Coupling connectors, unshielded, connecting thread
Pg9 / M16

72 Coupling connectors, unshielded, connecting thread
Pg11

73 Coupling connectors, unshielded, connecting thread
Pg13.5 / M20

80 Cable plug connectors, shielded

90 Coupling connectors, shielded

AD Appliance plug connectors, front mounting,
angled rotatable, 4 x Ø 3.2 mm,
axial O ring

B2 Coupling connectors, shielded (feed-through),
front mounting with mounting flange 4 x Ø 2.7 mm

C0 Coupling connectors, shielded (feed-through),
rear mounting with mounting flange 4 x Ø M2.5

E0 Appliance plug connectors, rear mounting,
reinforced flange, 4 x M3,
radial O ring

F3 Coupling connectors, shielded,
connecting thread Pg13.5

FN Coupling connectors, shielded,
connecting thread Pg16

H0 Appliance plug connectors, rear mounting,
central fixing nut, axial O ring

K0 Cable plug connectors, shielded,
plastic sheath

KS Cable plug connectors, shielded,
plastic cap

M0 Coupling connectors, shielded,
plastic sheath

N3 Cable plug connectors, angled, shielded, connecting
thread Pg13.5

NN Cable plug connectors, angled, shielded, connecting
thread Pg16

Q0 Coupling connectors, shielded (feed-through),
rear mounting with mounting flange,
central fixing nut

Q3 Coupling connectors, shielded (feed-through),
rear mounting with central fixing nut,
connecting thread Pg13.5

QN Coupling connectors, shielded (feed-through),
rear mounting with central fixing nut,
connecting thread Pg16

R3 Cable plug connectors, shielded,
connecting thread Pg13.5

RN Cable plug connectors, shielded,
connecting thread Pg16

T0 Cable plug connectors, angled,
shielded

WQ Appliance plug connectors, front mounting,
reinforced flange, 4 x Ø 2.7 mm
radial O ring

Z1 Cable plug connectors, angled, unshielded,
connecting thread Pg9 / M16

Z2 Cable plug connectors, angled, unshielded,
connecting thread Pg11

Z3 Cable plug connectors, angled, unshielded,
connecting thread Pg13.5 / M20

Crimp contact carrier without contacts RC, UC, TU series

Type description

RC 06 P1 N 8 00 00
A

Modular signal plug connectors

RC Standard types

Number of positions

06 6 16 16

07 7 17 17

09 9 (8+1) 1R 19 (16+2+PE)

12 12

Contact type/direction of rotation

P1 Pin/standard

P2 Pin/opposite

S1 Socket/standard

S2 Socket/opposite

Coding

N N coding 0°

Contact connection

RA Crimp for 16+2+PE (without contacts)

8 A Crimp (without contacts)

Housing type

00 Free, see housing

Cable seal

00 Free, see housing

Contact inserts incl. contacts RC, UC, TU series

Type description

RC 06 P1 N 12 00 00

Modular signal plug connectors

RC Standard types

Number of positions

06 6 16 16

07 7 17 17

63 9 (6+3) 19 19 (16+3)

09 9 (8+1) 1R 19 (16+2+PE)

12 12

Contact type/direction of rotation

P1 Pin/standard

P2 Pin/opposite

S1 Socket/standard

S2 Socket/opposite

Coding

N N coding 0°

Contact connection

12 Solder (incl. contacts)

22 Solder-in, solder pin length A (incl. contacts)

32 Solder-in, solder pin length B (incl. contacts)

8B, 8C, 8D, 8E, 8K, 8L crimp (incl. contacts)

A2 Solder-in, solder pin length C (incl. contacts)

C2 Solder-in, solder pin length D (incl. contacts)

RM Crimp for 16+2+PE (incl. contacts)

S2 Screw (incl. contacts)

Housing type

00 Free, see housing

Cable seal

00 Free, see housing

Ordering examples and type descriptions

Signal plug connectors - PLUSCON circular

M16 signal plug connectors PV series

Type description

	PV-	08	P1	N	12	61	00
Signal plug connectors							
PV	M16 appliance plug connectors						
Number of positions							
08	8	12	12				
10	10	14	14				
Contact type/direction of rotation							
P1	Pin/standard						
Coding							
N	N coding 0°						
Contact connection							
12	Solder (incl. contacts)						
22	Solder-in (incl. contacts)						
Housing type							
61	Appliance plug connectors, front mounting						
HG	Appliance plug connectors, rear mounting						
Cable seal							
00	No cable seal						

M17 signal plug connectors ST series

Type description

	ST	17	P1	N	8A	80	02	S
Signal plug connectors								
ST	M17							
Number of positions								
17	17-pos.							
Contact type/direction of rotation								
P1	Pin/standard							
S1	Socket/standard							
Coding								
N	N coding 0°							
Contact connection								
8A	Crimp (without contacts)							
Housing type								
61	Appliance plug connectors, front mounting, central fastening M18 x 0.75							
80	Cable plug connectors, shielded							
90	Coupling connectors, shielded							
AC	Appliance plug connectors, front mounting, angled, rotatable, flange dimensions 25 x 25 mm							
AD	Appliance plug connectors, front mounting, angled, rotatable, flange dimensions 21.6 x 21.6 mm							
H1	Appliance plug connectors, rear mounting, central fastening M20 x 1.5							
W4	Appliance plug connectors, front mounting, contact insert for snapping in							
WQ	Appliance plug connectors front mounting							
Cable seal								
00	No cable seal							
02 - 04	Fixed gaskets							
Locking thread								
S	SPEEDCON, not occupied, M17 standard locking							

M23 signal plug connectors RF series

Type description

	RF	12	S1	N	8A	80	02
Signal plug connectors							
RF	M23						
Number of positions							
12	12-pos.			17 17-pos.			
16	16-pos.						
Contact type/direction of rotation							
P1	Pin/standard						
P2	Pin/opposite						
S1	Socket/standard						
S2	Socket/opposite						
Coding							
N	N coding 0°						
S	S coding 20°/N coding 0°						
Contact connection							
8A	Crimp (without contacts)						
Housing type							
80	Cable plug connectors, shielded						
90	Coupling connectors, shielded						
8V	Cable plug connectors, shielded, high-grade steel						
9V	Coupling connectors, shielded, high-grade steel						
A2	Appliance plug connectors, front mounting, angled, fixed, 2-part housing						
AC	Appliance plug connectors, front mounting, angled rotatable, flange dimensions 28 x 28 mm						
AD	Appliance plug connectors, front mounting, angled rotatable, flange dimensions 26 x 26 mm						
AF	Appliance plug connectors, front mounting, angled fixed, flange dimensions 26 x 26 mm						
AK	Appliance plug connectors, front mounting, angled fixed, flange dimensions 28 x 28 mm						
W4	Appliance plug connectors, front mounting, 4 x Ø 2.7 mm, contact carrier for snapping in						
WA	Appliance plug connectors, front mounting, 4 x Ø 3.2 mm						
WB	Appliance plug connectors, front mounting, 4 x Ø 3.2 mm, contact carrier for snapping in						
WQ	Appliance plug connectors, front mounting, 4 x Ø 2.7 mm						
WU	Appliance plug connectors, front mounting, high-grade steel, 4 x Ø 2.7 mm						
WV	Appliance plug connectors, front mounting, high-grade steel, 4 x Ø 3.2 mm						
Cable seal							
00	No cable seal						
DU	Universal gasket						
02 - 04	Fixed gaskets						

M27 signal plug connectors HC series

Type description

	HC	26	S1	N	12	80	DU
Signal plug connectors							
HC	M27						
Number of positions							
26	26-pos. AR 25+PE						
28	28-pos.						
Contact type/direction of rotation							
P1	Pin/standard						
S1	Socket/standard						
Coding							
N	N coding 0°						
Contact connection							
12	Solder (incl. contacts)						
22	Solder-in, solder pin length A (incl. contacts)						
32	Solder-in, solder pin length B (incl. contacts)						
T2	Solder-in, solder pin length C (incl. contacts)						
RA	Crimp (without contacts)						
Housing type							
23	Appliance plug connectors, front mounting, 4 x Ø 3.2 mm, flat gasket						
43	Appliance plug connectors, rear mounting, 4 x M3, radial O ring						
63	Appliance plug connectors, front mounting, Pg 21 central fastening, axial O ring						
80	Cable plug connectors, shielded						
90	Coupling connectors, shielded						
WA	Appliance plug connectors, front mounting, 4 x Ø 3.2 mm, radial O ring						
Cable seal							
00	No cable seal						
DU	Universal gasket						

Ordering examples and type descriptions

Power connectors - PLUSCON circular

M17 power connectors P20 series

Type description

	ST	3E	P1	N	8A	80	02	S
Powerconnectors								
ST	P20 up to 20 A							
Number of positions								
3E	3+PE							
5E	5+PE							
6E	6+PE							
7E	7+PE							
8E	5+3+PE							
Contact type/direction of rotation								
P1	Pin/standard							
S1	Socket/standard							
Coding								
N	N coding 0°							
Contact connection								
8A	Crimp (without contacts)							
Housing type								
61	Appliance plug connectors, front mounting, central fastening M18 x 0.75							
80	Cable plug connectors, shielded							
90	Coupling connectors, shielded							
AC	Appliance plug connectors, front mounting, angled, rotatable, flange dimensions 25 x 25 mm							
AD	Appliance plug connectors, front mounting, angled, rotatable, flange dimensions 21.6 x 21.6 mm							
H1	Appliance plug connectors, rear mounting, central fastening M20 x 1.5							
W4	Appliance plug connectors, front mounting, contact insert for snapping in							
WQ	Appliance plug connectors front mounting							
Cable seal								
00	No cable seal							
02 - 04	Fixed gaskets							
Locking thread								
S	SPEEDCON, not occupied, M17 standard locking							

M23 power connectors P30 series

Type description

	SF	5E	S1	N	8A	80	DU
Powerconnectors							
SF	P30 up to 30 A						
Number of positions							
5E	5+PE						
7E	4+3+PE						
Contact type/direction of rotation							
P1	Pin/standard						
S1	Socket/standard						
Coding							
N	N coding 0°						
Contact connection							
8A	Crimp (without contacts)						
Housing type							
80	Cable plug connectors, shielded, short						
90	Coupling connectors, shielded, short						
8L	Cable plug connectors, shielded, long						
9L	Coupling connectors, shielded, long						
A2	Appliance plug connectors, front mounting, angled, fixed, 2-part housing						
AC	Appliance plug connectors, front mounting, angled rotatable, flange dimensions 28 x 28 mm						
AD	Appliance plug connectors, front mounting, angled rotatable, flange dimensions 26 x 26 mm						
AF	Appliance plug connectors, front mounting, angled fixed, flange dimensions 26 x 26 mm						
AK	Appliance plug connectors, front mounting, angled fixed, flange dimensions 28 x 28 mm						
C0	Panel feed-through, short, rear mounting, mounting flange 4 x M3						
CL	Panel feed-through, long, rear mounting, mounting flange 4 x M3						
F4	Coupling connector, shielded, for additional cable gland M20 x 1.5						
R4	Cable plug connector, shielded, for additional cable gland M20 x 1.5						
S0	Panel feed-through, pin inside - socket outside						
WA	Appliance plug connectors front mounting						
WK	Appliance plug connectors, front mounting, low design						
Y0	Appliance plug connector with knurled nut, front mounting						
YW	Appliance plug connector with knurled nut, front mounting, angled						
Cable seal							
00	No cable seal						
DU, DL	Universal gasket						
A1 - A3	Fixed gaskets						
B1 - B4	Fixed gaskets						

M40 power connectors P70 series

Type description

	SM	5E	S1	N	8A	8L	32	S
Powerconnectors								
SM	P70 up to 70 A							
Number of positions								
5E	2+3+PE							
7E	4+3+PE							
Contact type/direction of rotation								
P1	Pin/standard							
S1	Socket/standard							
PW	Pin version for appliance plug connectors/standard							
Coding								
N	N coding							
Contact connection								
8A	Crimp (without contacts)							
Housing type								
80	Cable plug connectors, shielded, short							
90	Coupling connectors, shielded, short							
8L	Cable plug connectors, shielded, with SPEEDCON knurl							
8S	Cable plug connectors, shielded, long							
9L	Coupling connectors, shielded, with SPEEDCON external thread							
A2	Appliance plug connectors, front mounting, angled fixed, 2-part. housing							
AD	Appliance plug connectors, front mounting, angled, rotatable							
C0	Panel feed-through, short, rear mounting, mounting flange 4 x M4							
CL	Panel feed-through long, rear mounting, mounting flange 4 x M4							
Q0	Panel feed-through, short, rear mounting, central fastening							
QL	Panel feed-through, long, rear mounting, central fastening							
S0	Panel feed-through, pin inside - socket outside, mounting flange 4 x Ø 4.2 mm							
SA	Panel feed-through, pin inside - socket outside, mounting flange 4 x M4							
WT	Appliance plug connectors front mounting							
Y0	Appliance plug connectors with knurled nut, front mounting							
YW	Appliance plug connectors with knurled nut, front mounting, angled							
Cable seal								
00	No cable seal							
02 - 34	Fixed gaskets							
Locking thread								
S	SPEEDCON							

M58 power connectors P150 series

Type description

	SL	5E	S1	N	8 A	80	01
Powerconnectors							
SL	P150 up to 150 A						
Number of positions							
5E	2+3+PE						
7E	4+3+PE						
Contact type/direction of rotation							
P1	Pin/standard						
S1	Socket/standard						
PW	Pin version for appliance plug connectors/standard						
Coding							
N	N coding						
Contact connection							
8 A	Crimp (without contacts)						
Housing type							
80	Cable plug connectors, shielded						
90	Coupling connectors, shielded						
WA	Appliance plug connectors front mounting						
Cable seal							
00	No cable seal						
01 - 02	Fixed gaskets						

Legal notes:

- The technical data specified in this catalog refers exclusively to connectors
- All specifications are non-binding product descriptions
- No liability for typing/printing errors. Subject to change without notice
- Samples for presentation are not tested with reference to the technical properties specified in the catalog

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1607634	ST-17P1N8AW400S	49	1607743	ST-7EP1N8A8A000S	94	1607898	RF-17S2N8AAF00	63	1613548	ST-5EP1N8A6100S	95
1607636	ST-17P1N8AWQ00S	49	1607744	ST-7EP1N8A8A000S	94	1607899	RF-17S2N8AAK00	63	1613549	ST-5EP1N8AH100S	95
1607639	ST-17S1N8A8002	47	1607746	ST-7EP1N8AW400S	93	1607900	RF-17S2N8AW400	61	1613550	ST-5ES1N8A6100S	95
1607640	ST-17S1N8A8002S	46	1607747	ST-7EP1N8AWQ00S	93	1607901	RF-17S2N8AWA00	60	1613551	ST-5ES1N8AH100S	95
1607641	ST-17S1N8A8003	47	1607752	ST-7ES1N8A8002	91	1607902	RF-17S2N8AWB00	61	1613553	ST-6EP1N8A6100S	95
1607642	ST-17S1N8A8003S	46	1607753	ST-7ES1N8A8002S	90	1607903	RF-17S2N8AWQ00	60	1613556	ST-6EP1N8A8002	91
1607643	ST-17S1N8A8004	47	1607755	ST-7ES1N8A8003	91	1607904	RF-Z0001	152	1613557	ST-6EP1N8A8002S	90
1607644	ST-17S1N8A8004S	46	1607756	ST-7ES1N8A8003S	90	1607905	RF-Z0003	152	1613558	ST-6EP1N8A8003	91
1607646	ST-17S1N8A9002S	48	1607758	ST-7ES1N8A8004	91	1607906	SF-5EP1N8AA200	106	1613559	ST-6EP1N8A8003S	90
1607647	ST-17S1N8A9003S	48	1607759	ST-7ES1N8A8004S	90	1607908	SF-7EP1N8AA200	106	1613560	ST-6EP1N8A8004	91
1607649	ST-17S1N8A9004S	48	1607763	ST-7ES1N8A9002S	92	1607909	SL-16KP010	137	1613561	ST-6EP1N8A8004S	90
1607650	ST-17S1N8A8A000S	50	1607764	ST-7ES1N8A9003S	92	1607911	SL-1CKP010	137	1613563	ST-6EP1N8A9002S	92
1607652	ST-17S1N8A8A000S	50	1607765	ST-7ES1N8A9004S	92	1607912	SL-1CKP020	137	1613564	ST-6EP1N8A9003S	92
1607653	ST-17S1N8AW400S	49	1607766	ST-7ES1N8A8A000S	94	1607913	SL-1CKP030	137	1613565	ST-6EP1N8A9004S	92
1607654	ST-17S1N8AWQ00S	49	1607767	ST-7ES1N8A8A000S	94	1607914	SL-1CKP040	137	1613566	ST-6EP1N8A8A000S	94
1607655	ST-20KP010	97	1607768	ST-7ES1N8AW400S	93	1607915	SL-1CKP050	137	1613567	ST-6EP1N8A8A000S	94
1607656	ST-20KP020	97	1607769	ST-7ES1N8AWQ00S	93	1607916	SL-1CKS010	137	1613568	ST-6EP1N8AH100S	95
1607657	ST-20KS010	97	1607770	ST-Z0001	152	1607917	SL-1CKS020	137	1613569	ST-6EP1N8AW400S	93
1607658	ST-20KS020	97	1607771	ST-Z0002	152	1607918	SL-1CKS030	137	1613570	ST-6EP1N8AWQ00S	93
1607661	ST-3EP1N8A8002	91	1607772	ST-Z0003	152	1607919	SL-1CKS040	137	1613572	ST-6ES1N8A6100S	95
1607662	ST-3EP1N8A8002S	90	1607773	ST-Z0004	152	1607920	SL-1CKS050	137	1613575	ST-6ES1N8A8002	91
1607663	ST-3EP1N8A8003	91	1607775	ST-Z0005	152	1607926	SL-Z0005	154	1613576	ST-6ES1N8A8002S	90
1607665	ST-3EP1N8A8003S	90	1607776	ST-Z0006	154	1607927	SM-5EPWN8AA000S	120	1613577	ST-6ES1N8A8003	91
1607666	ST-3EP1N8A8004	91	1607777	ST-Z0007	154	1607931	SM-7EPWN8AA000S	120	1613578	ST-6ES1N8A8003S	90
1607667	ST-3EP1N8A8004S	90	1607778	TU-Z2002	154	1607935	SM-Z0003	152	1613579	ST-6ES1N8A8004	91
1607669	ST-3EP1N8A9002S	92	1607802	RF-12P1N8A8A00	64	1607937	SM-Z0004	152	1613580	ST-6ES1N8A8004S	90
1607670	ST-3EP1N8A9003S	92	1607803	RF-12P1N8AW400	61	1607938	ST-Z0010	145	1613582	ST-6ES1N8A9002S	92
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1607672	ST-3EP1N8A8A000S	94	1607806	RF-12P1N8AWQ00	60	1607956	SL-16KS010	137	1613584	ST-6ES1N8A9004S	92
1607673	ST-3EP1N8A8A000S	94	1607808	RF-12P1S8AA000	64	1608319	HC-ARIP1N8A80DU	74	1613585	ST-6ES1N8A8A000S	94
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1607675	ST-3EP1N8AWQ00S	93	1607810	RF-12P1S8AWB00	61	1609977	PV-08P1N22HG00	41	1613587	ST-6ES1N8AH100S	95
1607679	ST-3ES1N8A8002	91	1607811	RF-12P1S8AWQ00	60	1609978	PV-10P1N22HG00	41	1613588	ST-6ES1N8AW400S	93
1607681	ST-3ES1N8A8002S	90	1607814	RF-12P2N8A8A00	64	1609979	PV-12P1N22HG00	41	1613589	ST-6ES1N8AWQ00S	93
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1607685	ST-3ES1N8A8004S	90	1607820	RF-12P2S8A8A00	64	1612993	UC-Z2343	142	1613593	ST-7ES1N8AH100S	95
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CONINVERS - M16 to M58 circular connectors for industrial applications

CONINVERS GmbH, an independent company, is the specialist for M16 to M58 circular connectors within the PHOENIX CONTACT group of companies.

We develop and manufacture circular connectors for the cabling of industrial systems, electrical drives, motor connections, manufacturing machines and machine tools at our headquarters in Herrenberg, located to the south of Stuttgart.



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