

Round Connectors/Elbow Adaptors and Connectors to DIN 43651



More than safety.

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EUCHNER

EUCHNER – Your Partner for Industrial Electrical Equipment and Industrial Electronics

Since its foundation in 1940, EUCHNER has been designing and developing switchgear for controlling diverse motion sequences in the field of machine construction and terotechnology. An innovative development in 1952 was the world's first multiple position switch.

The EUCHNER product range includes everything from electromechanical and electronic equipment through to systems and services.

Reliability, precision and quality are tested continually and maintained at a high level by computer-controlled development, test and inspection systems for hardware and software.

EUCHNER products are sold by competent partners all over the world. Close and optimum contact with our customers is ensured by a large network of independent trading companies, EUCHNER sales offices and our in-house product specialists.

We therefore can solve specific problems on-site at any time. An overview of our Technical Sales Offices in Germany and abroad is given on the last page.



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Bad Überkingen

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Round design, metal-encapsulated

The connectors of this series possess a robust, dull chrome-plated brass housing. With its elastically mounted and gold-plated contacts, the connector

system is also suitable for low currents and voltages. A wide range of different pole configurations offer a wide variety of applications from simple power

supply leads to multi-core control leads. The proven solder connection technique permits wire preparation without complicated tools.

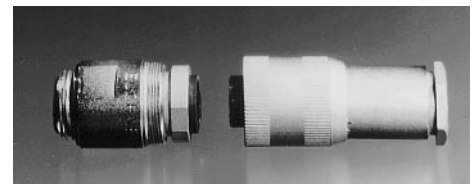
Two type series with three different combination possibilities

- socket + plug (SD + BS)
- plug + socket (SS + BD)
- coupling socket + plug (KD + BS)

with

- 4 to 19 poles
- conduit thread PG 9 to PG 21

are available.



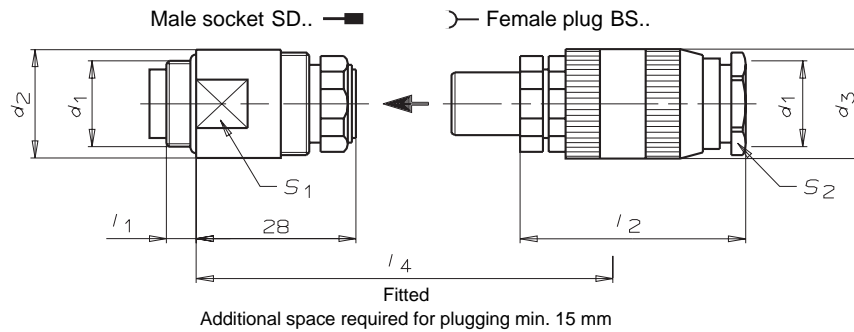
According to DIN VDE 0627, connectors are devices that must not be connected or disconnected under power.

Connectors without PE contact must not be operated with voltages larger than 50 V.

Technical Data

Parameter	Value		Unit
	with PE	without PE	
Version			
Housing material	CuZn, dull chrome-plated		
Environmental protection acc. to IEC 529 / EN60529 in connected and secured state	IP 67		
Ambient temperature	- 20 to + 80		°C
Contact material	CuZn, nickel-plated, 1 µm hard gold-plated		
Type of connection	Solder connection		
Max. connection cross-section	1		mm ²
Volume resistance	≤ 5		mΩ
Rated impuls withstand voltage U_{imp}	4		kV
Rated voltage	250	50	V
Rated current	6		A
Derating curve			

Round design, metal-encapsulated
 Type series SD + BS
 Number of poles: 4 / 7 / 8 / 12 / 19

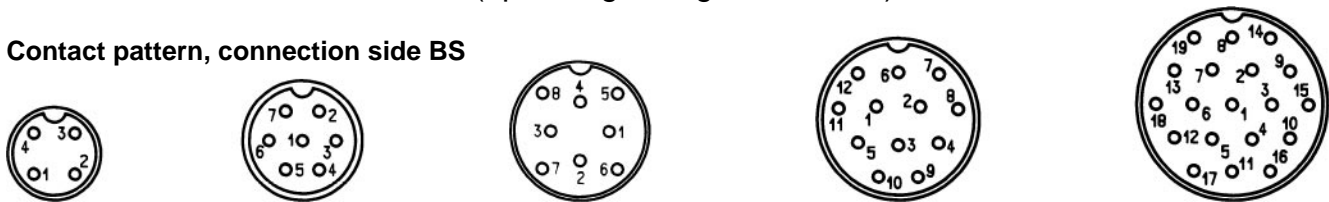


Dimensions

Number of poles	d ₁	∅ d ₂	∅ d ₃	l ₁	l ₂	l ₄	s ₁	s ₂	cable ∅
4	PG 9	19	19.5	5	44	72	a/f 17	a/f 16	6-8
7	PG 11	23	23.5	5	46	74	a/f 21	a/f 19	8-10
8	PG 13.5	25	25.5	5	52	80	a/f 22	a/f 22	10-12
12	PG 16	29	29.5	5	54	82	a/f 27	a/f 24	12-14
19	PG 21	36	38.5	7	68	96	a/f 32	a/f 32	14-18

Version without PE conductor (operating voltage max. 50 V)

Contact pattern, connection side BS



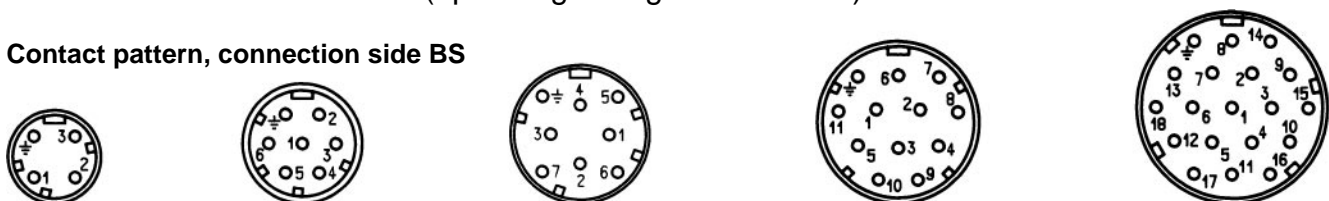
Ordering / Type Table

Male socket			
Number of poles	Type	Order No.	Mass [kg]
4	SD 4K	002 771	0.03
7	SD 7K	002 774	0.04
8	SD 8K	002 777	0.05
12	SD 12K	002 695	0.08
19	SD 19K	002 783	0.1

Female plug			
Number of poles	Type	Order No.	Mass [kg]
4	BS 4K	002 772	0.04
7	BS 7K	002 775	0.07
8	BS 8K	002 778	0.08
12	BS 12K	002 781	0.1
19	BS 19K	002 784	0.2

Version with PE conductor (operating voltage max. 250 V)

Contact pattern, connection side BS

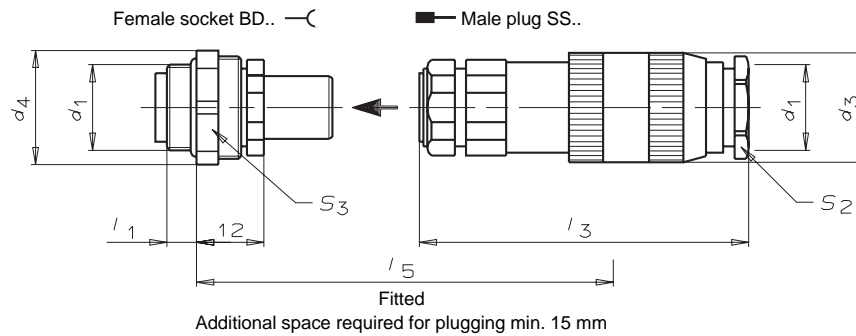


Ordering / Type Table

Male socket			
Number of poles	Type	Order No.	Mass [kg]
4	SD 4	002 756	0.03
7	SD 7	002 759	0.04
8	SD 8	002 765	0.05
12	SD 12	002 762	0.08
19	SD 19	002 768	0.1

Female plug			
Number of poles	Type	Order No.	Mass [kg]
4	BS 4	002 757	0.04
7	BS 7	002 760	0.07
8	BS 8	002 766	0.08
12	BS 12	002 763	0.1
19	BS 19	002 769	0.2

Round design, metal-encapsulated
Type series BD + SS
Number of poles: 4 / 7 / 8 / 12 / 19

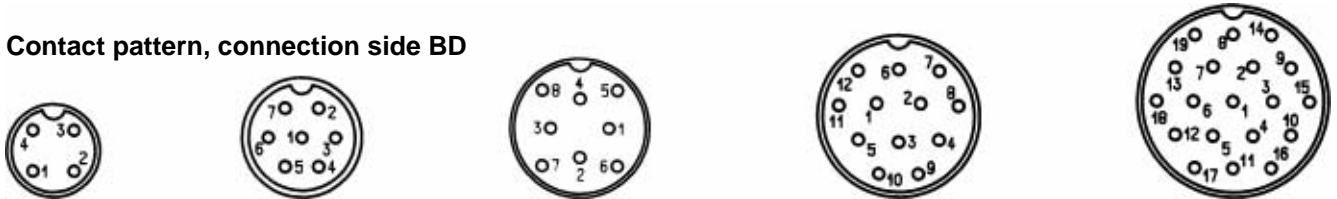


Dimensions

Number of poles	d ₁	∅ d ₃	∅ d ₄	l ₁	l ₃	l ₅	s ₂	s ₃	cable ∅
4	PG 9	19.5	20	5	62	74	a/f 16	a/f 19	6-8
7	PG 11	23.5	24	5	64	76	a/f 19	a/f 22	8-10
8	PG 13.5	25.5	26.5	5	64	76	a/f 22	a/f 24	10-12
12	PG 16	29.5	33	5	72	84	a/f 24	a/f 30	12-14
19	PG 21	38.5	40	7	84	96	a/f 32	a/f 36	14-18

Version without PE conductor (operating voltage max. 50 V)

Contact pattern, connection side BD



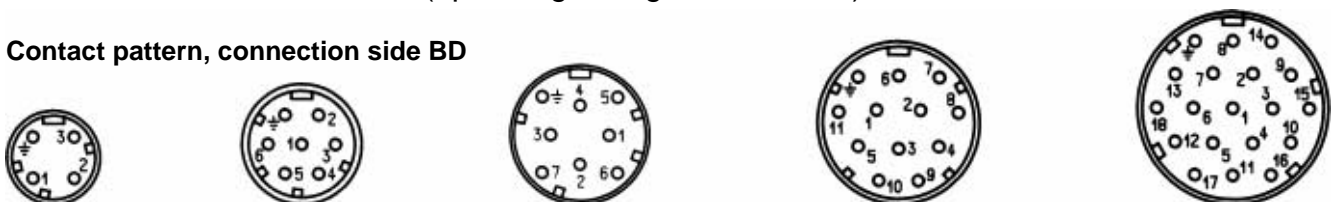
Ordering / Type Table

Female socket			
Number of poles	Type	Order No.	Mass [kg]
4	BD 4K	002 801	0.02
7	BD 7K	002 804	0.03
8	BD 8K	002 807	0.03
12	BD 12K	002 810	0.04
19	BD 19K	002 813	0.08

Male plug			
Number of poles	Type	Order No.	Mass [kg]
4	SS 4K	002 802	0.04
7	SS 7K	002 805	0.07
8	SS 8K	002 808	0.08
12	SS 12K	002 811	0.1
19	SS 19K	002 814	0.2

Version with PE conductor (operating voltage max. 250 V)

Contact pattern, connection side BD



Ordering / Type Table

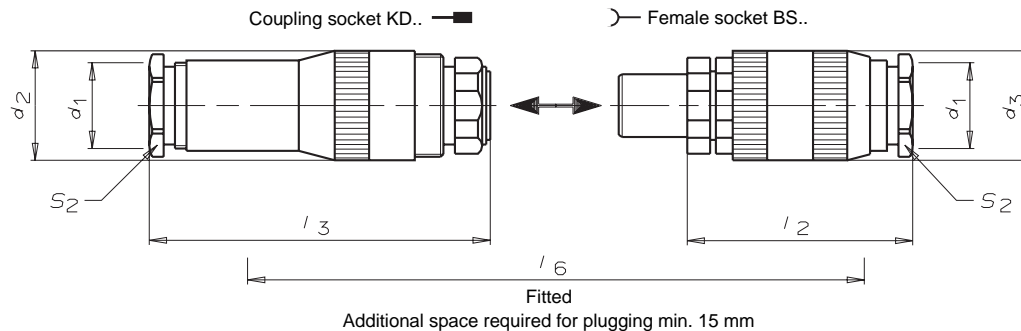
Female socket			
Number of poles	Type	Order No.	Mass [kg]
4	BD 4	002 786	0.02
7	BD 7	002 789	0.03
8	BD 8	002 792	0.03
12	BD 12	002 795	0.04
19	BD 19	002 798	0.08

Male plug			
Number of poles	Type	Order No.	Mass [kg]
4	SS 4	002 787	0.04
7	SS 7	002 790	0.07
8	SS 8	002 793	0.08
12	SS 12	002 796	0.1
19	SS 19	002 799	0.2

Round design, coupling, metal-encapsulated

Type series KD + BS

Number of poles: 4 / 7 / 8 / 12 / 19

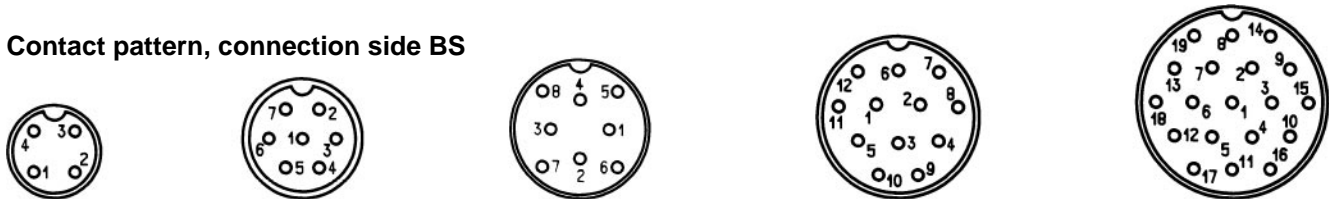


Dimensions

Number of poles	d ₁	∅ d ₂	∅ d ₃	l ₂	l ₃	l ₆	s ₂	cable ∅
4	PG 9	19	19.5	44	62	106	a/f 16	6-8
7	PG 11	23	23.5	46	64	110	a/f 19	8-10
8	PG 13.5	25	25.5	52	64	116	a/f 22	10-12
12	PG 16	29	29.5	54	72	126	a/f 24	12-14
19	PG 21	36	38.5	68	84	152	a/f 32	14-18

Version without PE conductor (operating voltage max. 50 V)

Contact pattern, connection side BS



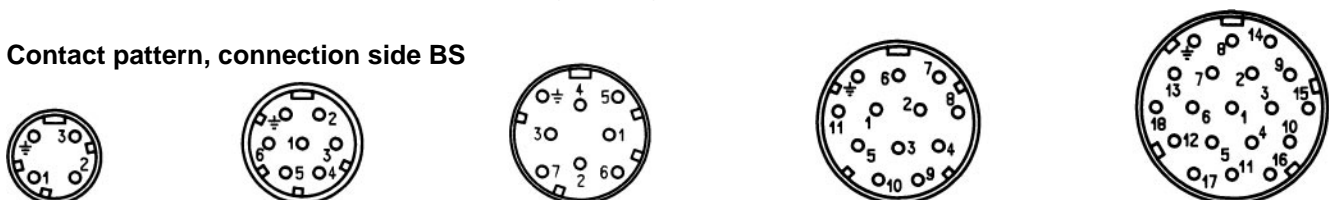
Ordering / Type Table

Coupling socket			
Number of poles	Type	Order No.	Mass [kg]
4	KD 4K	002 826	0.04
7	KD 7K	002 828	0.07
8	KD 8K	002 830	0.08
12	KD 12K	002 832	0.1
19	KD 19K	002 834	0.2

Female socket			
Number of poles	Type	Order No.	Mass [kg]
4	BS 4K	002 772	0.04
7	BS 7K	002 775	0.07
8	BS 8K	002 778	0.08
12	BS 12K	002 781	0.1
19	BS 19K	002 784	0.2

Version with PE conductor (operating voltage max. 250 V)

Contact pattern, connection side BS



Ordering / Type Table

Coupling socket			
Number of poles	Type	Order No.	Mass [kg]
4	KD 4	002 816	0.04
7	KD 7	002 818	0.07
8	KD 8	002 820	0.08
12	KD 12	002 822	0.1
19	KD 19	002 834	0.2

Female socket			
Number of poles	Type	Order No.	Mass [kg]
4	BS 4	002 757	0.04
7	BS 7	002 760	0.07
8	BS 8	002 766	0.08
12	BS 12	002 763	0.1
19	BS 19	002 769	0.2

Design in accordance with DIN 43651, plastic-encapsulated
Type series SR6, SR11
Number of poles: 6 + PE, 11+PE

The connectors of this series feature a robust, high-strength glass fiber-reinforced PET-housing.

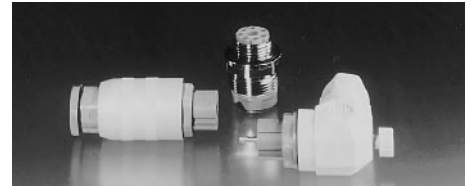
The crimped contacts used permit fast and trouble-free connection with utmost operational reliability.

The connectors can be coded in the case of type series SR6. Only male and female plugs that belong together can be connected.

Two different combination possibilities

- socket + straight plug
- socket + angled plug

are available.



According to DIN VDE 0627, connectors are devices that must not be connected or disconnected under power.

Technical Data

Parameter	Value		Unit
	SR6	SR11	
Type series	SR6	SR11	
Number of poles	6+PE	11+PE	
Housing material	PET, non-inflammable as per UL standard 94-VO		
Environmental protection acc. to IEC 529 / EN 60529 in connected and secured state	IP 65		
Ambient temperature	- 40 to + 90		°C
Contact material	CuZn, silver-plated		
Type of connection	Crimped connection		
Max. connection cross-section	0.5 to 1.5	0.5 ¹⁾	mm ²
Wire outer diameter	7 to 9	8 to 10 ¹⁾	mm
Volume resistance	≤ 5		mΩ
Rated impuls withstand voltage U _{imp}	4	1.5	kV
Rated voltage	250	50	V
Rated current	10	5	A
Derating curve			

¹⁾ All contacts used in female plug. Max. cable outer diameter 10 mm.

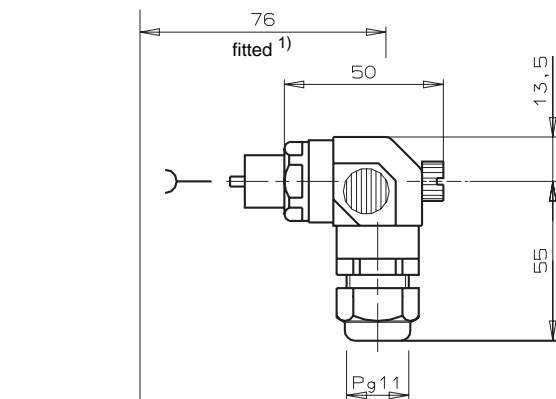
Design in accordance with DIN 43651, plastic-encapsulated

Type series SR6

Number of poles: 6 + PE

Angled connector type SR6WF

Order No. 024 999



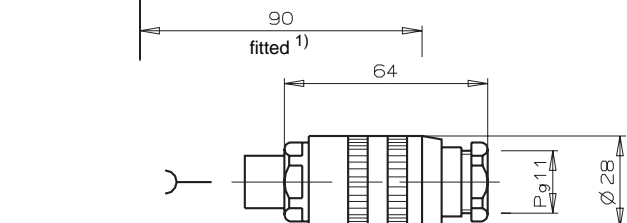
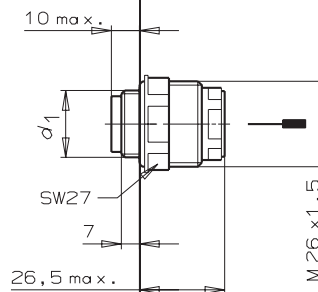
Male socket type SR6AM

for male crimp contacts SRM

Ordering / Type Table

Contact carrier	Type	d ₁	Order No.
Convertible ²⁾	SR6AM1	PG 13.5	013 172
Fixed	SR6AM2	PG 13.5	013 173
Fixed	SR6AM3	PG 11	013 174
Fixed	SR6AM4	PG 16	013 175

²⁾ The contact carrier can rotate to 7 different outlet directions.



¹⁾ Min. 15 mm additional space required for plugging

Straight connector type SR6EF

Order No. 013 176

Plug pattern as per DIN 43651

Contact pattern, female plug connection side



Accessories

Coding shells type SR6K

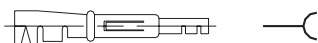
Order No. 013 178

Female crimp contacts type SRF

for connectors SR6WF and SR6EF

Wire cross section 0.5 to 1.5 mm²

Order No. 071 260

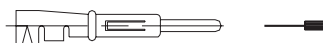


Male crimp contacts type SRM

for pin socket SR6AM

Wire cross section 0.5 to 1.5 mm²

Order No. 071 261

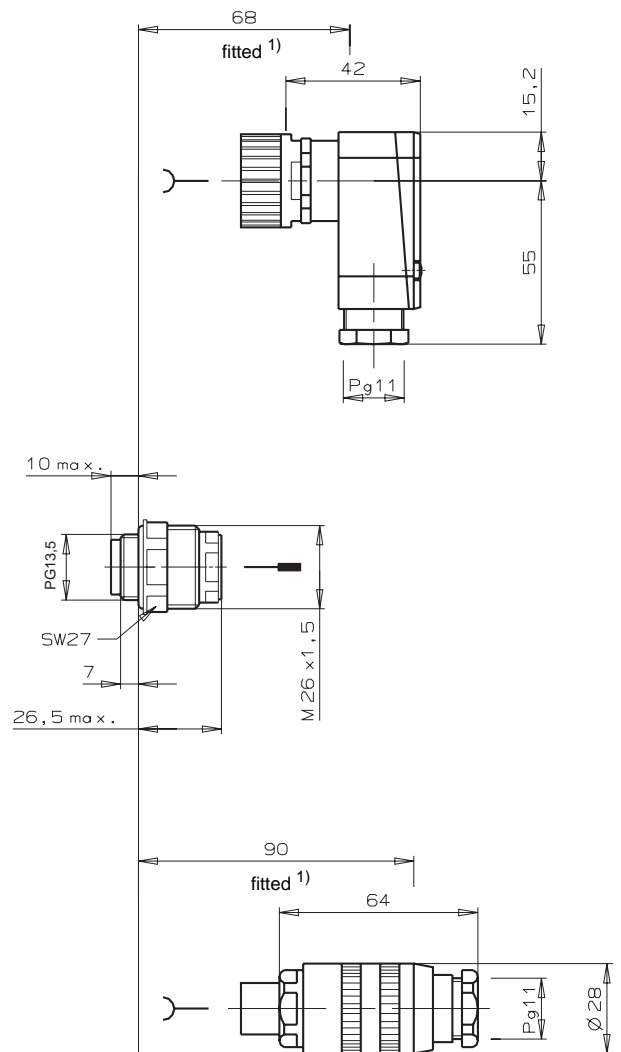


Design in accordance with DIN 43651, plastic-encapsulated
 Type series SR11
 Number of poles: 11 + PE

Angled connector type SR11WF
 Order No. 054 773

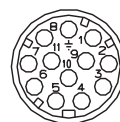
Male socket type SR11AM
 for male crimp contacts SRM
 Order No. 073 561

Straight connector type SR11EF
 Order No. 070 859



¹⁾ Min. 15 mm additional space required for plugging

Plug pattern as per DIN 43651
 Contact pattern, female plug connection side

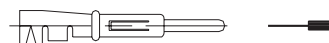


Accessories

Female crimp contacts type SRF
 for connectors SR11WF and SR11EF
 Wire cross section 0.5 to 1.5 mm²
 Order No. 071 260



Male crimp contacts type SRM
 for pin socket SR11AM
 Wire cross section 0.5 to 1.5 mm²
 Order No. 071 261

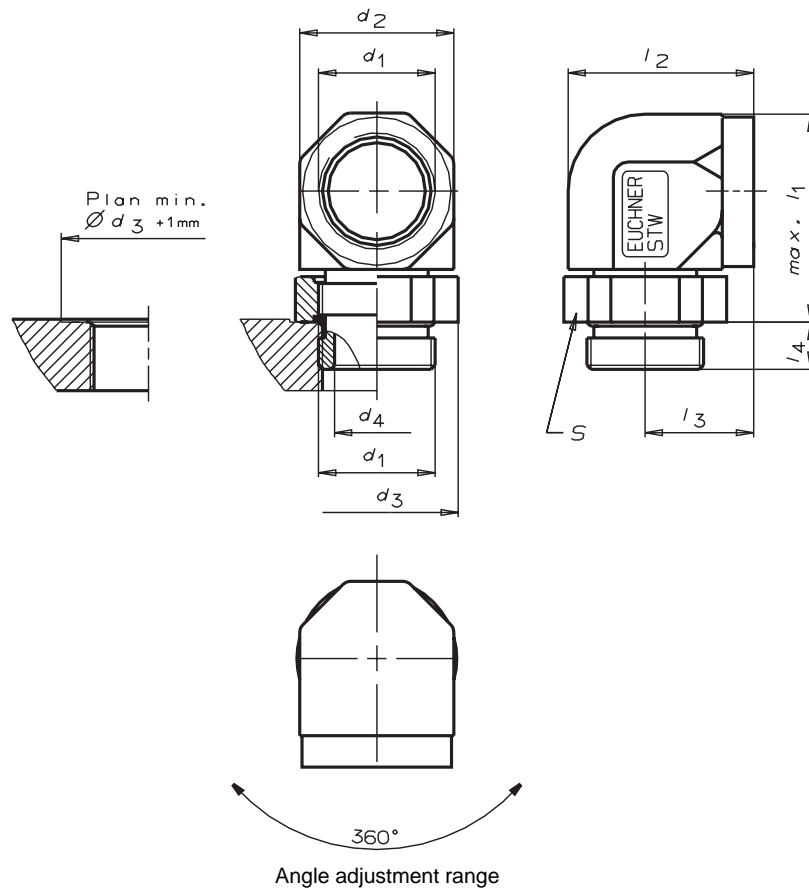


Metal elbows Type series STW Size: PG 9 to PG 21

These elbows allow the EUCHNER connectors to be mounted at 90°. The arrangement of the seal, in combination with a special lock

nut, ensures environmental protection according to IP 67 in any desired position. The elbows are also suitable for electrical installation

applications and in equipment or cabinet construction with flexible wiring or armored conduits.



Dimensions

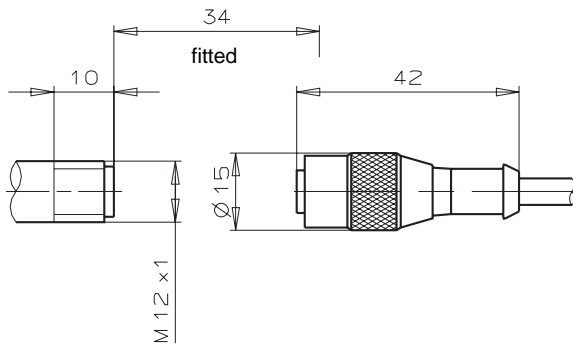
Material	d_1	$\varnothing d_2$	$\varnothing d_3$	$\varnothing d_4$	l_1	l_2	l_3	l_4	s
CuZn	PG 9	20	20	10	31	25	15	5	a/f 19
CuZn	PG 11	23	23	13	35	28	16,5	5	a/f 22
Al	PG 13.5	27	28.5	14.5	39	33	19	5.5	a/f 27
CuZn	PG 16	28	28	17	42	34	20	5.5	a/f 27
CuZn	PG 21	33	33	23	48	40	23.5	7	a/f 32

Ordering / Type Table

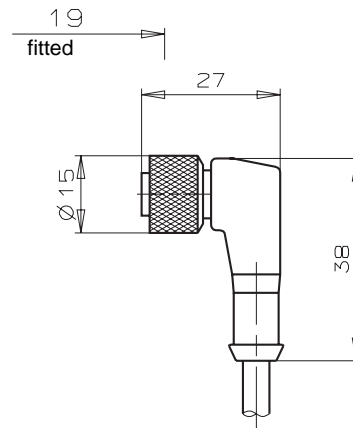
Elbows			
Size	Type	Order No.	Mass [kg]
PG9	STW 9	013 206	0.07
PG11	STW 11	013 202	0.08
PG13.5	STW 13	013 203	0.08
PG16	STW 16	013 204	0.12
PG21	STW 21	013 205	0.18

Round connectors with screw plug and molded PUR cable
Type series SGLF + SWLF
Number of poles: 4

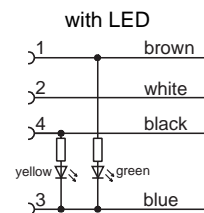
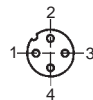
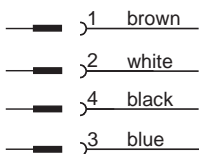
Type SGLF



Type SWLF



Connection pattern



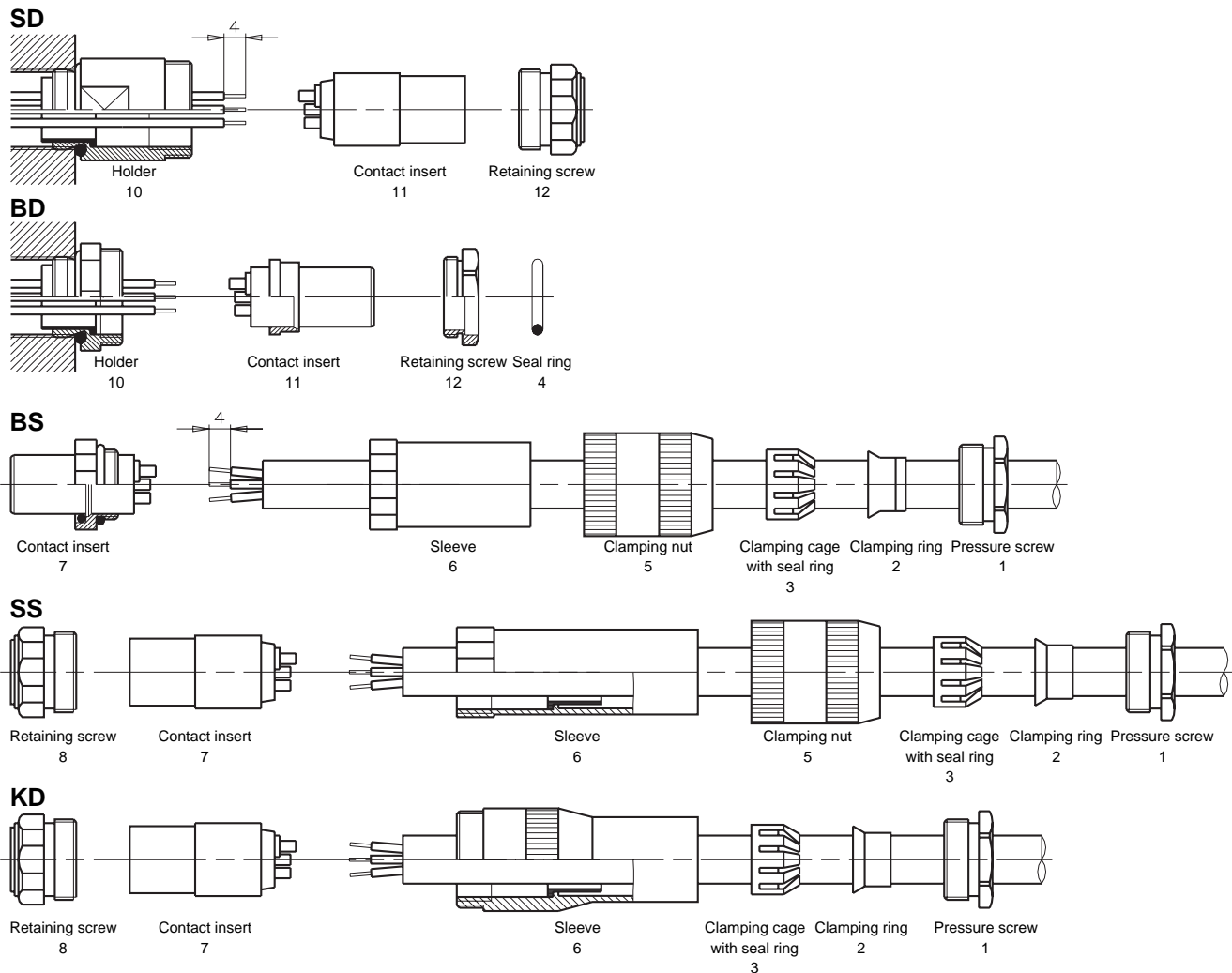
Technical Data

Parameter	Value		Unit
	without LED	with LED	
Version			
Number of poles	4		
Housing material	TPU, UL-Standard 94-V2		
Grip body	TPU, UL-Standard 94-V0		
Contact carrier	TPU, UL-Standard 94-V0		
Environmental protection acc. to IEC 529 / EN 60529 in connected and secured state	IP 67		
Ambient temperature	- 25 to + 90		°C
Contact material	CuZn, nickel-plated, 0.3 µm gold-plated		
Type of connection	PUR lead, molded		
Connection cross-section	4 x 0.25		mm ²
Volume resistance	≤ 5		mΩ
Test voltage (for 60 s)	2		kV rms
Rated voltage	250	10 - 30	V
Rated current	4	3	A
Mass	0.2		kg

Ordering / Type Table

Version	Type designation	Order No.
Straight plug, without LED, lead 5 m PUR	SGLF4-5000P	035 613
Angled plug, without LED, lead 5 m PUR	SWLF4-5000P	035 618
Angled plug, with 2 LEDs, lead 5 m PUR	SWLF4P-5000P	041 091

Assembly instructions for metal-encapsulated round connectors



Assembly of male socket SD and female socket BD on device

- Screw holder 10 in PG thread of the device. Sealing is performed with an O-ring
- Strip the leads to a max. of 4 mm.
- Solder wires to the corresponding terminals of contact insert 11 (30-W soldering iron, rosin-core solder. Soldering time approx. 5 seconds). Start with the inside terminals.
- Route free wire ends through holder 10 to the device connection. Fit contact insert 11 in holder 10 and secure with retaining screw 12.
- For version BD slide seal ring 4 over contact insert 11 into retaining screw 12.

Assembly of female plug BS, male plug SS and coupling socket KD

- Cut back wire sleeve as short as possible. Strip the lead to a max. of 4 mm
- Slide parts 1, 2, 3, 4, 5 and 6 over the wire in the order specified.
- Solder wires to the corresponding terminals of contact insert 7 (30-W soldering iron, rosin-core solder. Soldering time approx. 5 seconds). Start with the inside terminals.
- Push wire sleeve as far as possible towards the solder connections.
- For BS:** Screw sleeve 6 on contact insert 7. Slide clamping nut 5 over sleeve 6.
For SS: Fit contact insert 7 in sleeve 6 and secure with retaining screw 8. Slide clamping nut 5 over sleeve 6.
For KD: Fit contact insert in sleeve 6 and secure with retaining screw 8.
- Test: So that the tightness of the compression gland can be achieved, the wire sleeve must now reach into the connection space.
- Slide clamping cage with seal 3, thrust ring 3 and clamping ring 2 over the wire into sleeve 6 and secure with pressure screw 1.

Proper preparation for EMC

Assembly instructions for preparation of shielded wires in the case of metal-enclosed round connectors

The more demanding and complex electronic devices become, the higher are the demands with regard to electromagnetic compatibility (EMC). Only devices free of electromagnetic interference ensure trouble-free operation.

An important precondition for an optimum EMC solution can be fulfilled by connectors at the input and output of the devices. Shielded connectors that reduce the effects of radiated interference and eliminate conducted interference are the ideal solution. Round connectors with symmetrical pin patterns and all-metal housings are designed for this task. The shielding function can be guaranteed in an optimum manner.



In the case of preparation with shielded wires, the environmental protection is reduced to IP 65.

