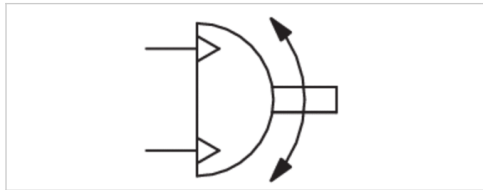


Rack-and-pinion gears, Series TRR

- angle of rotation,max. 90, 180, 360 °
- Ø 32-100 mm
- with magnetic piston
- double piston with rack
- Cushioning Pneumatically, adjustable



Working pressure min./max.	2 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m³
Cushioning	Pneumatically, adjustable
Theoretical torque at	6.3 bar
Weight	See table below



Technical data

Part No.	Frame size	Compressed air connection	angle of rotation	Rotation angle tolerance	Rotation angle setting
		G			
0822930204	TRR-32	G 1/8	0-90 °	0° / +3°	-
0822930205	TRR-32	G 1/8	0-180 °	0° / +3°	-
0822930206	TRR-32	G 1/8	0-360 °	0° / +3°	-
0822931204	TRR-40	G 1/4	0-90 °	0° / +3°	-
0822931205	TRR-40	G 1/4	0-180 °	0° / +3°	-
0822931206	TRR-40	G 1/4	0-360 °	0° / +3°	-
0822932204	TRR-50	G 1/4	0-90 °	0° / +6°	-
0822932205	TRR-50	G 1/4	0-180 °	0° / +6°	-
0822932206	TRR-50	G 1/4	0-360 °	0° / +6°	-
0822932227	TRR-50	G 1/4	0-90 °	-	-5° / +5°
0822932228	TRR-50	G 1/4	0-180 °	-	-5° / +5°
0822932229	TRR-50	G 1/4	0-360 °	-	-5° / +5°
0822933204	TRR-63	G 3/8	0-90 °	0° / +5°	-
0822933205	TRR-63	G 3/8	0-180 °	0° / +5°	-
0822933206	TRR-63	G 3/8	0-360 °	0° / +5°	-
0822933227	TRR-63	G 3/8	0-90 °	-	-5° / +5°
0822933228	TRR-63	G 3/8	0-180 °	-	-5° / +5°
0822933229	TRR-63	G 3/8	0-360 °	-	-5° / +5°
0822934204	TRR-80	G 3/8	0-90 °	0° / +4°	-
0822934205	TRR-80	G 3/8	0-180 °	0° / +4°	-

Part No.	Frame size	Compressed air connection	angle of rotation	Rotation angle tolerance	Rotation angle setting
		G			
0822934206	TRR-80	G 3/8	0-360 °	0° / +4°	-
0822934227	TRR-80	G 3/8	0-90 °	-	-7° / +7°
0822934228	TRR-80	G 3/8	0-180 °	-	-7° / +7°
0822934229	TRR-80	G 3/8	0-360 °	-	-7° / +7°
0822935204	TRR-100	G 1/2	0-90 °	0° / +3°	-
0822935205	TRR-100	G 1/2	0-180 °	0° / +3°	-
0822935206	TRR-100	G 1/2	0-360 °	0° / +3°	-
0822935227	TRR-100	G 1/2	0-90 °	-	-7° / +7°
0822935228	TRR-100	G 1/2	0-180 °	-	-7° / +7°
0822935229	TRR-100	G 1/2	0-360 °	-	-7° / +7°

Part No.	Tolerance in 0° position not under pressure	Direction of rotation	Max. play (radial)	Weight	
0822930204	-3,5, 3,5 °	counterclockwise	2,1 °	1,9 kg	1)
0822930205	-3,5, 3,5 °	counterclockwise	2,1 °	2,1 kg	1)
0822930206	-3,5, 3,5 °	counterclockwise	2,1 °	2,5 kg	1)
0822931204	-3, 3 °	counterclockwise	1,6 °	2,5 kg	1)
0822931205	-3, 3 °	counterclockwise	1,6 °	2,75 kg	1)
0822931206	-3, 3 °	counterclockwise	1,6 °	3,25 kg	1)
0822932204	-3, 3 °	counterclockwise	1,3 °	3,95 kg	1)
0822932205	-3, 3 °	counterclockwise	1,3 °	4,25 kg	1)
0822932206	-3, 3 °	counterclockwise	1,3 °	4,85 kg	1)
0822932227	-3, 3 °	counterclockwise	1,3 °	4,1 kg	2)
0822932228	-3, 3 °	counterclockwise	1,3 °	4,4 kg	2)
0822932229	-3, 3 °	counterclockwise	1,3 °	5 kg	2)
0822933204	-2, 2 °	counterclockwise	1 °	5,9 kg	1)
0822933205	-2, 2 °	counterclockwise	1 °	6,3 kg	1)
0822933206	-2, 2 °	counterclockwise	1 °	7,1 kg	1)
0822933227	-2, 2 °	counterclockwise	1 °	6,4 kg	2)
0822933228	-2, 2 °	counterclockwise	1 °	6,8 kg	2)
0822933229	-2, 2 °	counterclockwise	1 °	7,6 kg	2)
0822934204	-2, 2 °	counterclockwise	0,9 °	11,6 kg	1)
0822934205	-2, 2 °	counterclockwise	0,9 °	12,4 kg	1)
0822934206	-2, 2 °	counterclockwise	0,9 °	14 kg	1)
0822934227	-2, 2 °	counterclockwise	0,9 °	12 kg	2)
0822934228	-2, 2 °	counterclockwise	0,9 °	12,8 kg	2)
0822934229	-2, 2 °	counterclockwise	0,9 °	14,4 kg	2)
0822935204	-1,5, 1,5 °	counterclockwise	0,75 °	15,5 kg	1)
0822935205	-1,5, 1,5 °	counterclockwise	0,75 °	16,7 kg	1)
0822935206	-1,5, 1,5 °	counterclockwise	0,75 °	19,1 kg	1)
0822935227	-1,5, 1,5 °	counterclockwise	0,75 °	16,3 kg	2)
0822935228	-1,5, 1,5 °	counterclockwise	0,75 °	17,5 kg	2)
0822935229	-1,5, 1,5 °	counterclockwise	0,75 °	19,9 kg	2)

1) Non-adjustable angle of rotation

2) Adjustable angle of rotation

Technical data

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Frame size	TRR-32	TRR-40	TRR-50	TRR-63	TRR-80	TRR-100
Stroke/10° angle of rotation	2 mm	2,2 mm	2,6 mm	3,5 mm	3,9 mm	5,2 mm
Theoretical torque	5 Nm	7 Nm	14 Nm	29 Nm	54 Nm	111 Nm
Cushioning angle	61 °	69 °	65 °	49 °	56 °	45 °

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

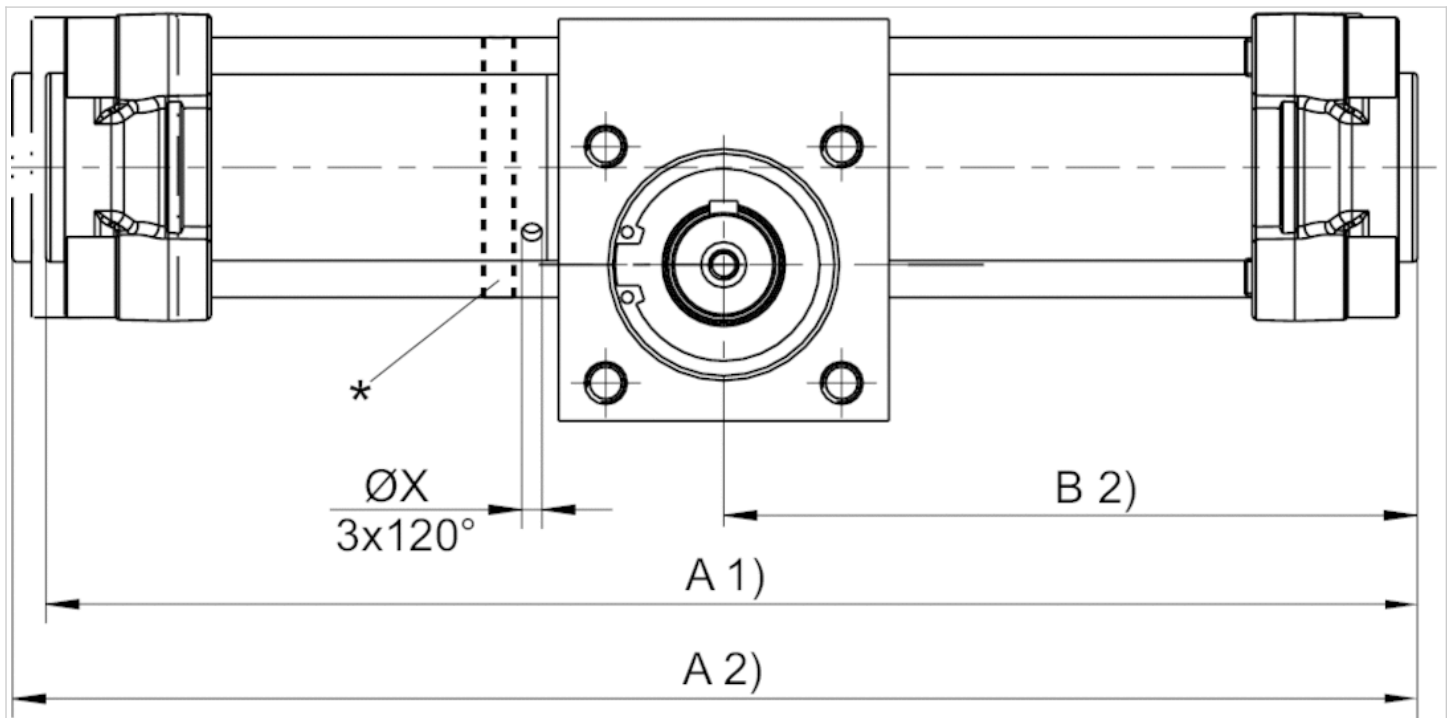
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Aluminum
Cap	Die-cast aluminum
Seal	Polyurethane
Axis	Steel

Dimensions

Rotation angle setting



* Rotation angle setting via rotation of the setting ring. The nuts of the tie rod must be loosened and tightened with the torque Ma.0-position: parallel key on top (piston stop on the right).

Tightening torque TRR-50, TRR-63: 9-10 Nm Tightening torque TRR-80, TRR-100: 18-20 Nm

1) Min.

2) Max.

Non-adjustable angle of rotation

Frame size	Ø	A 2)90°	A 2)180°	A 2)360°	B 2)90°	B 2)180°	B 2)360°	ØX
TRR-32	32	251	285	357	126	143	179	–
TRR-40	40	265	304	383	133	152	192	–
TRR-50	50	295	342	436	148	171	218	–
TRR-63	63	338	401	527	169	200	264	–
TRR-80	80	390	460	602	195	230	301	–
TRR-100	100	440	536	724	220	268	362	–

2) Max.

Adjustable angle of rotation

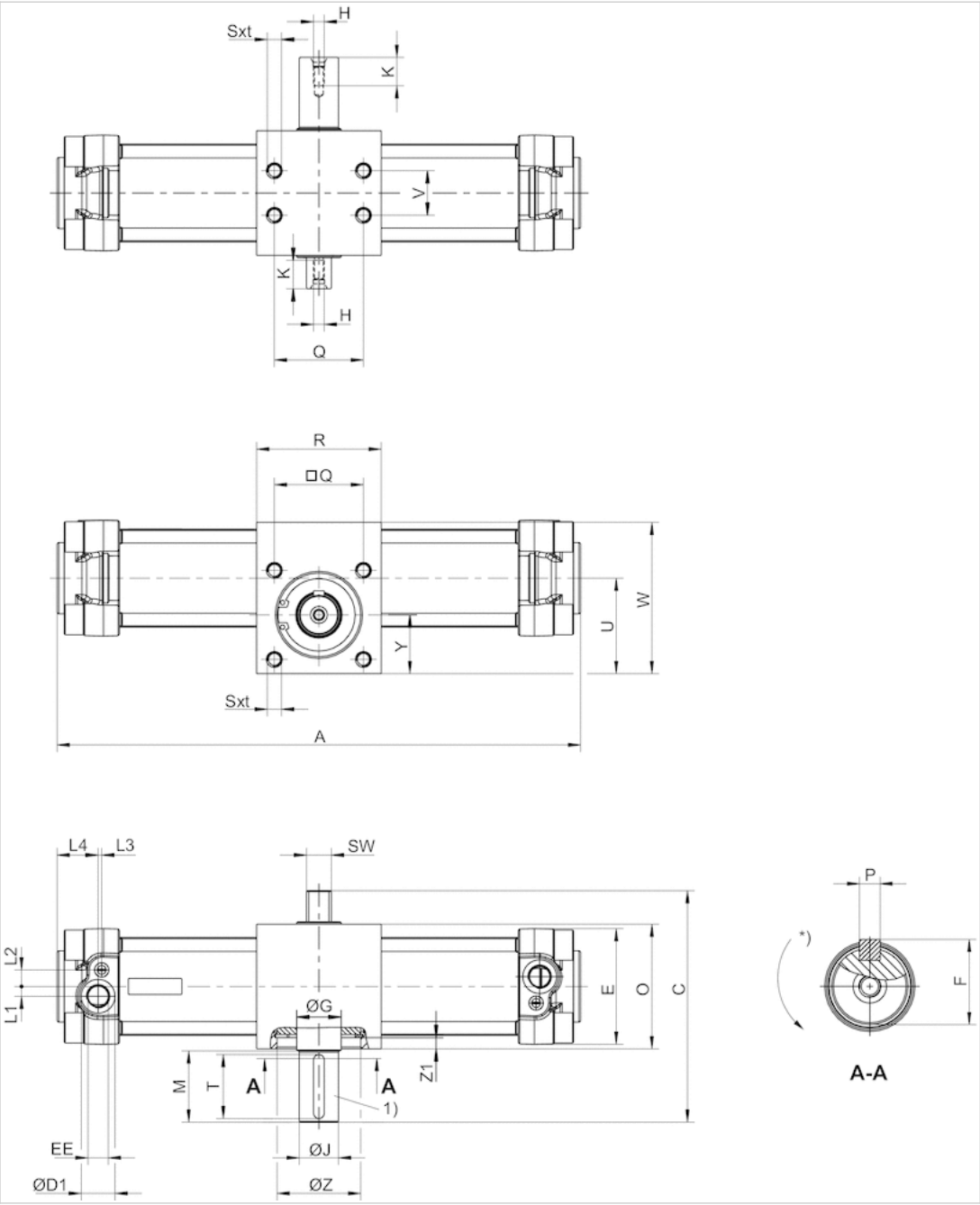
Frame size	Ø	A 1)90°	A 1)180°	A 1)360°	A 2)90°	A 2)180°	A 2)360°	B 2)90°	B 2)180°
TRR-50	50	292	339	434	299	345	440	150	173
TRR-63	63	337	400	525	344	407	533	173	204
TRR-80	80	388	458	600	399	470	611	200	235
TRR-100	100	440	533	722	451	544	733	226	273

B 2)360°	ØX
220	4.2
267	4.2
306	4.2
366	4.2

- 1) Min.
2) Max.

Dimensions

Dimensions



1) Parallel key and slot dimensions according to DIN 6885
* Direction of rotation

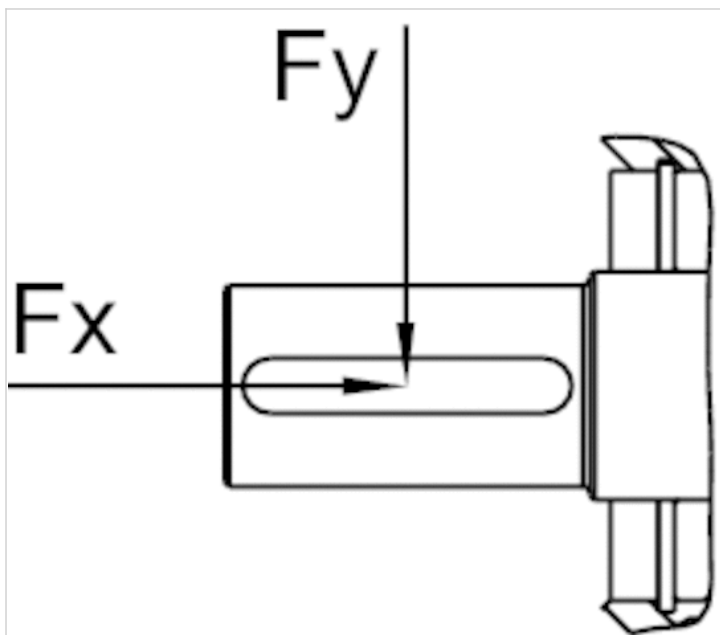
Dimensions

Frame size	Ø	C	ØD1	E	EE	F	ØG	H	ØJ k6	L1	L2	L3	L4	M	O	P	Q
TRR-32	32	103.5	15	47	G 1/8	16	17	M5x12,5	14	5	7.5	4.2	20	30	55	5x25	33
TRR-40	40	110	19	53	G 1/4	19	20	M5x12,5	17	5.5	9.5	5.2	24	30	60	5x25	40
TRR-50	50	130	19	65	G 1/4	24.5	25	M6x16	22	5.5	9.3	2	23	40	70	6x36	50
TRR-63	63	142.5	23	75	G 3/8	28	30	M8x19	25	9	11.7	2	28	40	80	8x36	60
TRR-80	80	175	23	95	G 3/8	33	35	M8x19	30	8	15	2.5	28	50	100	8x45	80
TRR-100	100	190	27	115	G 1/2	38	40	M10x22	35	12	14	4	29	50	114	10x45	80

Frame size	R	Sxt	SW	U	V	W	Y	ØZ H7	Z1
TRR-32	63	M6x9	11	40.7	18	63	25	35	4
TRR-40	70	M6x9	13	43.5	22	70	26.5	42	4.25
TRR-50	70	M8x12	14	53.5	25	85	33	47	6.25
TRR-63	80	M8x12	17	65	35	105	40	55	7
TRR-80	106	M10x15	22	84.5	50	135	53	62	9.5
TRR-100	125	M10x15	22	91.5	60	150	53	80	16.5

Dimensions

Max. permissible axial F_x [N] and radial F_y [N] transverse force on the drive pin

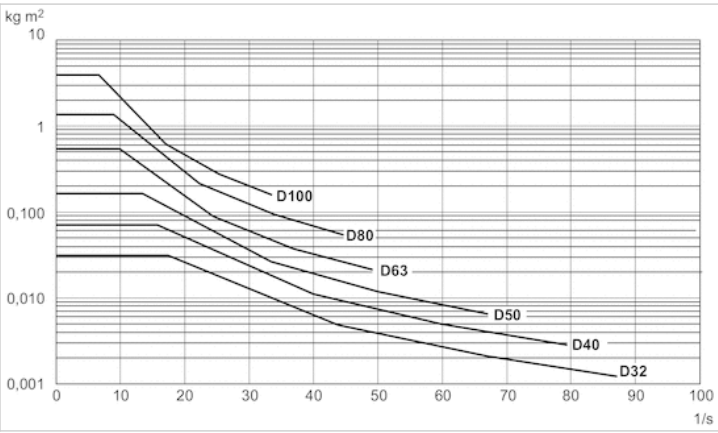


Dimensions

Frame size	Ø	F_x [N]	F_y [N]
TRR-32	32	400	630
TRR-40	40	600	1000
TRR-50	50	800	1150
TRR-63	63	1000	1500
TRR-80	80	1200	1800
TRR-100	100	2500	3500

Diagrams

Permissible mass moment of inertia (kg m^2) depending on size and angular velocity (per second)



Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 3-pin
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, ICM, KHZ, TRR



Certificates

ATEX class G

ATEX class D

Ambient temperature min./max.

Protection class

Switching point precision

Quiescent current (without load)

Min./max. DC operating voltage

Switching logic

LED status display

Vibration resistance

Shock resistance

ATEX, CE declaration of conformity, cULus, RoHS

II 3G Ex nA IIC T4 Gc X

II 3D Ex tc IIIC T135°C Dc X

-20 ... 50 °C

IP67

±0,1 mT

10 mA

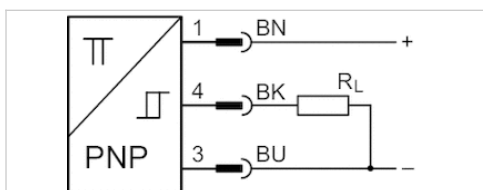
10 ... 30 V DC

NO (make contact)

Yellow

10 - 55 Hz, 1 mm

30 g / 11 ms



Technical data

Part No.	for	Type of contact	Cable length L
R412022854	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	3 m
R412022856	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	5 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022854	≤ 2,5 V	0,1 A
R412022856	≤ 2,5 V	0,1 A

Part No.	Max. switching frequency
R412022854	1000 Hz
R412022856	1000 Hz

Part No.	Version
R412022854	short circuit resistant, Protected against polarity reversal

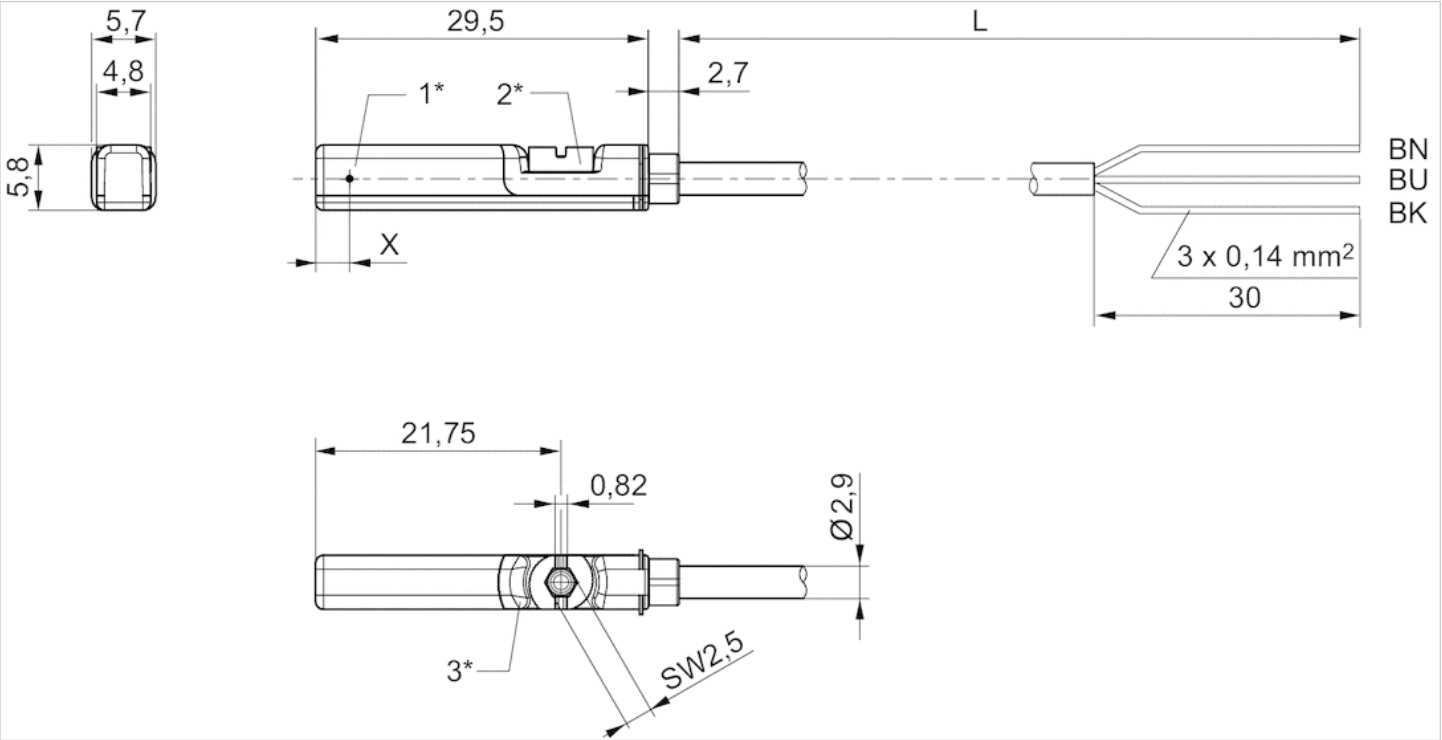
Part No.	Version
R412022856	short circuit resistant, Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Fig. 2



1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length BN = brown, BK = black, BU = blue
 X = electronic: 11.6 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 2-pin, open cable ends, 3-pin
- UL certification
- Reed, electronic PNP, electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, ICM, KHZ, TRR



Certificates	CE declaration of conformity, cULus, RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67, IP69K
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms

Technical data

Part No.		for	Type of contact
R412022866		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022869		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022870		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022871		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022853		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022855		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022857		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022849		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN
R412022850		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable length L	Min./max. DC operating voltage	Min./max. AC operating voltage
R412022866	3 m	10 ... 230 V DC	10 ... 230 V AC
R412022869	3 m	10 ... 30 V DC	10 ... 30 V AC
R412022870	5 m	10 ... 30 V DC	10 ... 30 V AC
R412022871	10 m	10 ... 30 V DC	10 ... 30 V AC
R412022853	3 m	10 ... 30 V DC	-
R412022855	5 m	10 ... 30 V DC	-
R412022857	10 m	10 ... 30 V DC	-
R412022849	3 m	10 ... 30 V DC	-
R412022850	5 m	10 ... 30 V DC	-

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022866	≤ 3,5 V	0,13 A
R412022869	I*Rs	0,3 A
R412022870	≤ 0,1 V	0,3 A
R412022871	I*Rs	0,3 A
R412022853	≤ 2,5 V	0,13 A
R412022855	≤ 2,5 V	0,13 A
R412022857	≤ 2,5 V	0,13 A
R412022849	≤ 2,5 V	0,13 A
R412022850	≤ 2,5 V	0,13 A

Part No.	AC switching current, max.	Switching capacity
R412022866	0,13 A	Reed, 2-pin: max. 10 W, Reed, 3-pin: max. 6 W
R412022869	0,5 A	Reed, 2-pin: max. 10 W, Reed, 3-pin: max. 6 W
R412022870	0,5 A	Reed, 2-pin: max. 10 W, Reed, 3-pin: max. 6 W
R412022871	0,5 A	Reed, 2-pin: max. 10 W, Reed, 3-pin: max. 6 W
R412022853	-	-
R412022855	-	-
R412022857	-	-
R412022849	-	-

Part No.	AC switching current, max.	Switching capacity
R412022850	-	-

Part No.	Max. switching frequency	Operating current, not switched
R412022866	400 Hz	-
R412022869	400 Hz	-
R412022870	400 Hz	-
R412022871	400 Hz	-
R412022853	1000 Hz	8 mA
R412022855	1000 Hz	8 mA
R412022857	1000 Hz	8 mA
R412022849	1000 Hz	8 mA
R412022850	1000 Hz	8 mA

Part No.	Operating current, switched
R412022866	-
R412022869	-
R412022870	-
R412022871	-
R412022853	30 mA
R412022855	30 mA
R412022857	30 mA
R412022849	30 mA
R412022850	30 mA

Part No.	Version	Fig.	
R412022866	Protected against polarity reversal	Fig. 1	1)
R412022869	Protected against polarity reversal	Fig. 2	2)
R412022870	Protected against polarity reversal	Fig. 2	2)
R412022871	Protected against polarity reversal	Fig. 2	2)
R412022853	short circuit resistant, Protected against polarity reversal	Fig. 2	2)
R412022855	short circuit resistant, Protected against polarity reversal	Fig. 2	2)
R412022857	short circuit resistant, Protected against polarity reversal	Fig. 2	2)
R412022849	short circuit resistant, Protected against polarity reversal	Fig. 2	2)
R412022850	short circuit resistant, Protected against polarity reversal	Fig. 2	2)

1) open cable ends, 2-pin

2) open cable ends, 3-pin

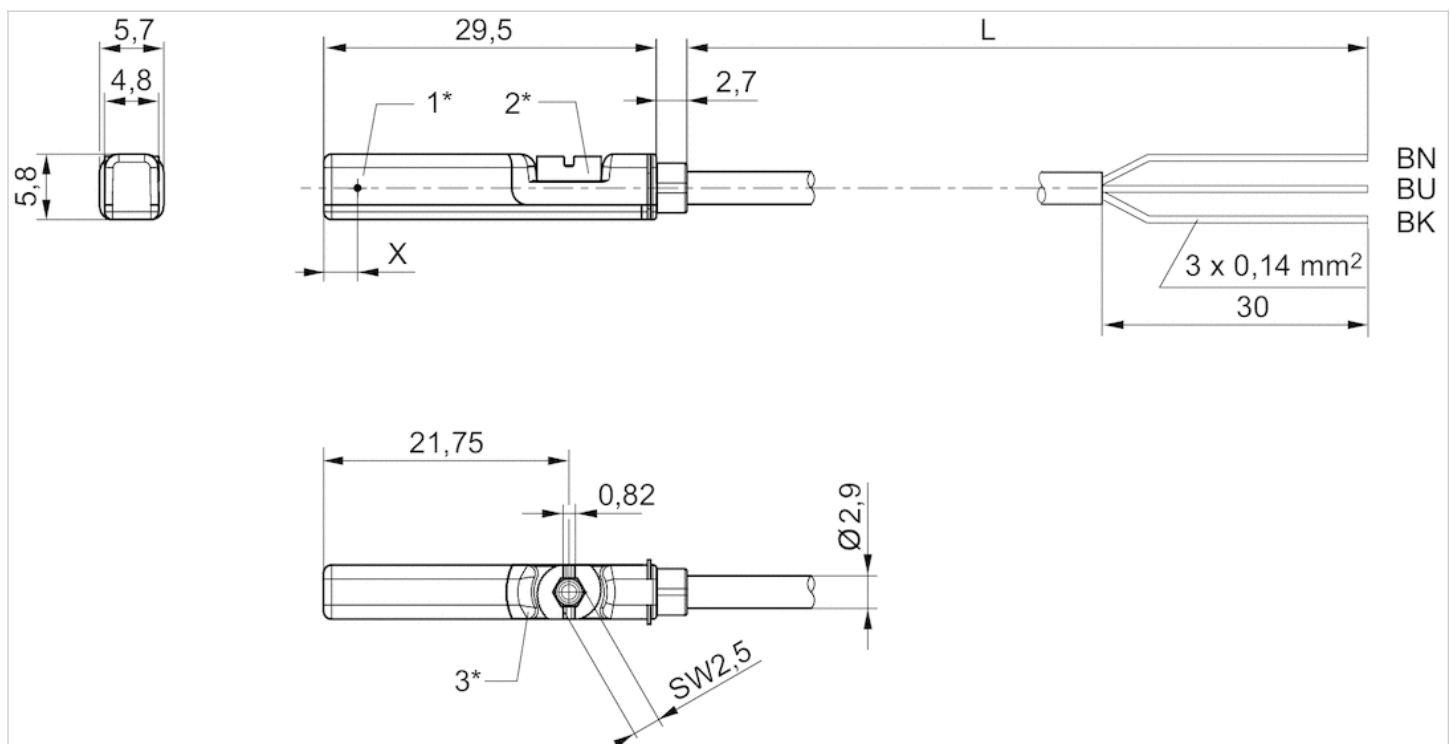
Technical information

No cULus certification for 230 V variant.

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Fig. 2



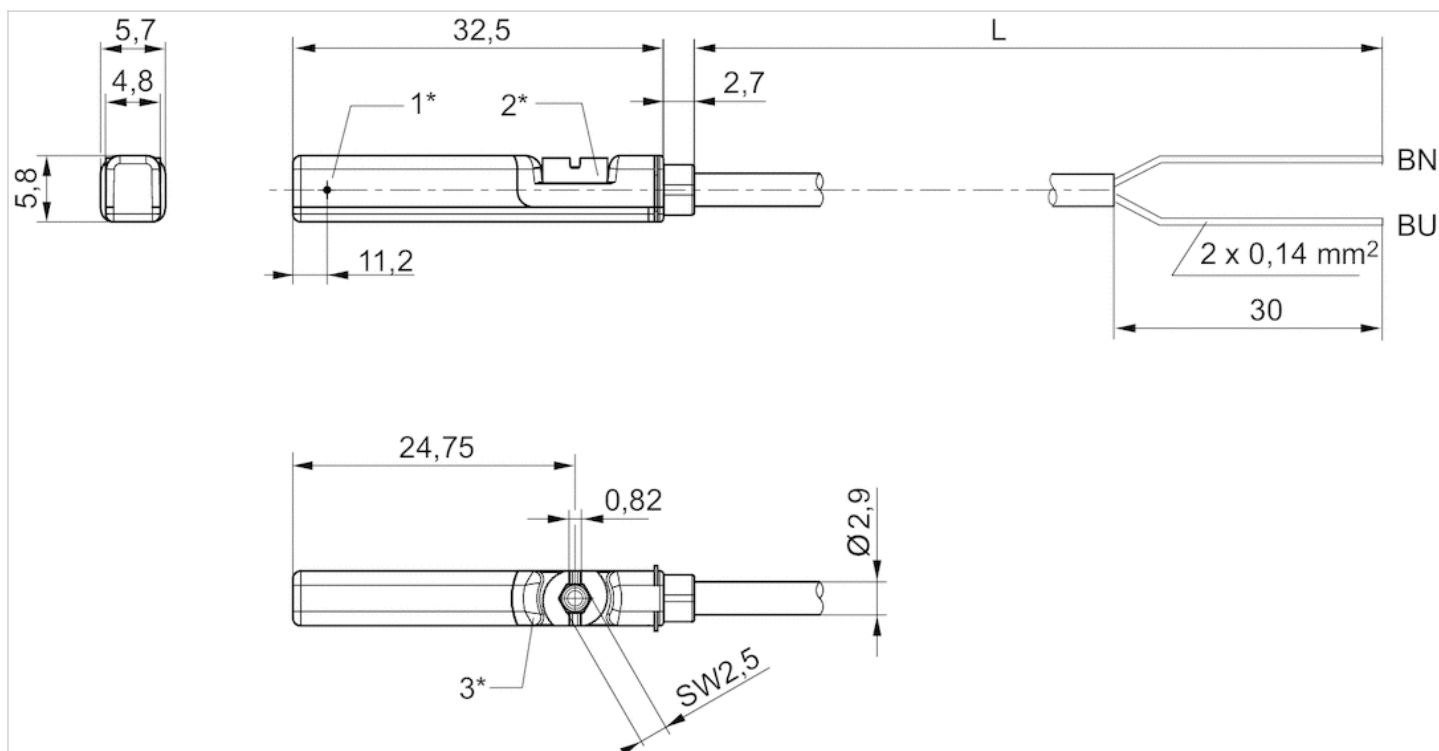
1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length BN = brown, BK = black, BU = blue

X = electronic: 11.6 mm

Dimensions

Fig. 1



1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length BN=brown, BU=blue

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin
- UL certification
- Reed, electronic PNP, electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, ICM, KHZ, TRR



Certificates

Ambient temperature min./max.

Protection class

Switching point precision

Nominal current, actuated state

Quiescent current (without load)

Min./max. DC operating voltage

Min./max. AC operating voltage

Hysteresis

Switching logic

Switching capacity

LED status display

Vibration resistance

Shock resistance

CE declaration of conformity, cULus, RoHS

-30 ... 80 °C

IP65, IP67

±0,1 mT

30 mA

8 mA

10 ... 30 V DC

See table below

≥ 0,2 mT

NO (make contact)

Reed, 2-pin: max. 10 W, Reed, 3-pin: max. 6 W

Yellow

10 - 55 Hz, 1 mm

30 g / 11 ms

Technical data

Part No.		for	Type of contact
R412022868		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022872		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022858		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022851		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable length L	Min./max. AC operating voltage	Voltage drop U at I _{max}
R412022868	0,3 m	10 ... 30 V AC	≤ 3,5 V
R412022872	0,3 m	10 ... 30 V AC	≤ 0,1 V
R412022858	0,3 m	-	≤ 2,5 V
R412022851	0,3 m	-	≤ 2,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412022868	0,13 A	0,13 A
R412022872	0,3 A	0,5 A
R412022858	0,13 A	-
R412022851	0,13 A	-

Part No.	Max. switching frequency	Operating current, not switched
R412022868	400 Hz	-
R412022872	400 Hz	-
R412022858	1000 Hz	8 mA
R412022851	1000 Hz	8 mA

Part No.	Operating current, switched
R412022868	-
R412022872	-
R412022858	30 mA
R412022851	30 mA

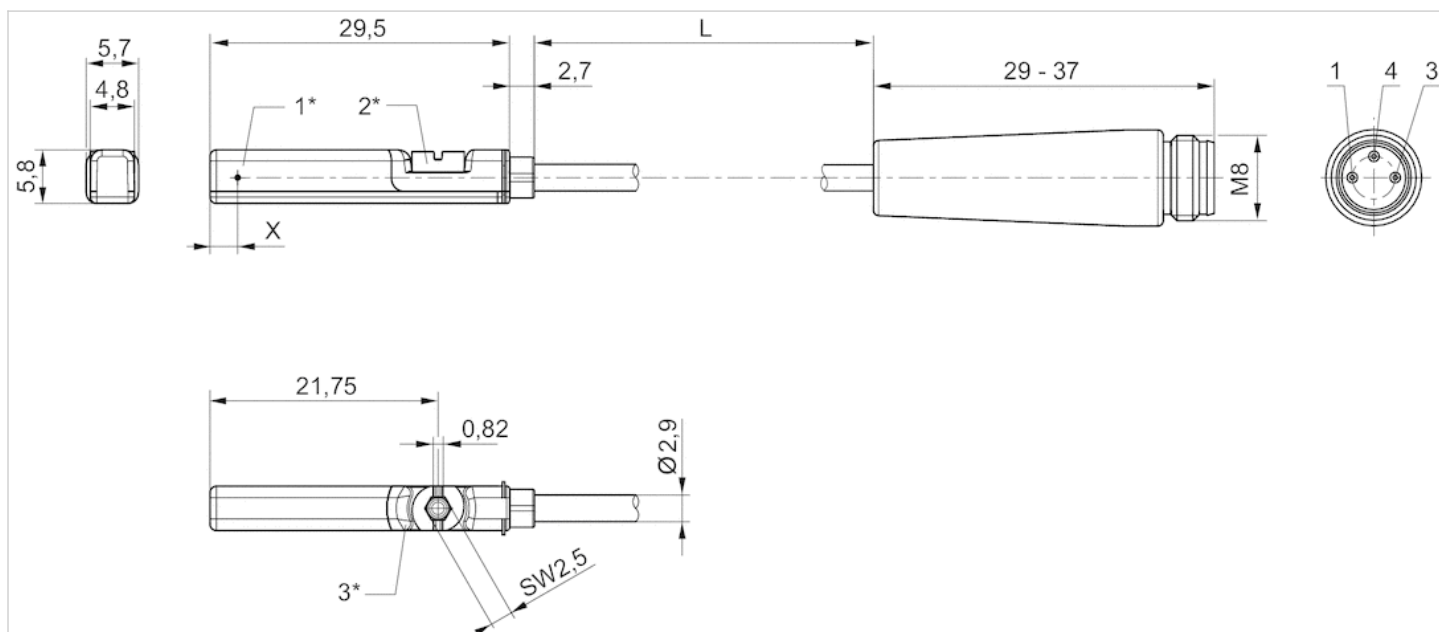
Part No.	Version
R412022868	Protected against polarity reversal
R412022872	Protected against polarity reversal
R412022858	short circuit resistant, Protected against polarity reversal
R412022851	short circuit resistant, Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

X = electronic: 11,6 mm, Reed: 8,3 mm

Pin assignment: 1 = (+) 3 = (-) 4 = (OUT)

Sensor, Series ST6

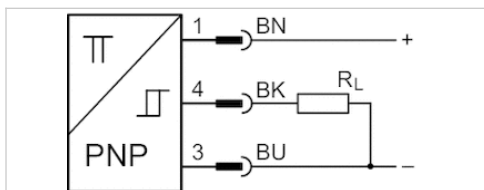
- 6 mm T-slot
- with cable
- Plug, M12, 3-pin, with knurled screw
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, ICM, KHZ, TRR



Certificates

ATEX class G
 ATEX class D
 Ambient temperature min./max.
 Protection class
 Switching point precision
 Quiescent current (without load)
 Min./max. DC operating voltage
 Switching logic
 LED status display
 Vibration resistance
 Shock resistance

ATEX, CE declaration of conformity,
 cULus, RoHS
 II 3G Ex nA IIC T4 Gc X
 II 3D Ex tc IIIC T135°C Dc X
 -20 ... 50 °C
 IP67
 ±0,1 mT
 10 mA
 10 ... 30 V DC
 NO (make contact)
 Yellow, Yellow
 10 - 55 Hz, 1 mm
 30 g / 11 ms



Technical data

Part No.	for	Type of contact	Cable length L
R412022864	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	0,3 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022864	≤ 2,5 V	0,1 A

Part No.	Max. switching frequency
R412022864	1000 Hz

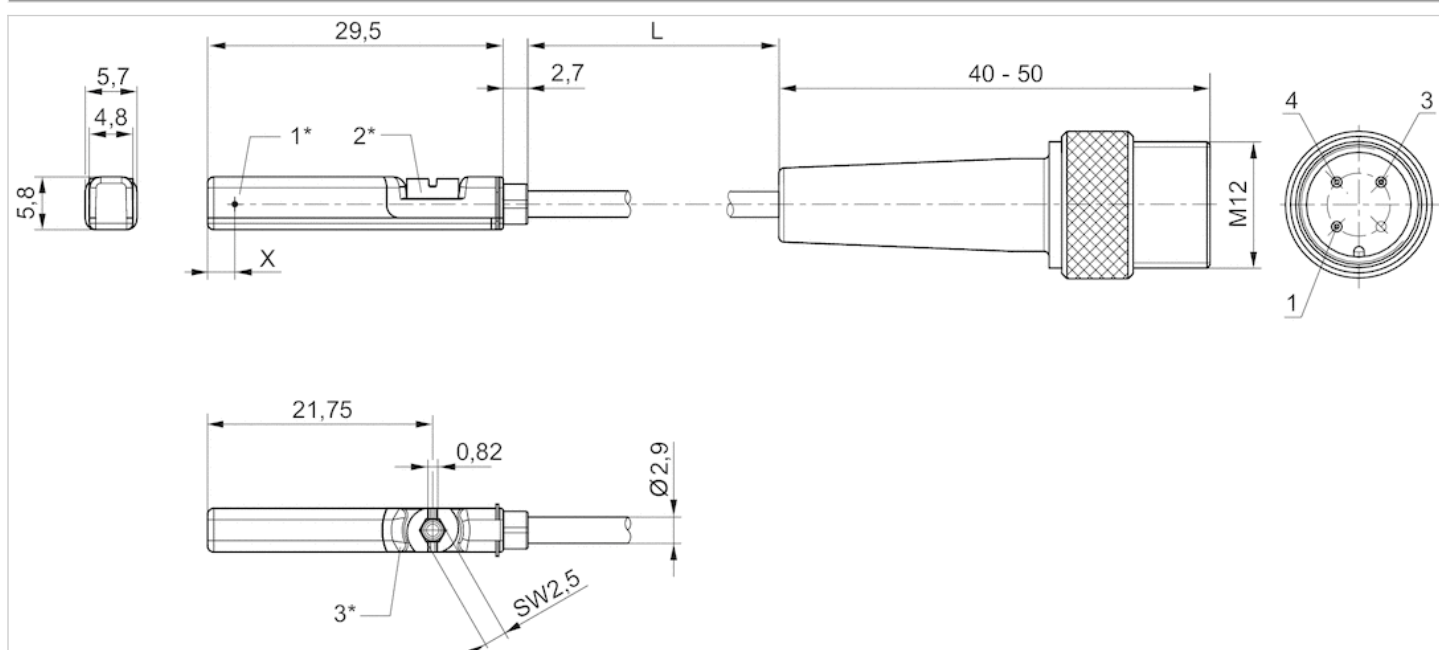
Part No.	Version
R412022864	short circuit resistant, Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

X = PNP: 11,6 mm

Pin assignment: 1 = (+) 3 = (-) 4 = (OUT)

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M12, 3-pin, with knurled screw
- UL certification
- Reed, electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, ICM, KHZ, TRR



Certificates

Ambient temperature min./max.

Protection class

Switching point precision

Nominal current, actuated state

Quiescent current (without load)

Min./max. DC operating voltage

Min./max. AC operating voltage

Hysteresis

Switching logic

Switching capacity

LED status display

Vibration resistance

Shock resistance

CE declaration of conformity, cULus, RoHS

-30 ... 80 °C

See table below

±0,1 mT

30 mA

8 mA

10 ... 30 V DC

See table below

≥ 0,2 mT

NO (make contact)

Reed, 3-pin: max. 6 W

Yellow

10 - 55 Hz, 1 mm

30 g / 11 ms

Technical data

Part No.		for	Type of contact	Cable length L
R412022876		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed	0,3 m
R412022879		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	0,1 m
R412022863		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	0,3 m
R412022877		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	3 m
R412022878		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	5 m

Part No.	Min./max. AC operating voltage	Voltage drop U at I _{max}
R412022876	10 ... 30 V AC	≤ 0,1 V
R412022879	-	≤ 2,5 V
R412022863	-	≤ 2,5 V
R412022877	-	≤ 2,5 V
R412022878	-	≤ 2,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412022876	0,3 A	0,5 A
R412022879	0,13 A	-
R412022863	0,13 A	-
R412022877	0,13 A	-

Part No.	DC switching current, max.	AC switching current, max.
R412022878	0,13 A	-

Part No.	Max. switching frequency	Operating current, not switched
R412022876	400 Hz	-
R412022879	1000 Hz	8 mA
R412022863	1000 Hz	8 mA
R412022877	1000 Hz	8 mA
R412022878	1000 Hz	8 mA

Part No.	Operating current, switched	Protection class
R412022876	-	IP65, IP67
R412022879	30 mA	IP65, IP67
R412022863	30 mA	IP65, IP67, IP69K
R412022877	30 mA	IP65, IP67
R412022878	30 mA	IP65, IP67

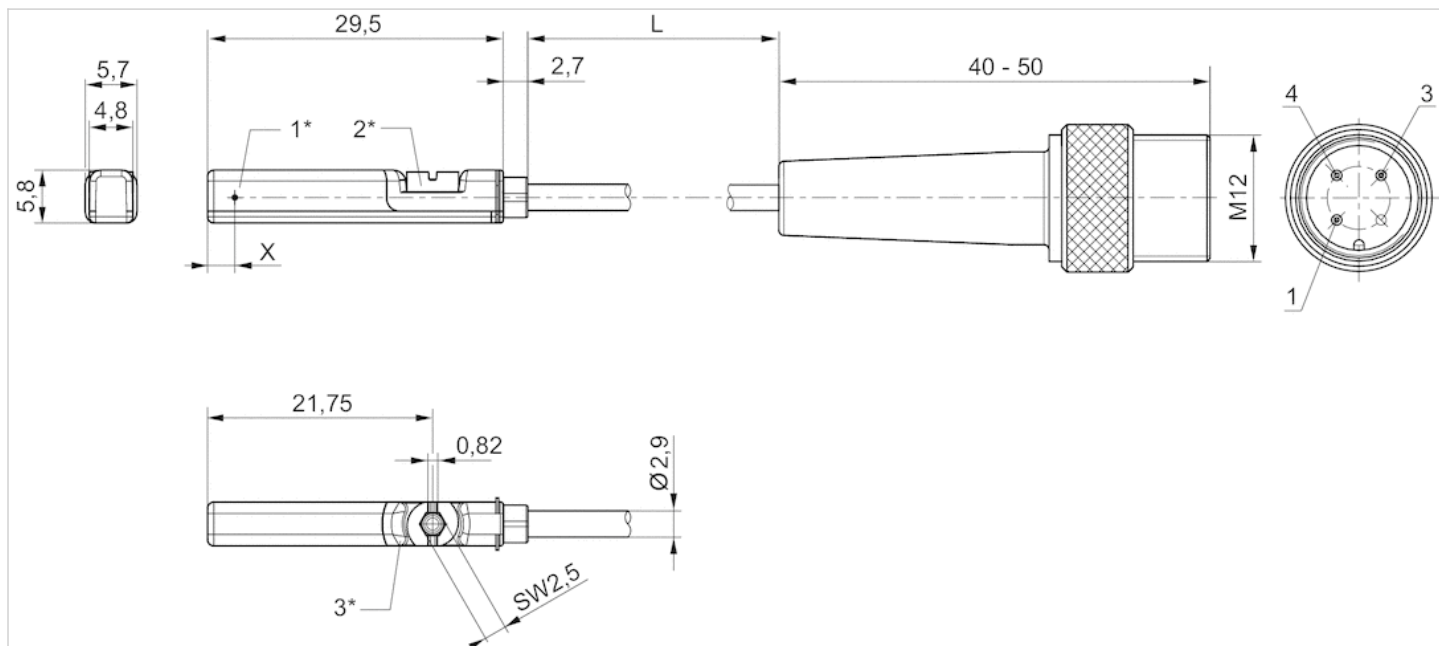
Part No.	Version
R412022876	Protected against polarity reversal
R412022879	short circuit resistant, Protected against polarity reversal
R412022863	short circuit resistant, Protected against polarity reversal
R412022877	short circuit resistant, Protected against polarity reversal
R412022878	short circuit resistant, Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent

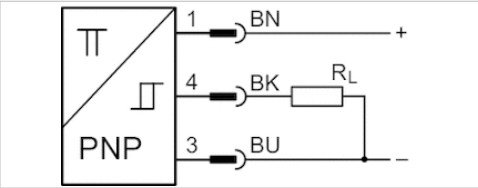
L = cable length

X = PNP: 11,6 mm

Pin assignment: 1 = (+) 3 = (-) 4 = (OUT)

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, ICM, KHZ, TRR



Certificates	ATEX, CE declaration of conformity, cULus, RoHS
ATEX class G	II 3G Ex nA IIC T4 Gc X
ATEX class D	II 3D Ex tc IIIC T135°C Dc X
Ambient temperature min./max.	-20 ... 50 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	10 ... 30 V DC
Switching logic	NO (make contact)
LED status display	Yellow, Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms

Technical data

Part No.	for	Type of contact	Cable length L
R412022860	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	0,3 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022860	≤ 2,5 V	0,1 A

Part No.	Max. switching frequency
R412022860	1000 Hz

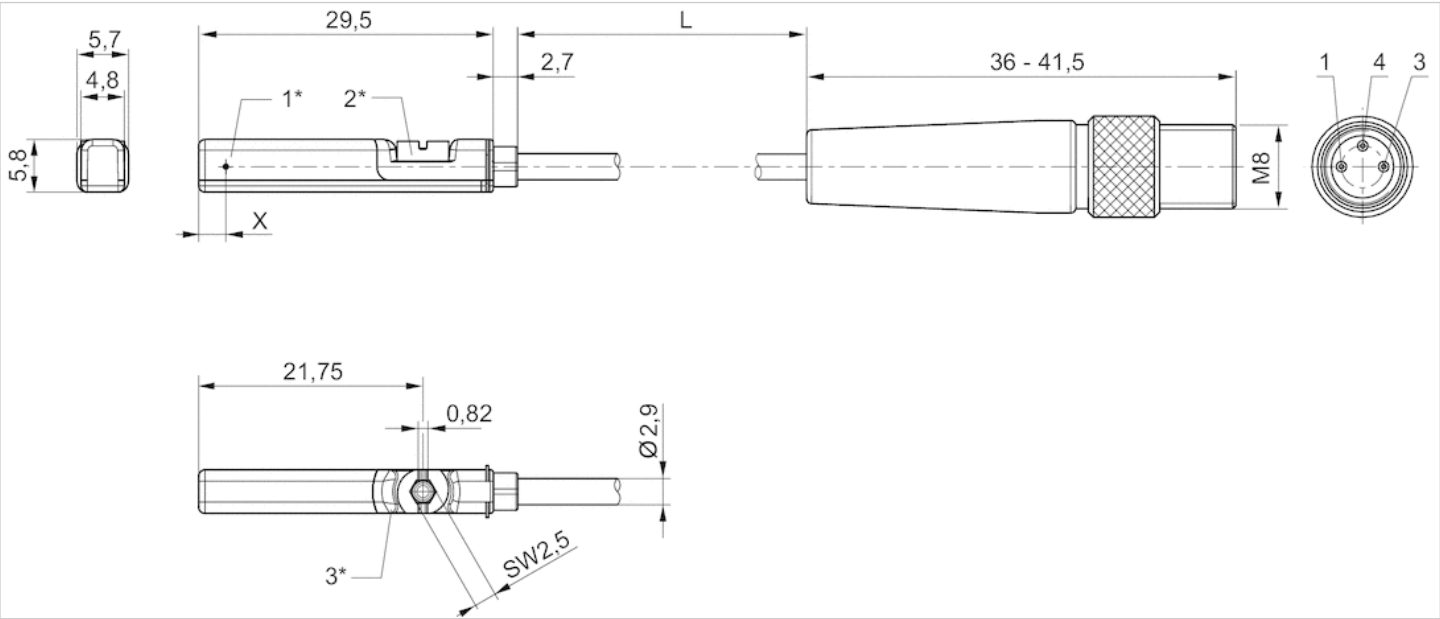
Part No.	Version
R412022860	short circuit resistant, Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length
 X = electronic: 11,6 mm, Reed: 8,3 mm
 Pin assignment: 1 = (+) 3 = (-) 4 = (OUT)

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- UL certification
- Reed, electronic PNP, electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, ICM, KHZ, TRR



Certificates

Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	10 ... 30 V DC
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
Switching capacity	Reed, 3-pin: max. 6 W
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms

CE declaration of conformity, cULus, RoHS

Technical data

Part No.		for	Type of contact
R412022873		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022875		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022874		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022859		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022862		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022861		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022852		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable sheath	Cable length L	Min./max. AC operating voltage
R412022873	Polyurethane	0,3 m	10 ... 30 V AC
R412022875	Polyvinyl chloride	0,3 m	10 ... 30 V AC
R412022874	Polyurethane	0,5 m	10 ... 30 V AC
R412022859	Polyurethane	0,3 m	-
R412022862	Polyvinyl chloride	0,3 m	-
R412022861	Polyurethane	0,5 m	-
R412022852	Polyurethane	0,3 m	-

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022873	I*Rs	0,3 A
R412022875	I*Rs	0,3 A
R412022874	I*Rs	0,3 A
R412022859	≤ 2,5 V	0,13 A
R412022862	≤ 2,5 V	0,13 A
R412022861	≤ 2,5 V	0,13 A
R412022852	≤ 2,5 V	0,13 A

Part No.	AC switching current, max.	Max. switching frequency
R412022873	0,5 A	400 Hz
R412022875	0,5 A	400 Hz
R412022874	0,5 A	400 Hz
R412022859	-	1000 Hz
R412022862	-	1000 Hz
R412022861	-	1000 Hz
R412022852	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched
R412022873	-	-
R412022875	-	-
R412022874	-	-
R412022859	8 mA	30 mA
R412022862	8 mA	30 mA
R412022861	8 mA	30 mA
R412022852	8 mA	30 mA

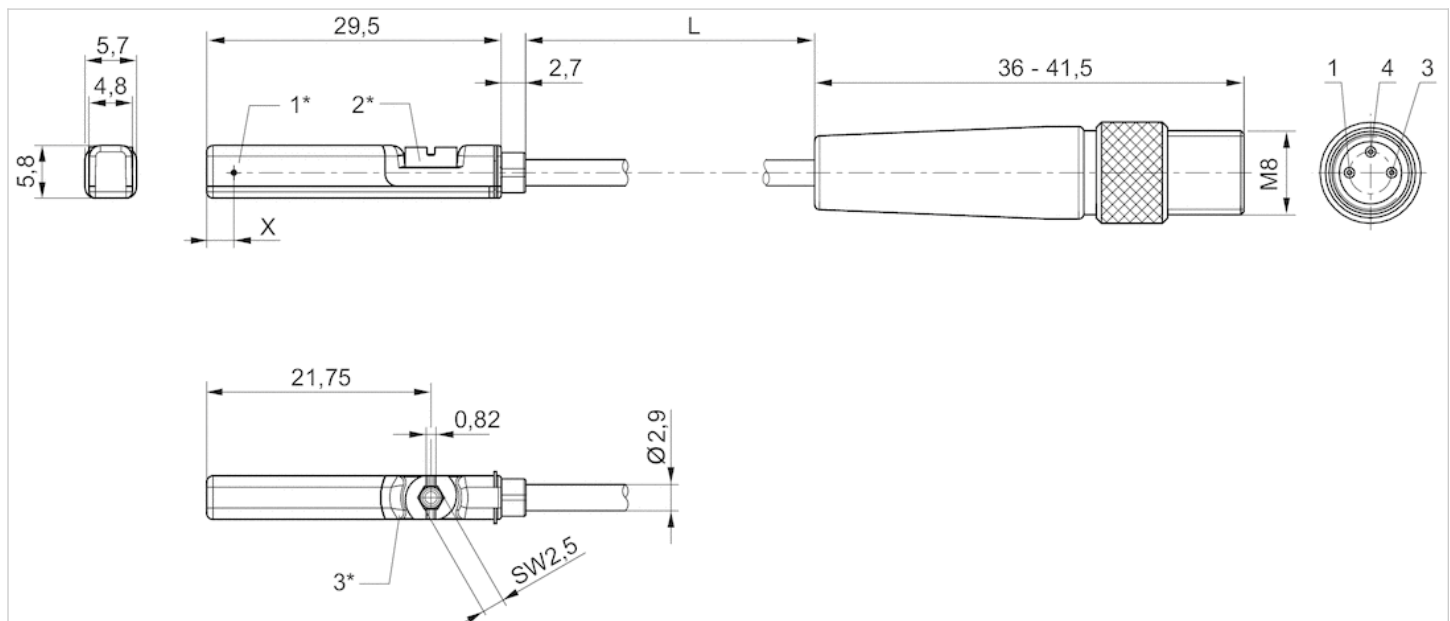
Part No.	Version
R412022873	Protected against polarity reversal
R412022875	Protected against polarity reversal
R412022874	Protected against polarity reversal
R412022859	short circuit resistant, Protected against polarity reversal
R412022862	short circuit resistant, Protected against polarity reversal
R412022861	short circuit resistant, Protected against polarity reversal
R412022852	short circuit resistant, Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane, Polyvinyl chloride
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent

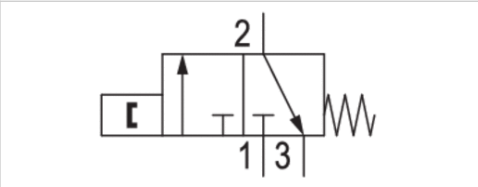
L = cable length

X = electronic: 11,6 mm, Reed: 8,3 mm

Pin assignment: 1 = (+) 3 = (-) 4 = (OUT)

Pneumatic sensor, Series SP1

- Qn 40 l/min
- Mounting orientation Any



Mounting orientation	Any
Working pressure min./max.	2 ... 6 bar
Ambient temperature min./max.	-15 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Switching point precision	±0,2 mT
Switching time on	12 ms
Switching time off	25 ms
Weight	0,015 kg

Technical data

Part No.
0820212201

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

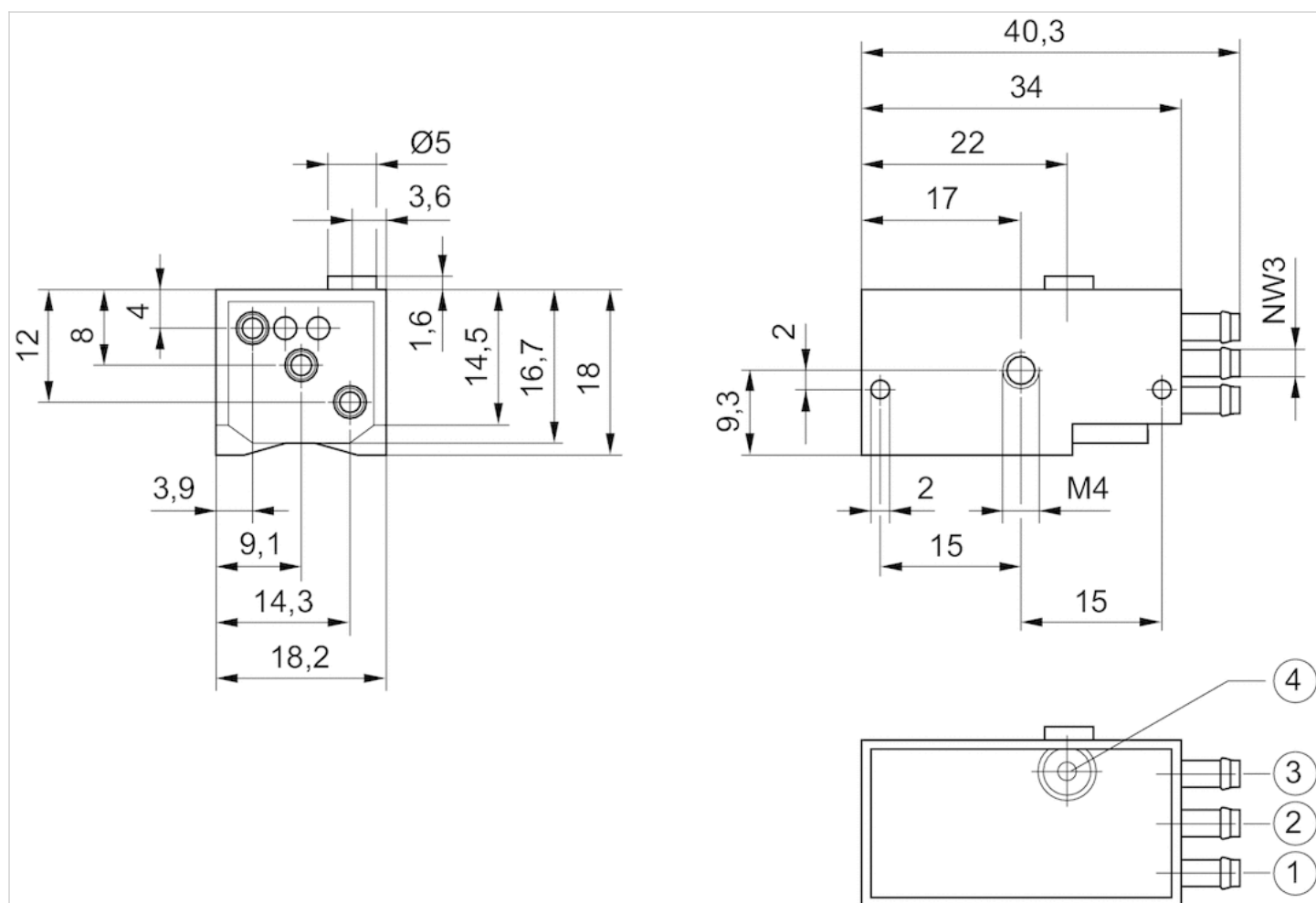
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

Notice: This product may only be operated with oil-free, dry compressed air.

Technical information

Material	
Housing	Polyamide

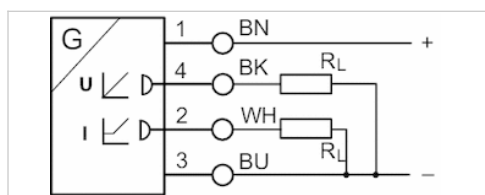
Dimensions



1) compressed air connection 2) output line 3) exhaust 4) visual indicator

Sensors, Series SM6

- 6 mm groove
- with cable
- without wire end ferrule, tin-plated, 4-pin
- with distance measuring sensor, measurement range 32 ... 256 mm
- Analog
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, 167, MNI, ICM, TRR



Certificates	cULus
Ambient temperature min./max.	-20 ... 70 °C
Protection class	IP67
Output signal	0 - 10 V DC, 4 - 20 mA
Quiescent current (without load)	25 mA
Maximum load (analog current output)	500 Ω
Residual ripple	≤ 10 %
sampling interval	1 ms
Resolution,max. measuring range	0,05 mm
Repetitive precision,max. measuring range	0.1 mm
Linearity deviation	0,3 mm
Sampling speed	3 m/s
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms

Technical data

Part No.	for	Type of contact	Cable length L
R412010141	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010143	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010262	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010264	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010411	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010413	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010415	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010417	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m

Part No.	max. measuring range	Overall length Sensor A
R412010141	32 mm	45 mm
R412010143	64 mm	77 mm
R412010262	96 mm	109 mm
R412010264	128 mm	141 mm
R412010411	160 mm	173 mm
R412010413	192 mm	205 mm

Part No.	max. measuring range	Overall length Sensor A
R412010415	224 mm	237 mm
R412010417	256 mm	269 mm

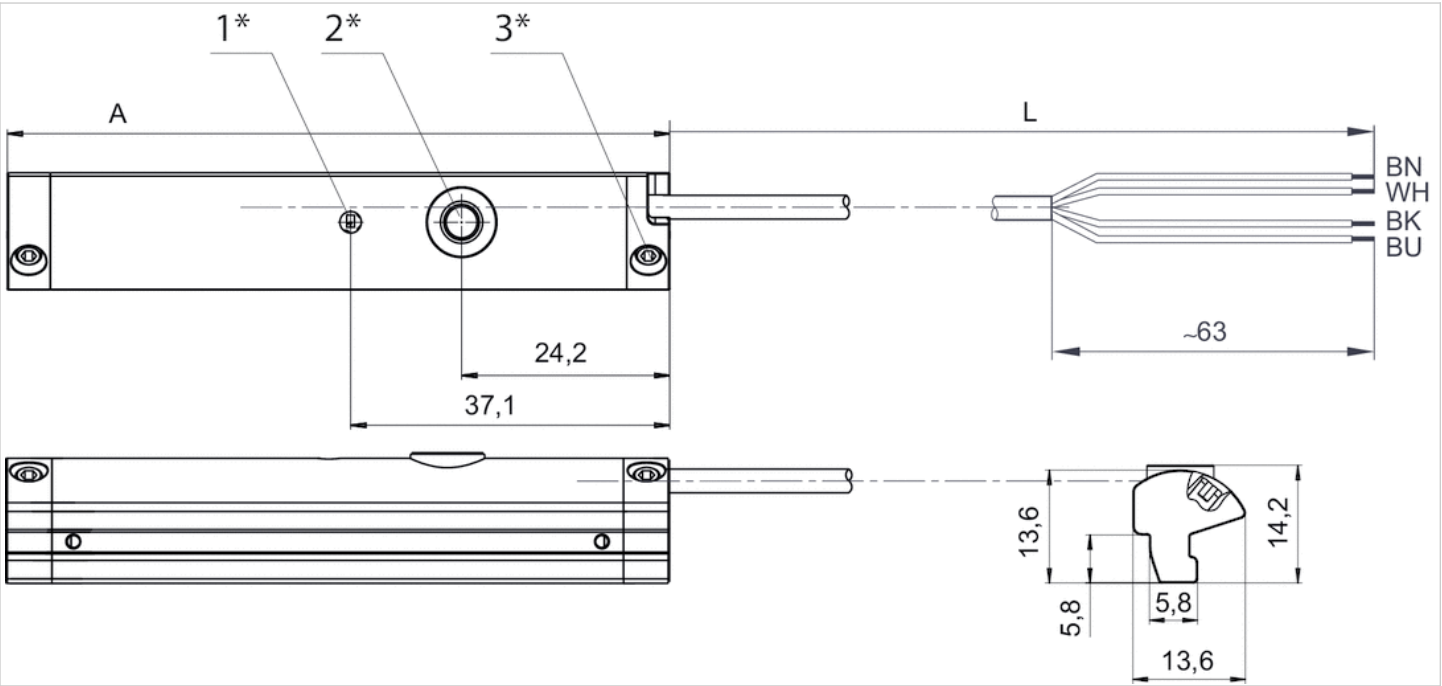
Part No.	Version
R412010141	short circuit resistant, Protected against polarity reversal, Overload protection
R412010143	short circuit resistant, Protected against polarity reversal, Overload protection
R412010262	short circuit resistant, Protected against polarity reversal, Overload protection
R412010264	short circuit resistant, Protected against polarity reversal, Overload protection
R412010411	short circuit resistant, Protected against polarity reversal, Overload protection
R412010413	short circuit resistant, Protected against polarity reversal, Overload protection
R412010415	short circuit resistant, Protected against polarity reversal, Overload protection
R412010417	short circuit resistant, Protected against polarity reversal, Overload protection

Technical information

Material	
Housing	Polyamide, fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions

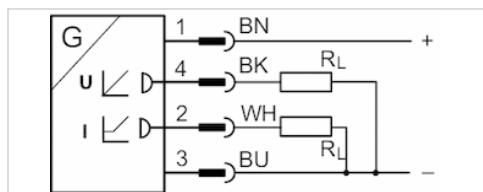
Dimensions



1* = LED 2* = teach button 3* = threaded pin M3x11
L = cable length
(1) BN=brown (2) WH=white (3) BU=blue (4) BK=black
A = sensor length

Sensors, Series SM6

- 6 mm groove
- with cable
- Plug, M8x1, 4-pin, with knurled screw
- with distance measuring sensor, measurement range 32 ... 256 mm
- Analog
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, 167, MNI, ICM, TRR



Certificates	cULus
Ambient temperature min./max.	-20 ... 70 °C
Protection class	IP67
Output signal	0 - 10 V DC, 4 - 20 mA
Quiescent current (without load)	25 mA
Min./max. DC operating voltage	15 ... 30 V DC
sampling interval	1 ms
Resolution,max. measuring range	0,05 mm
Repetitive precision,max. measuring range	0.1 mm
Linearity deviation	0,3 mm
Sampling speed	3 m/s
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms

Technical data

Part No.	for	Type of contact	Cable length L
R412010142	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0,3 m
R412010144	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0,3 m
R412010263	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0,3 m
R412010265	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0,3 m
R412010410	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0,3 m
R412010412	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0,3 m
R412010414	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0,3 m
R412010416	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0,3 m

Part No.	max. measuring range	Overall length Sensor A
R412010142	32 mm	45 mm
R412010144	64 mm	77 mm
R412010263	96 mm	109 mm
R412010265	128 mm	141 mm
R412010410	160 mm	173 mm
R412010412	192 mm	205 mm

Part No.	max. measuring range	Overall length Sensor A
R412010414	224 mm	237 mm
R412010416	256 mm	269 mm

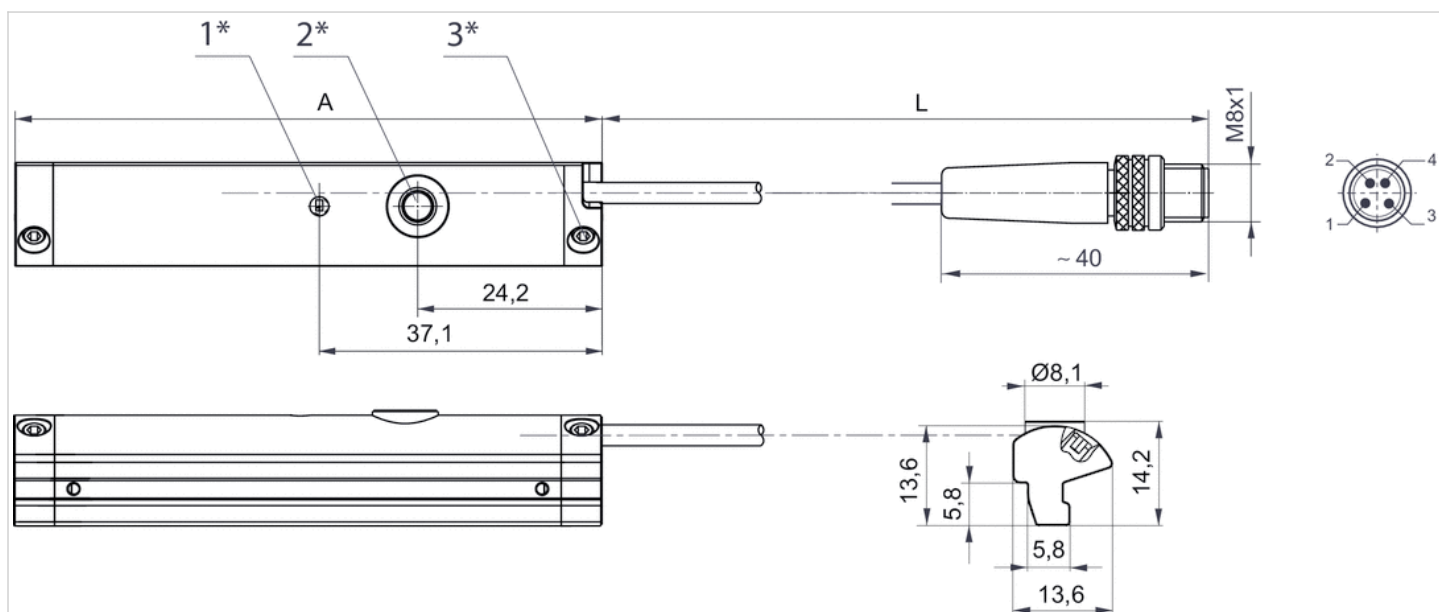
Part No.	Version
R412010142	short circuit resistant, Protected against polarity reversal, Overload protection
R412010144	short circuit resistant, Protected against polarity reversal, Overload protection
R412010263	short circuit resistant, Protected against polarity reversal, Overload protection
R412010265	short circuit resistant, Protected against polarity reversal, Overload protection
R412010410	short circuit resistant, Protected against polarity reversal, Overload protection
R412010412	short circuit resistant, Protected against polarity reversal, Overload protection
R412010414	short circuit resistant, Protected against polarity reversal, Overload protection
R412010416	short circuit resistant, Protected against polarity reversal, Overload protection

Technical information

Material	
Housing	Polyamide, fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions

Dimensions



1* = LED 2* = teach button 3* = threaded pin M3x11

L = cable length

Pin assignment: 1 = (+), 2 = (OUT 1) 3 = (GND), 4 = (OUT 2), EN 60947-5-7

A = sensor length

Sensor, Series SN2

- with cable
- without wire end ferrule, tin-plated, 2-pin, without wire end ferrule, tin-plated, 3-pin
- Heat resistant
- Reed, electronic PNP
- Indirect mounting for series TRB, PRA, ITS, MNI, CSL-RD, ICM, RPC, TRR, FLT, CVI



Ambient temperature min./max.	See table below
Protection class	IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	15 mA
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
LED status display	See table below

Technical data

Part No.		Type of contact	Cable sheath	Cable length L
0830100315		Reed	Polyvinyl chloride	3 m
0830100365		Reed	Polyvinyl chloride	3 m
0830100368		Reed	Polyvinyl chloride	3 m
0830100370		Reed	Polyurethane	3 m
0830100316		Reed	-	3 m
0830100373		Reed	-	3 m
0830100367		Reed	Polyurethane	3 m
0830100317		Reed	Thermoplastic elastomer	3 m
0830100366		Reed	Polyvinyl chloride	5 m
0830100369		Reed	Polyvinyl chloride	5 m
0830100327		Reed	Polyvinyl chloride	7 m
0830100325		Reed	Polyvinyl chloride	10 m
0830100326		Reed	Thermoplastic elastomer	11 m
R412004848		Reed	Polyvinyl chloride	20 m
0830100371		Reed	Polyvinyl chloride	3 m
0830100372		Reed	Polyvinyl chloride	5 m
0830100375		electronic PNP	Polyvinyl chloride	3 m
0830100378		electronic PNP	Thermoplastic elastomer	3 m
0830100377		electronic PNP	Polyurethane	3 m
0830100376		electronic PNP	Polyvinyl chloride	5 m

Part No.	Min./max. DC operating voltage	Min./max. AC operating voltage
0830100315	0 ... 60 V DC	0 ... 240 V AC
0830100365	12 ... 60 V DC	12 ... 240 V AC
0830100368	12 ... 60 V DC	12 ... 240 V AC
0830100370	12 ... 60 V DC	12 ... 240 V AC
0830100316	0 ... 60 V DC	0 ... 240 V AC
0830100373	0 ... 60 V DC	0 ... 240 V AC
0830100367	12 ... 60 V DC	12 ... 240 V AC
0830100317	12 ... 60 V DC	12 ... 240 V AC
0830100366	12 ... 60 V DC	12 ... 240 V AC
0830100369	12 ... 60 V DC	12 ... 240 V AC
0830100327	12 ... 60 V DC	12 ... 240 V AC
0830100325	12 ... 60 V DC	12 ... 240 V AC
0830100326	12 ... 60 V DC	12 ... 240 V AC
R412004848	12 ... 60 V DC	12 ... 240 V AC
0830100371	12 ... 42 V DC	12 ... 42 V AC
0830100372	12 ... 42 V DC	12 ... 42 V AC
0830100375	10 ... 30 V DC	10 ... 30 V AC
0830100378	10 ... 30 V DC	-
0830100377	10 ... 30 V DC	10 ... 30 V AC
0830100376	10 ... 30 V DC	10 ... 30 V AC

Part No.	Voltage drop U at I _{max}	DC switching current, max.
0830100315	$R_s \cdot I_{max}$	0,13 A
0830100365	$2,1 \text{ V} + I \cdot R_s$	0,13 A
0830100368	$2,1 \text{ V} + I \cdot R_s$	0,3 A
0830100370	$2,1 \text{ V} + I \cdot R_s$	0,3 A
0830100316	$R_s \cdot I_{max}$	0,13 A
0830100373	$R_s \cdot I_{max}$	0,13 A
0830100367	$2,1 \text{ V} + I \cdot R_s$	0,13 A
0830100317	$2,1 \text{ V} + I \cdot R_s$	0,12 A
0830100366	$2,1 \text{ V} + I \cdot R_s$	0,13 A
0830100369	$2,1 \text{ V} + I \cdot R_s$	0,3 A
0830100327	$2,1 \text{ V} + I \cdot R_s$	0,3 A
0830100325	$2,1 \text{ V} + I \cdot R_s$	0,13 A
0830100326	$2,1 \text{ V} + I \cdot R_s$	0,12 A
R412004848	$2,1 \text{ V} + I \cdot R_s$	0,13 A
0830100371	$I \cdot R_s$	0,13 A
0830100372	$I \cdot R_s$	0,13 A
0830100375	$\leq 2,0 \text{ V}$	0,13 A
0830100378	$2,1 \text{ V} + I \cdot R_s$	0,12 A
0830100377	$\leq 2,0 \text{ V}$	0,13 A
0830100376	$\leq 2,0 \text{ V}$	0,13 A

Part No.	AC switching current, max.	Ambient temperature min./max.	Switching capacity
0830100315	0,13 A	-20 ... 80 °C	10 W / 10 VA
0830100365	0,13 A	-20 ... 80 °C	10 W / 10 VA
0830100368	0,5 A	-20 ... 80 °C	10 W / 10 VA
0830100370	0,5 A	-20 ... 80 °C	10 W / 10 VA
0830100316	-	-20 ... 80 °C	10 W / 10 VA
0830100373	-	-20 ... 80 °C	10 W / 10 VA
0830100367	0,13 A	-20 ... 80 °C	10 W / 10 VA
0830100317	0,12 A	-20 ... 120 °C	10 W / 10 VA
0830100366	0,13 A	-20 ... 80 °C	10 W / 10 VA
0830100369	0,5 A	-20 ... 80 °C	10 W / 10 VA
0830100327	0,5 A	-20 ... 80 °C	10 W / 10 VA
0830100325	0,13 A	-20 ... 80 °C	10 W / 10 VA
0830100326	0,12 A	-20 ... 120 °C	10 W / 10 VA
R412004848	0,13 A	-20 ... 80 °C	10 W / 10 VA
0830100371	0,13 A	-20 ... 80 °C	5,5 W / 5,5 VA
0830100372	0,13 A	-20 ... 80 °C	5,5 W / 5,5 VA
0830100375	-	-10 ... 70 °C	-
0830100378	-	-20 ... 120 °C	10 W / 10 VA
0830100377	-	-10 ... 70 °C	-
0830100376	-	-10 ... 70 °C	-

Part No.	Protective resistor for reed	Vibration resistance	Shock resistance
0830100315	27 Ω	-	-

Part No.	Protective resistor for reed	Vibration resistance	Shock resistance
0830100365	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100368	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100370	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100316	1,3 Ω	-	-
0830100373	100 Ω	-	-
0830100367	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100317	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100366	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100369	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100327	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100325	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100326	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
R412004848	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100371	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100372	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100375	-	-	-
0830100378	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100377	-	-	-
0830100376	-	-	-

Part No.	Max. switching frequency	Operating current, not switched
0830100315	300 Hz	-
0830100365	-	-
0830100368	-	-
0830100370	-	-
0830100316	300 Hz	-
0830100373	300 Hz	-
0830100367	-	-
0830100317	-	-
0830100366	-	-
0830100369	-	-
0830100327	-	-
0830100325	-	-
0830100326	-	-
R412004848	-	-
0830100371	-	-
0830100372	-	-
0830100375	2000 Hz	10 mA
0830100378	-	-
0830100377	2000 Hz	10 mA
0830100376	2000 Hz	10 mA

Part No.	Operating current, switched	Material Housing	LED status display
0830100315	-	Polyamide	-
0830100365	-	Polyamide	Yellow

Part No.	Operating current, switched	Material Housing	LED status display
0830100368	-	Polyamide	Yellow
0830100370	-	Polyamide	Yellow
0830100316	-	Polyamide	-
0830100373	-	Polyamide	-
0830100367	-	Polyamide	Yellow
0830100317	-	Polyamide	-
0830100366	-	Polyamide	Yellow
0830100369	-	Polyamide	Yellow
0830100327	-	Polyamide	Yellow
0830100325	-	Polyamide	Yellow
0830100326	-	Polyamide	-
R412004848	-	epoxy resin	Yellow
0830100371	-	Polyamide	Yellow
0830100372	-	Polyamide	Yellow
0830100375	15 mA	Polyamide	Yellow
0830100378	-	Polyamide	-
0830100377	15 mA	Polyamide	Yellow
0830100376	15 mA	Polyamide	Yellow

Part No.	Version	
0830100315	Protected against polarity reversal	1)
0830100365	Protected against polarity reversal	1)
0830100368	Protected against polarity reversal	1)
0830100370	Protected against polarity reversal	1)
0830100316	Protected against polarity reversal	1)
0830100373	Protected against polarity reversal	1)
0830100367	Protected against polarity reversal	1)
0830100317	Protected against polarity reversal	1)
0830100366	Protected against polarity reversal	1)
0830100369	Protected against polarity reversal	1)
0830100327	Protected against polarity reversal	1)
0830100325	Protected against polarity reversal	1)
0830100326	Protected against polarity reversal	1)
R412004848	Protected against polarity reversal	1)
0830100371	Protected against polarity reversal	1)
0830100372	Protected against polarity reversal	1)
0830100375	short circuit resistant, Protected against polarity reversal	2)
0830100378	Protected against polarity reversal	2)
0830100377	short circuit resistant, Protected against polarity reversal	2)
0830100376	short circuit resistant, Protected against polarity reversal	2)

1) without wire end ferrule, tin-plated, 2-pin

2) without wire end ferrule, tin-plated, 3-pin

Technical information

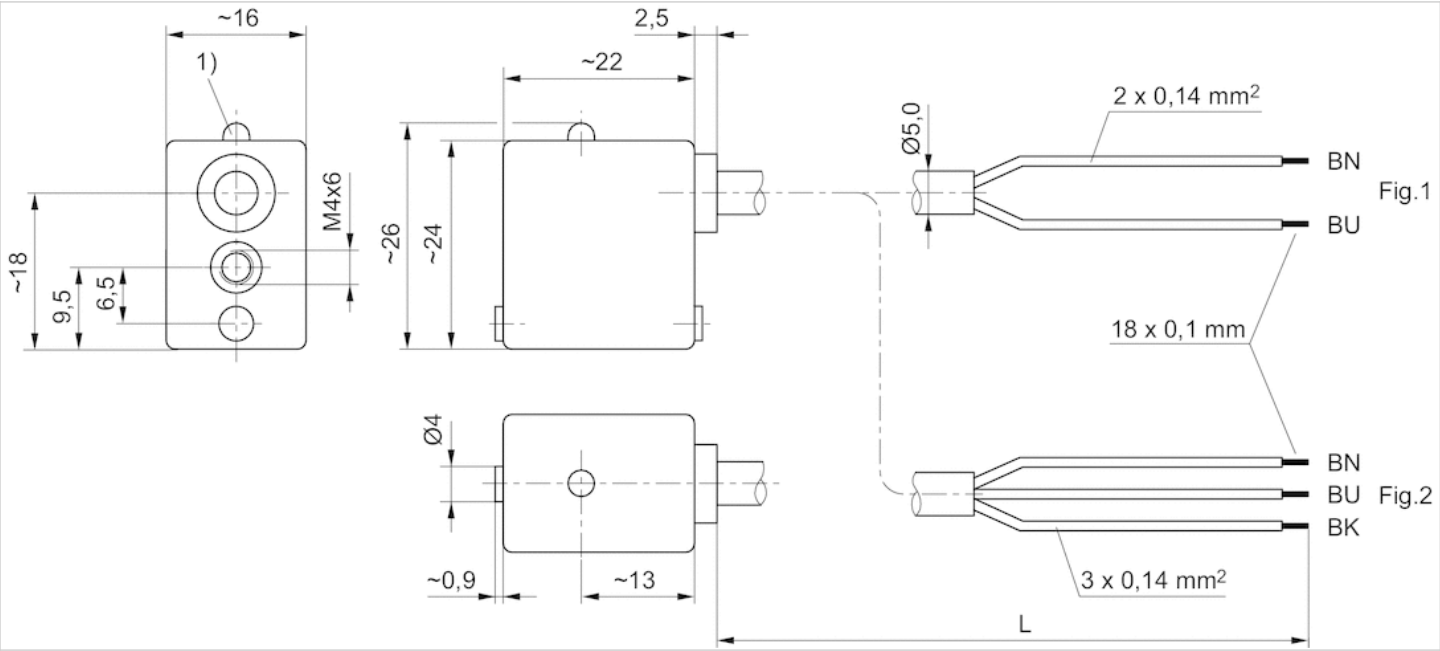
If reed sensors are used, we recommend using a short-circuit protective device (SCPD).

Technical information

Material	
Housing	Polyamide, epoxy resin
Cable sheath	Polyvinyl chloride, Polyurethane, Thermoplastic elastomer

Dimensions

Dimensions



Sensor, Series SN2

- Plug, M8, 2-pin, Plug, M8, 3-pin, Plug, M8, 4-pin
- Reed 2-Wire, Reed 3-Wire, Reed 3-Wire, with pulse stretching, Reed 4-Wire, electronic PNP
- With stretched impulse
- With stretched impulse
- Reed, electronic PNP
- Indirect mounting for series TRB, PRA, ITS, MNI, CSL-RD, ICM, RPC, TRR, FLT, CVI



Ambient temperature min./max.	See table below
Protection class	IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	15 mA
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
LED status display	See table below

Technical data

Part No.		Type of contact	Min./max. DC operating voltage
0830100465		Reed	12 ... 36 V DC
0830100468		Reed	12 ... 36 V DC
R412004299		Reed	12 ... 36 V DC
0830100466		Reed	12 ... 36 V DC
0830100469		Reed	12 ... 36 V DC
R412004820		Reed	12 ... 36 V DC
0830100472		Reed	12 ... 36 V DC
0830100467		Reed	12 ... 36 V DC
0830100480		electronic PNP	10 ... 30 V DC
R412004800		electronic PNP	10 ... 30 V DC

Part No.	Min./max. AC operating voltage	Voltage drop U at I _{max}
0830100465	12 ... 30 V AC	2,1 V + I*Rs
0830100468	12 ... 30 V AC	2,1 V + I*Rs
R412004299	12 ... 30 V AC	2,1 V + I*Rs
0830100466	12 ... 30 V AC	2,1 V + I*Rs
0830100469	12 ... 30 V AC	≤ 0,5 V
R412004820	12 ... 30 V AC	I*Rs
0830100472	12 ... 30 V AC	≤ 1,5 V
0830100467	12 ... 30 V AC	≤ 3,5 V
0830100480	12 ... 30 V AC	≤ 2,0 V
R412004800	-	≤ 2,0 V

Part No.	DC switching current, max.	AC switching current, max.
0830100465	0,13 A	0,13 A
0830100468	0,3 A	0,5 A
R412004299	0,13 A	0,13 A
0830100466	0,13 A	0,13 A
0830100469	0,13 A	0,13 A
R412004820	0,13 A	0,13 A
0830100472	0,2 A	0,13 A
0830100467	0,13 A	0,13 A
0830100480	0,13 A	-
R412004800	0,13 A	-

Part No.	Function	Ambient temperature min./max.
0830100465	Reed 2-Wire	-20 ... 80 °C
0830100468	Reed 2-Wire	-20 ... 80 °C
R412004299	Reed 3-Wire	-20 ... 80 °C
0830100466	Reed 3-Wire	-20 ... 80 °C
0830100469	Reed 3-Wire	-20 ... 80 °C

Part No.	Function	Ambient temperature min./max.
R412004820	Reed 3-Wire	-20 ... 80 °C
0830100472	Reed 3-Wire, with pulse stretching	-20 ... 70 °C
0830100467	Reed 4-Wire	-20 ... 80 °C
0830100480	electronic PNP	-10 ... 70 °C
R412004800	electronic PNP	-10 ... 70 °C

Part No.	Switching capacity	Protective resistor for reed	Vibration resistance
0830100465	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100468	10 W / 10 VA	1,3 Ω	30 g (50 - 2000 Hz)
R412004299	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100466	10 W / 10 VA	100 Ω	30 g (50 - 2000 Hz)
0830100469	5,5 W / 5,5 VA	27 Ω	30 g (50 - 1000 Hz)
R412004820	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100472	5 W / 5 VA	-	35 g (50 - 2000 Hz)
0830100467	10 W / 10 VA	27 Ω	35 g (50 - 2000 Hz)
0830100480	-	-	-
R412004800	-	-	-

Part No.	Shock resistance	Max. switching frequency	Operating current, not switched
0830100465	100 g / 11 ms	-	-
0830100468	100 g / 11 ms	-	-
R412004299	100 g / 11 ms	-	-
0830100466	100 g / 11 ms	-	-
0830100469	100 g / 11 ms	-	-
R412004820	100 g / 11 ms	-	-
0830100472	50 g / 11 ms	-	-
0830100467	50 g / 11 ms	-	-
0830100480	-	2000 Hz	10 mA
R412004800	-	2000 Hz	10 mA

Part No.	Operating current, switched	Material Housing	LED status display
0830100465	-	Polyamide	Yellow
0830100468	-	Polyamide	Yellow
R412004299	-	Polyamide	Yellow
0830100466	-	Polyamide	Yellow
0830100469	-	Polyamide	Yellow
R412004820	-	epoxy resin	Yellow
0830100472	-	-	Red
0830100467	-	epoxy resin	Red
0830100480	15 mA	Polyamide	Yellow
R412004800	15 mA	epoxy resin	Yellow

Part No.	Version
0830100465	Protected against polarity reversal
0830100468	Protected against polarity reversal
R412004299	Protected against polarity reversal
0830100466	Protected against polarity reversal
0830100469	Protected against polarity reversal
R412004820	Protected against polarity reversal
0830100472	Protected against polarity reversal
0830100467	Protected against polarity reversal
0830100480	short circuit resistant, Protected against polarity reversal
R412004800	short circuit resistant, Protected against polarity reversal

- 1) Plug M8, 2-pin
- 2) Plug M8, 3-pin
- 3) Plug M8, 4-pin

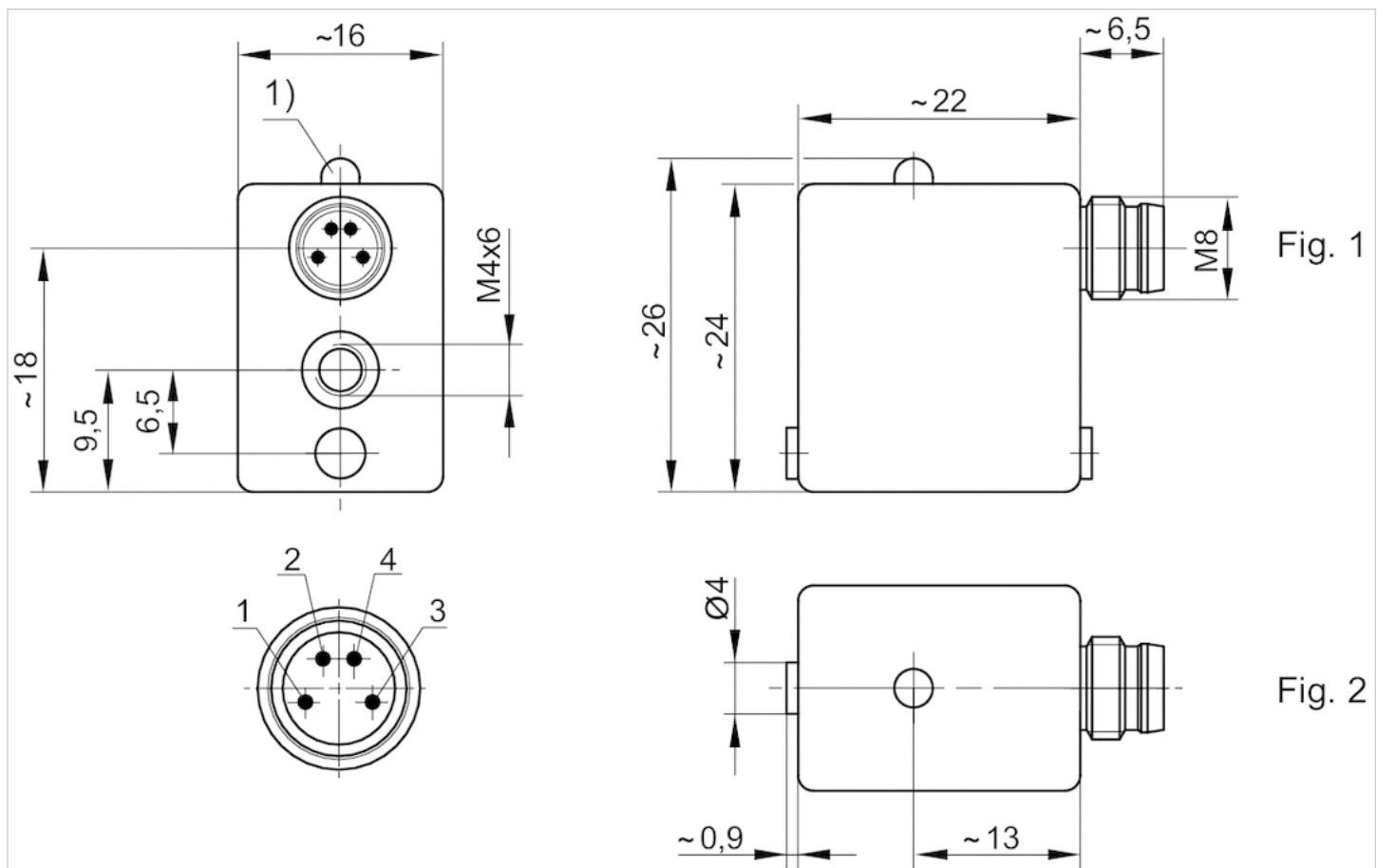
Technical information

If reed sensors are used, we recommend using a short-circuit protective device (SCPD).

Technical information

Material	
Housing	Polyamide, epoxy resin

Fig. 2



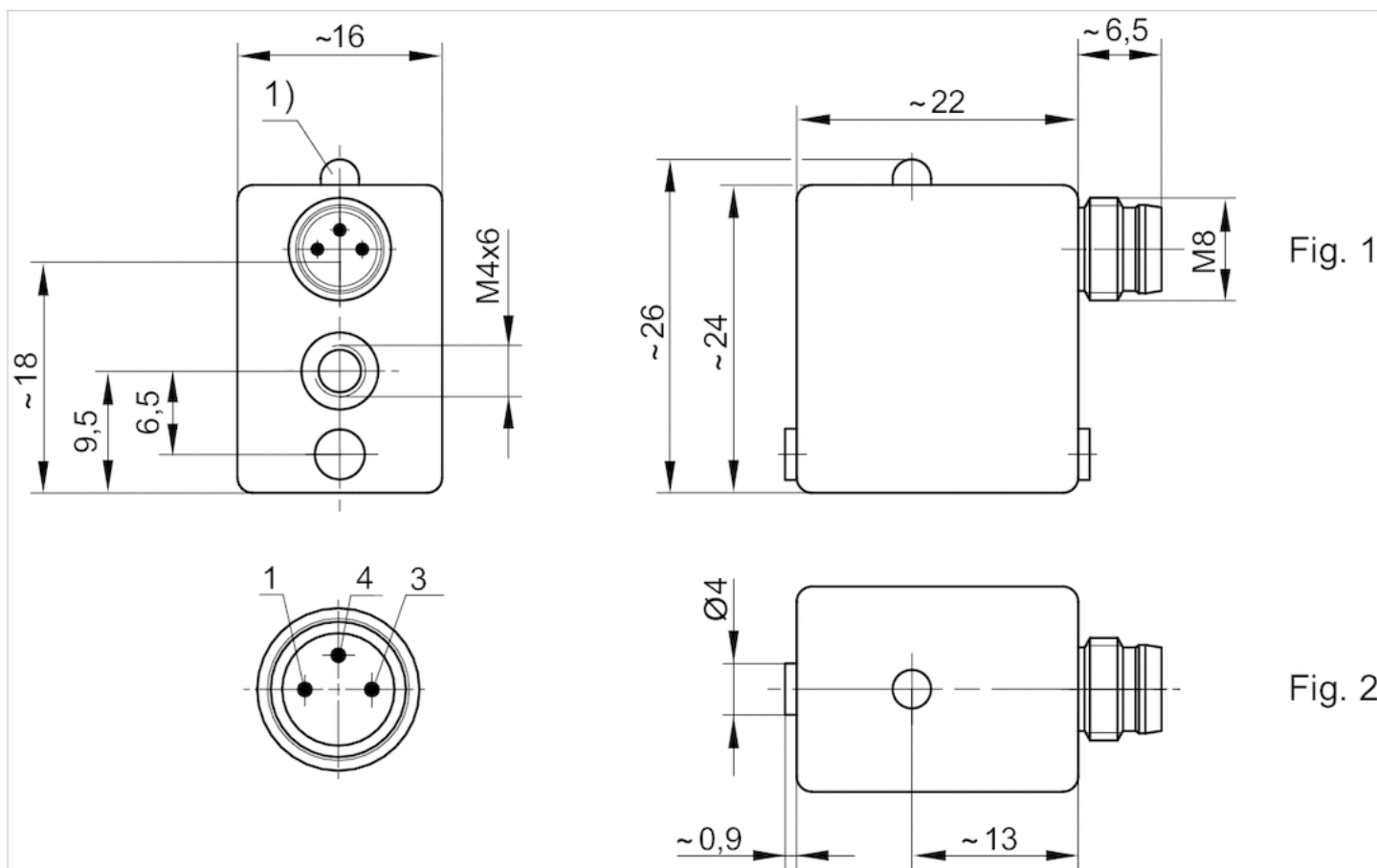
1) LED

M8: combination plug can be combined with valve plug connectors Ø6.5 mm and M8.

Pin assignments: 1 = (+), 3 = (-), 4 = (OUT), EN 60947-5-2:1998

Dimensions

Fig. 1



1) LED

M8: combination plug can be combined with valve plug connectors $\varnothing 6.5$ mm and M8.

Pin assignments: 1 = (+), 3 = (-), 4 = (OUT), EN 60947-5-2:1998

Sensor mounting, Series CB1

- for series SN1, SN2
- to mount on cylinder TRB, TRR



Weight

See table below

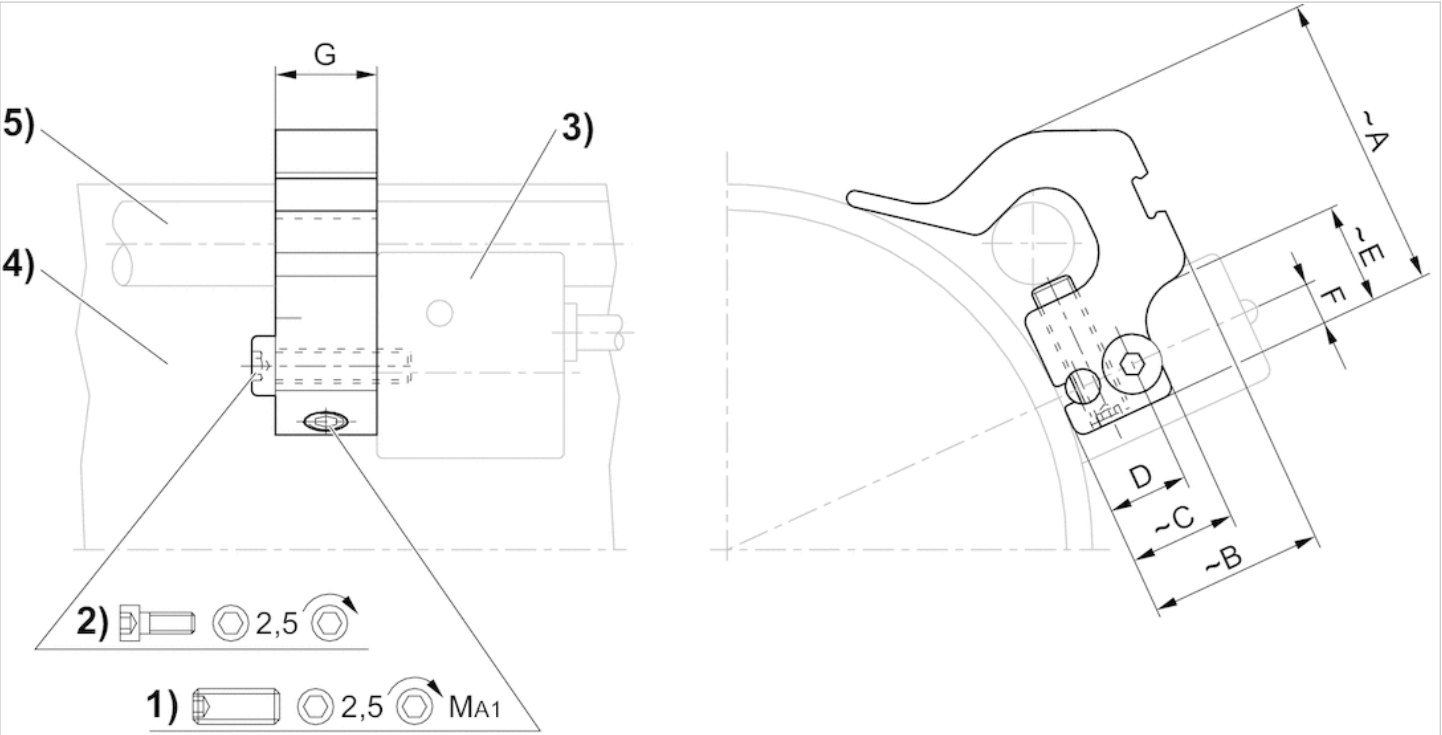
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020081	32 mm	40 mm	SN1, SN2	0,015 kg
1827020082	50 mm	63 mm	SN1, SN2	0,013 kg
1827020083	80 mm	100 mm	SN1, SN2	0,018 kg

Technical information

Material	
	Aluminum

Dimensions



1) Clamping threaded pin 2) Mounting screw for sensor 3) Sensor 4) Cylinder profile 5) Tie rod

Dimensions

Part No.	Cylinders Ø mm	A	B	C	D	E	F	G	1)	MA1 [Nm]
1827020081	32 mm	25.3	12.5	12.5	9.5	–	5	16	M5x16	1 +0,3
1827020082	50 mm	28.7	15.6	12.5	9.5	12	5	12	M5x16	1 +0,3
1827020083	80 mm	33.8	23	12.5	9.5	12	5	12	M5x16	1 +0,3

Sensor mounting, Series CB1

- for series ST6, SM6
- to mount on cylinder TRB, C12P, 167, CVI, TRR, 523



Weight

See table below

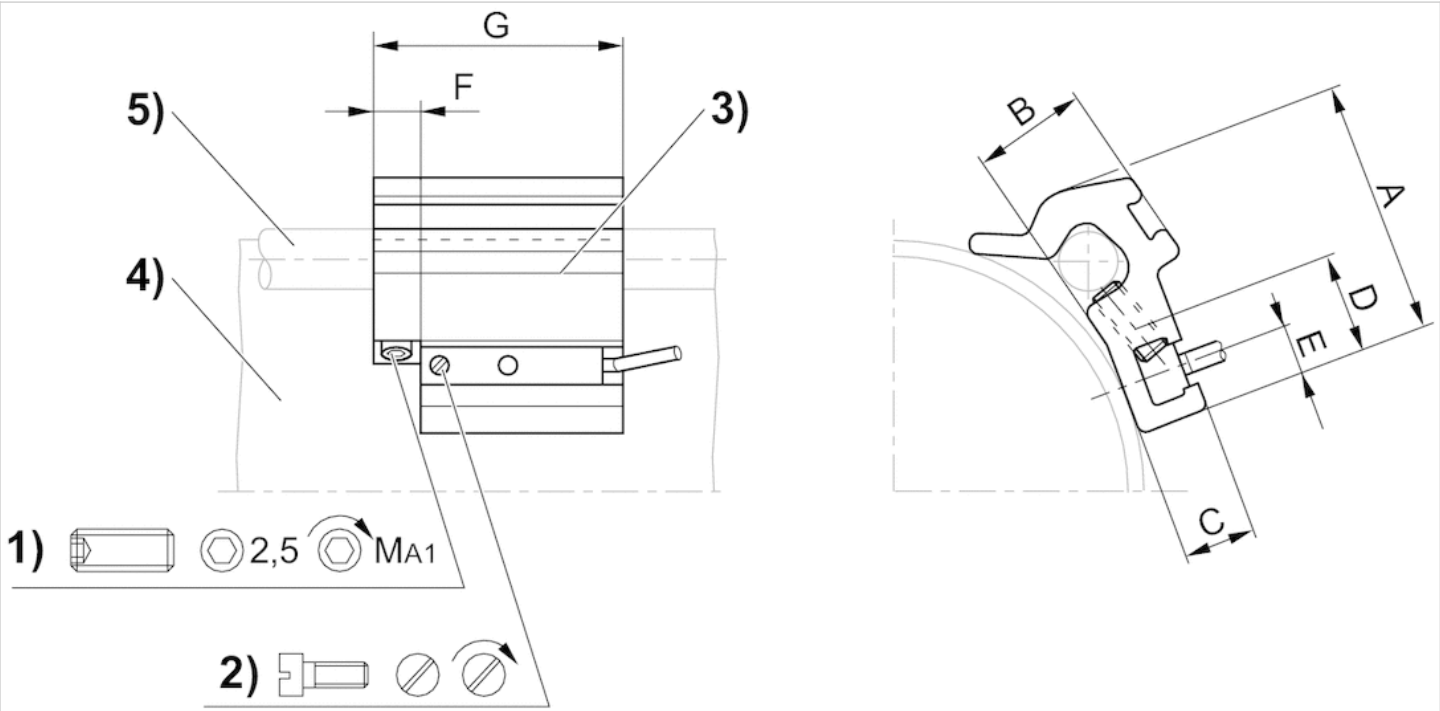
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020282	32 mm	40 mm	ST6, SM6	0,016 kg
1827020283	50 mm	63 mm	ST6, SM6	0,029 kg
1827020284	80 mm	100 mm	ST6, SM6	0,042 kg

Technical information

Material	
	Aluminum

Dimensions



1) Clamping threaded pin 2) Mounting screw for sensor 3) Sensor 4) Cylinder profile 5) Tie rod

Dimensions

Part No.	A	B	C	D	E	F	G	1)	MA1 [Nm]
1827020282	26	10	7	14	5	8	40	M5x8	2 ±0,2
1827020283	32.5	15.5	7	14	5	8	40	M5x10	2 ±0,2
1827020284	43	17	6.9	14	5	8	40	M5x16	2 ±0,2