Single-ended and double-ended cordsets

WHAT IS A SINGLE-ENDED CORDSET?

A single-ended cordset is used to connect a sensor or switch with a plug connection to a terminal block.
For this purpose, the cable is provided with a socket on one side and for assembly on the other side.

WHAT IS A DOUBLE-ENDED CORDSET?

The double-ended cordset is used to build up the sensor chain in the BERNSTEIN Smart Safety System. It is used to connect the T-adapters to each other.
For this purpose, the cable is equipped with a socket on one side and a connector on the other.

❶ Double-ended cordsets 8-pole on page 156

❷ Double-ended cordsets 4-pole on page 153

❸ Single-ended cordsets 4-pole on page 152

❹ T-adapter ATS on page 157

❺ T-adapter ATD on page 157

❻ Termination plug AEP on page 157

Figure 1

3-pole single-ended cordsets

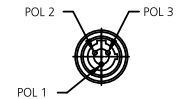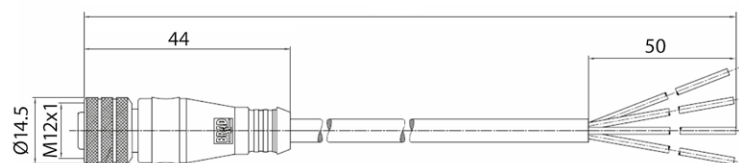| No.	Article number	Designation	Cable length	Connector/ alignment	Connector 1	Connector 2	Special feature	Use for following products
Product selection								
	3251103234	AN-KAB.SHS 5M AC GERADE	5 m	Straight	F		AC/ DC BG Type	SHS
	3251103236	AN-KAB.SHS 5M AC WINKEL	5 m	Angle	F		AC/ DC BG Type	

Technical data

Material core insulation/sheath	PVC (UL)
Material overmoulding/contact carrier	PUR (UL)
Material union nut	Nickel-plated brass; with screw lock
Rated voltage max.	230 V AC
Current carrying capacity max.	3 A
Temperature range	when cable is fix mounted –25°C to + 90°C when cable can be moved +5°C to + 85°C
Cable construction	3 x 0.5 mm^2
Number of poles	3
Protection class in assembled state	IP67

Ø14.5 M12x1

40.5 25
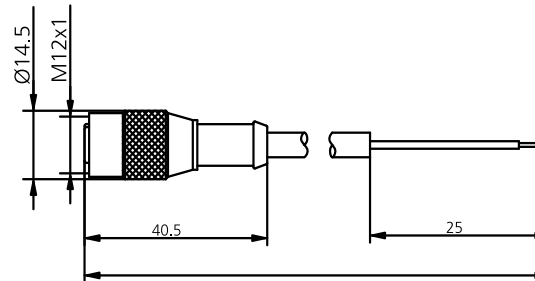
Contact assignment AC/DC versions

1 = green-yellow
2 = black
3 = blue

POL 2 POL 3
POL 1

Pol Nr. Leiter
1 GNYE (Grün/Gelb)
2 BK (Schwarz)
3 BU (Blau)

4-pole single-ended cordsets

Product selection									
No.	Article number	Designation	Cable length	Connector/ alignment	Connector 1	Connector 2	Special feature	Technical data	Use for following products
3	**3251004310**	AN-KAB.SHS3 4P 2M GERADE	2 m	Straight	F		M12 BG Type	1	
3	**3251004311**	AN-KAB.SHS3 4P 5M GERADE	5 m	Straight	F		M12 BG Type	1	
3	**3251004312**	AN-KAB.SHS3 4P 10M GERADE	10 m	Straight	F		M12 BG Type	1	
3	**3251004313**	AN-KAB.SHS3 4P 2M WINKEL	2 m	Angle	F		M12 BG Type	1	- Standard and safe position switches with 4-pin M12 connector
3	**3251004314**	AN-KAB.SHS3 4P 5M WINKEL	5 m	Angle	F		M12 BG Type	1	- MAK-53 M12
3	**3251004315**	AN-KAB.SHS3 4P 10M WINKEL	10 m	Angle	F		M12 BG Type	1	- Connection for Smart Safety (pos. 3 of figure 1 on page 150)
3	**6075689090**	SFW-M12C4/AW-0,5PU	0.5 m	Straight	F			2	
3	**6075689091**	SFW-M12C4/AW-2PU	2 m	Straight	F			2	
3	**6075689188**	SFW-M12C4/AW-10PU	10 m	Straight	F			2	
3	**6075689189**	SFW-M12C4/AW-20PU	20 m	Straight	F			2	

Technical data 1

Material core insulation/sheath	PVC heat resistant UL 1731/UL 2517, black
Material overmoulding/contact carrier	APEX 7500-85/Elastollan R3000
Material union nut	Metal, CuZn, nickel-plated
Rated voltage	250 V
Current carrying capacity per pin (at 40° C)	4 A
Temperature range	when cable is fix mounted –25°C to + 105°C when cable can be moved –5°C to + 105°C
Number of poles	4
Protection class in assembled state	IP68

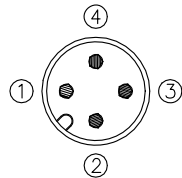## Single-ended cordset

4-pole double-ended cordsets

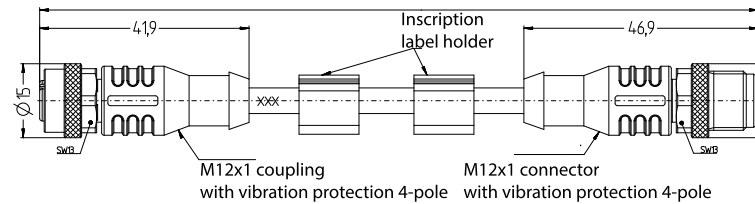| No.	Article number	Designation	Cable length	Connector/ alignment	Connector 1	Connector 2	Special feature	Technical data	Use for following products
Product selection									
2	**6075689087**	S1W-M12C4/AW-2PU	2 m	Straight	M	F		2	
2	**6075689088**	S1W-M12C4/AW-5PU	5 m	Straight	M	F		2	Connection of T-adapters ATS
2	**6075689089**	S1W-M12C4/AW-10PU	10 m	Straight	M	F		2	

Technical data 2

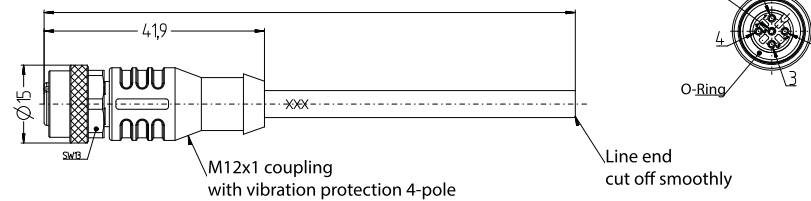|	
Material core insulation/sheath	PP/PUR
Material overmoulding/contact carrier	Plastic, TPU, BK
Material union nut	Metal, CuZn, nickel-plated
Rated voltage	250 V
Current carrying capacity per pin (at 40° C)	4 A
Temperature range	when cable is fix mounted −40°C to + 90°C when cable can be moved −30°C to + 90°C
Number of poles	4
Protection class in assembled state	IP68

Contact assignment
AC/DC versions

1 = brown
2 = white
3 = blue
4 = black

Double-ended cordset

Inscription label holder

M12x1 coupling with vibration protection 4-pole

M12x1 connector with vibration protection 4-pole

Single-ended cordset

M12x1 coupling with vibration protection 4-pole

Line end cut off smoothly

O-Ring

153

ACCESSORIES

5-pole single-ended cordsets

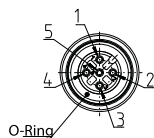| Product selection								
No.	Article number	Designation	Cable length	Connector/alignment	Connector 1	Connector 2	Special feature	Use for following products
3	**6075689092**	SFW-M12B5/AW-2PU	2 m	Straight	F			- SRF-2
3	**6075689093**	SFW-M12B5/AW-5PU	5 m	Straight	F			- MAK 42 and 52 with M12
3	**6075689183**	SFW-M12B5/AW-10PU	10 m	Straight	F			- SLC with 5-pole M12 connection
3	**6075689184**	SFW-M12B5/AW-20PU	20 m	Straight	F			- Connection for Smart Safety (pos. 2 of figure 1 on page 150)

5-pole double-ended cordsets

Product selection								
No.	Article number	Designation	Cable length	Connector/alignment	Connector 1	Connector 2	Special feature	Use for following products
-	**6075689003**	S1W-M12B5/AW-0,3PU	0,3 m	Straight	M	F		Smart T-adapter

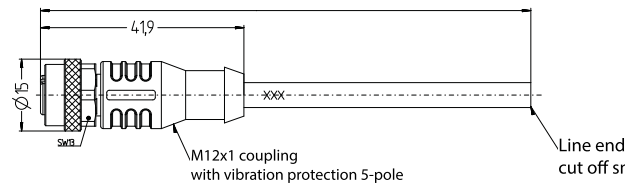## Technical data

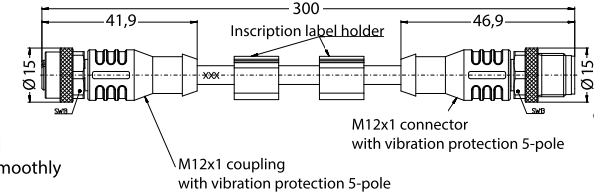|	
Material core insulation/sheath	PP/PUR
Material overmoulding/contact carrier	Plastic, TPU, BK
Material union nut	Metal, CuZn, nickel-plated
Rated voltage	60 V
Current carrying capacity per pin (at 40° C)	4 A
Temperature range	when cable is fix mounted −40°C to + 90°C when cable can be moved −30°C to + 90°C
Cable construction	5 x 0.34 mm²
Number of poles	5
Protection class in assembled state	IP68

Contact assignment
AC/DC versions

1 = brown
2 = white
3 = blue
4 = black
5 = grey

O-Ring

Single-ended cordset

41,9

Ø 15

SW13

M12x1 coupling
with vibration protection 5-pole

Line end
cut off smoothly

Double-ended cordset

300

41,9

46,9

Ø 15

Ø 15

Inscription label holder

M12x1 coupling
with vibration protection 5-pole

M12x1 connector
with vibration protection 5-pole

6-pole single-ended cordsets

Product selection								
No.	Article number	Designation	Cable length	Connector/alignment	Connector 1	Connector 2	Special feature	Use for following products
	3251006291	AN-KAB.SHS3 2M GERADE	2 m	Straight	F		M12 BG Type	
	3251006292	AN-KAB.SHS3 5M GERADE	5 m	Straight	F		M12 BG Type	
	3251006293	AN-KAB.SHS3 10M GERADE	10 m	Straight	F		M12 BG Type	
								SHS3
	3251006294	AN-KAB.SHS3 2M WINKEL	2 m	Angle	F		M12 BG Type	
	3251006295	AN-KAB.SHS3 5M WINKEL	5 m	Angle	F		M12 BG Type	
	3251006296	AN-KAB.SHS3 10M WINKEL	10 m	Angle	F		M12 BG Type	

Technical data

Material core insulation/sheath	PVC (Ø 5.6 mm)
Material overmoulding/contact carrier	PUR/Elastollan R3000
Material union nut	Gal. Zn
Rated voltage max.	250 V AC
Current carrying capacity max.	2.5 A (bei 70°C)
Temperature range	when cable is fix mounted –40°C to + 105°C when cable can be moved –5°C to + 105°C
Cable construction	6 x 0.34 mm^2
Number of poles	6
Protection class in assembled state	IP68
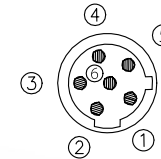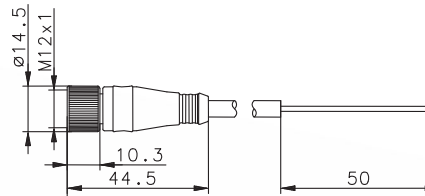
Contact assignment AC/DC versions

1 = white
2 = brown
3 = green
4 = yellow
5 = grey
6 = pink

ACCESSORIES

8-pole single-ended cordsets

Product selection								
No.	Article number	Designation	Cable length	Connector/alignment	Connector 1	Connector 2	Special feature	Use for following products
	6075689185	SFW-M12A8/BW-2PU	2 m	Straight	F			
	6075689186	SFW-M12A8/BW-5PU	5 m	Straight	F			SRF-4 and 5, SLC, SLK
	6075689187	SFW-M12A8/BW-10PU	10 m	Straight	F			

8-pole double-ended cordsets

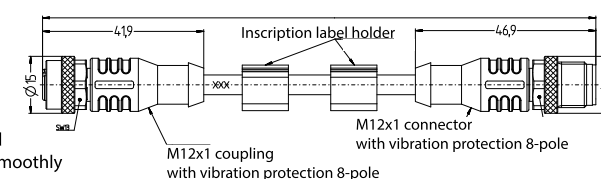| Product selection								
No.	Article number	Designation	Cable length	Connector/alignment	Connector 1	Connector 2	Special feature	Use for following products
1	6075689085	S1W-M12A8/BW-1PU	1 m	Straight	M	F		
1	6075689086	S1W-M12A8/BW-2PU	2 m	Straight	M	F		Extension between SRF-4/5 and T-adapter

Technical data

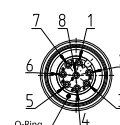|	
Material core insulation/sheath	PP/PUR
Material overmoulding/contact carrier	Plastic, TPU, BK
Material union nut	Metal, CuZn, nickel-plated
Rated voltage	30 V
Current carrying capacity per pin (at 40° C)	2 A
Temperature range	when cable is fix mounted −40°C to + 90°C when cable can be moved −30°C to + 90°C
Cable construction	8 x 0.25 mm²
Number of poles	8
Protection class in assembled state	IP68
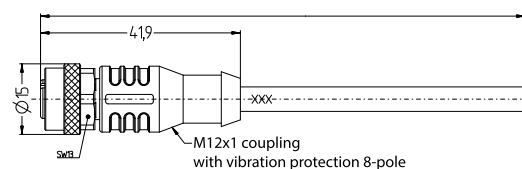
Single-ended cordset

M12x1 coupling with vibration protection 8-pole

Line end cut off smoothly

Contact assignment AC/DC versions

1 = white
2 = brown
3 = green
4 = yellow
5 = grey
6 = pink
7 = blue
8 = red

Double-ended cordset

Inscription label holder

M12x1 coupling with vibration protection 8-pole

M12x1 connector with vibration protection 8-pole

Further accessories

T-adapter for series connection of the sensors		
No.	**Article number**	**Designation**
4	**6075989082**	ATS-M12/4-M12/8
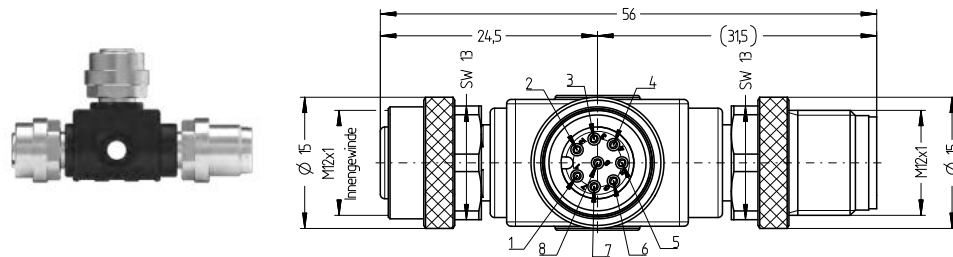
Termination plug M12		
No.	**Article number**	**Designation**
6	**6075689084**	AEP-M12/4

M12x1 Termination plug
with vibration protection 4-pole

Overmoulding
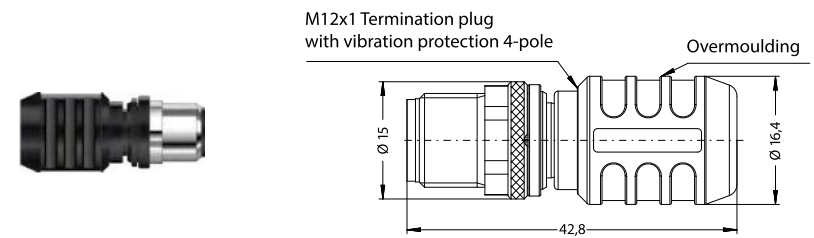
T-adapter for connection IO-Link and reset button		
No.	**Article number**	**Designation**
5	**6075989083**	ATD-M12/8-M12/4
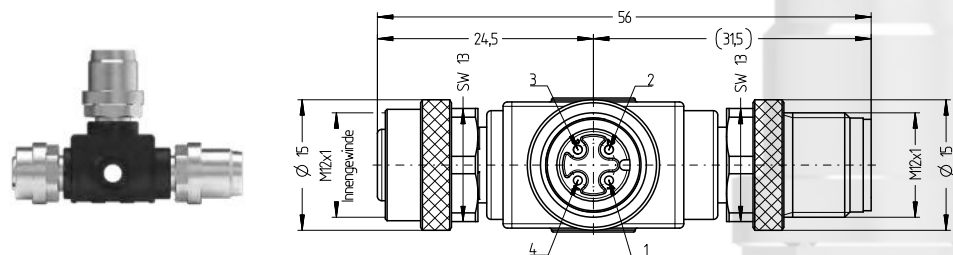
Fixing clip for T-adapter		
No.	**Article number**	**Designation**
	6075689127	AT-CLIP-M12
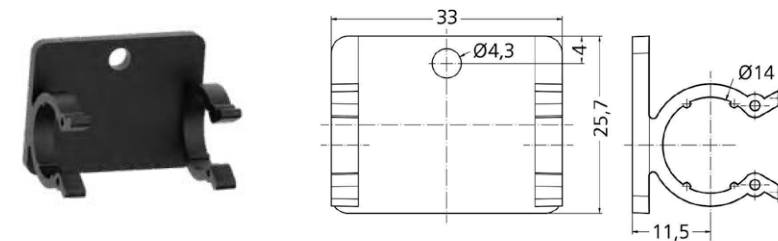
Accessories
Screw-in LED

MANY BENEFITS AT A GLANCE

- Suitable for all M20x1.5 threads
- Indication of guard locking, emergency stop status and much more
- Directly controllable via the contacts
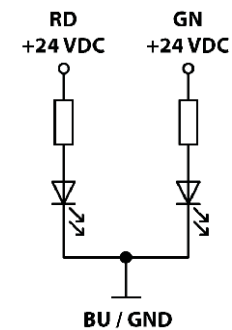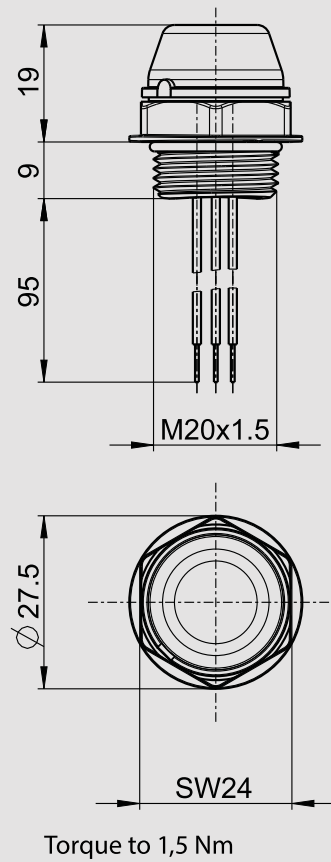- Supply voltage 24V DC

Technical data

Mechanical data		
Enclosure lower part		Plastic PC/ABS black
Enclosure upper part		Plastic Lexan, PC transparent
O ring		NBR (nitrile rubber)
Electrical data		
Rated operating voltage	U_e	24V ± 20%
Rated operational current	I_e	24 mA

Wiring Diagram

19

9

95

M20x1.5

⌀ 27.5

SW24

Torque to 1,5 Nm

Screw-in LED

Article number	Designation	Colours
6519125001	L20-RD/GN	Red / Green
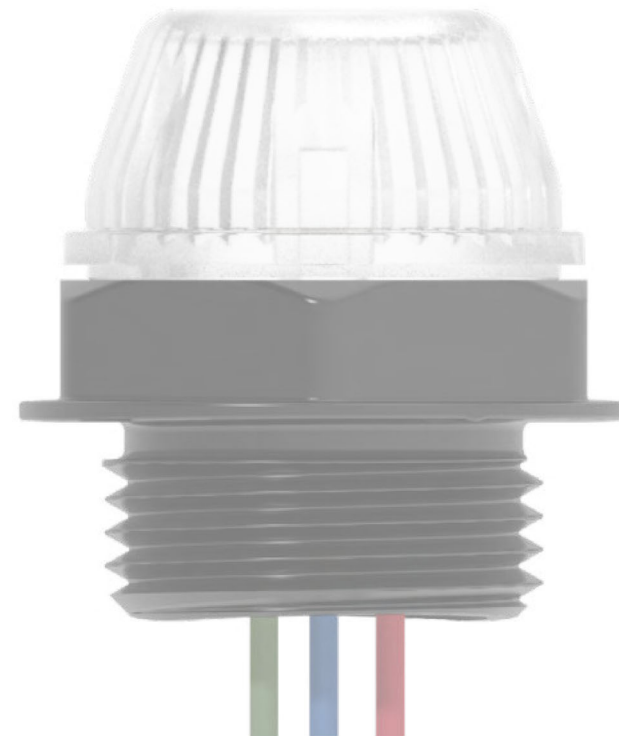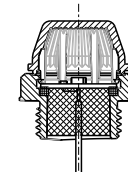
One-way screws

WHY ONE-WAY SCREWS?

In order to reduce the possibility of manipulation of safety switches and, if necessary, their actuators, DIN EN ISO 14119 allows the fastening of switches and actuators with one-way screws.

One-way screw M4X8

Article number	Designation	Dimensions	Packaging unit	Material
6054999015	EINWEGSCHR.M4X8	M4 x 8 mm	2	Stainless steel

Can be used for:

3112850345 M2-Actuator
3112850340 M3-Actuator
3911452116 SK-BET.M4 KPL. M.KAP.
3911452159 SK-BET. M4 KURZ KPL.
3911451949 SK-BET.M.LG-BUCHSE
3911451914 SK-BET.KPL.M.KAP.
6016999190 M1-Actuator
6016999191 M2-Actuator
6016999192 M3-Actuator
6016999193 M4-Actuator
6016999194 M5-Actuator
TK-42
MAK42

One-way screw M4X16

Article number	Designation	Dimensions	Packaging unit	Material
6054999016	EINWEGSCHR.M4X16	M4 x 16 mm	2	Stainless steel

Can be used for:

TK-52
3911702228 A1-Actuator
3911702234 A7-Actuator
3911742390 ACS-1-Actuator
SRF and SRF Actuator
I49
M49
MAK52

One-way screw M5X10

Article number	Designation	Dimensions	Packaging unit	Material
6054999017	EINWEGSCHR.M5X10	M5 x 10 mm	2	Stainless steel

Can be used for:

3911452058 MRU-Actuator
3911702229 A2-Actuator
3911702230 A3-Actuator
3911702231 A4-Actuator
3911742392 ACC-1-Actuator
3911742398 ACR-1-Actuator
3911742391 ACF-1-Actuator
6016999195 M6-Actuator

One-way screw M5X25

Article number	Designation	Dimensions	Packaging unit	Material
6054999018	EINWEGSCHR.M5X25	M5 x 25 mm	2	Stainless steel

Can be used for:

SK
SKC

One-way screw M5X25

Article number	Designation	Dimensions	Packaging unit	Material
6054999019	EINWEGSCHR.M5X25 DK8,5	M5 x 25 mm	2	Stainless steel

Can be used for:

I88
IN62
IN65

One-way screw M5X30

Article number	Designation	Dimensions	Packaging unit	Material
6054999020	EINWEGSCHR.M5X30 DK8,5	M5 x 30 mm	2	Stainless steel

Can be used for:

SKT
SKI

One-way screw M5X40

Article number	Designation	Dimensions	Packaging unit	Material
6054999021	EINWEGSCHR.M5X40	M5 x 40 mm	4	Stainless steel

Can be used for:

IN73
MN78

One-way screw M5X40

Article number	Designation	Dimensions	Packaging unit	Material
6054999022	EINWEGSCHR.M5X40 DK8,5	M5 x 40 mm edited	4	Stainless steel

Can be used for:

SLC

Built-in connector

FOR WHICH SWITCHES ARE THE CONNECTORS SUITABLE?

The M12 flush-type connectors can be installed in an M20 thread of the position and safety switches.

For use in conjunction with the SMART T-adapter 6075689191 SEU-1/0-T45-C-X-AB, the panel connector 6079000002 must be used.
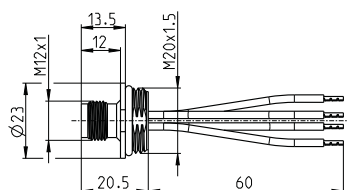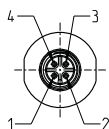
Connector 4-pole	
Article number	**Designation**
6079000001	STECKER 4P M12/M20 A-COD

Connector 5-pole	
Article number	**Designation**
6079000002	STECKER 5P M12/M20 A-COD
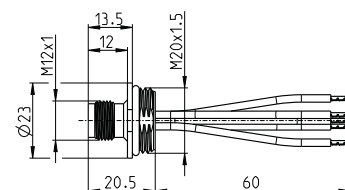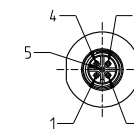
Technical data

Rated voltage	250 V
Rated current (40°C)	4 A (3 A UL)
Enclosure, contact body	PA
Contact, surface	CuZn, Au
Mechanical life	> 50 Mating cycles
Stranded conductor with ferrule	4 x H05V2-K, 0.5 mm², PVC
Tightening torque (flange plug – switch enclosure)	1 Nm
Protection class	IP67*

* Only with correspondingly installed flange plug and with corresponding and mounted cable coupling.

Technical data

Rated voltage	60 V
Rated current (40 °C)	4 A (3 A UL)
Enclosure, contact body	PA
Contact, surface	CuZn, Au
Mechanical life	> 50 Mating cycles
Stranded conductor with ferrule	5 x H05V2-K, 0.5 mm², PVC
Tightening torque (flange plug – switch enclosure)	1 Nm
Protection class	IP67*

* Only with correspondingly installed flange plug and with corresponding and mounted cable coupling.

** Attention: For technical reasons, the 5-pole version of the built-in plug has a rated voltage of 60 V only.
This means that if this built-in plug is installed in a switch that is designed for voltages higher than 60 V, the rated voltage
of the switch with the 5-pole plug is reduced to 60 V! It is not permissible to operate the switch with voltages higher than 60 V.