

Sensors, Series ST6



AVENTICS™ Sensors, Series ST6



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, RPC, ICS-D2, ICM, KHZ, TRR



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
Cable length L	3 5 10 m

Technical data

Part No.		for	Type of contact
R412022866		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412027170		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
R412027170	5 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
R412027170	≤ 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
R412027170	0.13 A	Reed, 2-pin: max. 10 W
R412022869	0.5 A	Reed, 3-pin: max. 6 W
R412022870	0.5 A	Reed, 3-pin: max. 6 W
R412022871	0.5 A	Reed, 3-pin: max. 6 W

Part No.	AC switching current, max.	Switching capacity
R412022853	-	-
R412022855	-	-
R412022857	-	-
R412022849	-	-
R412022850	-	-

Part No.	Max. switching frequency	Operating current, not switched
R412022866	400 Hz	-
R412027170	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	-
R412027170	-
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)
R412027170	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	3)
R412022855	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022857	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022849	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022850	short circuit resistant Protected against polarity reversal	Fig. 2	3)

1) open cable ends, 2-pin, The product of operating voltage and continuous current must not exceed the maximum switching capacity.

2) open cable ends, 3-pin, The product of operating voltage and continuous current must not exceed the maximum switching capacity.

3) open cable ends, 3-pin

Technical information

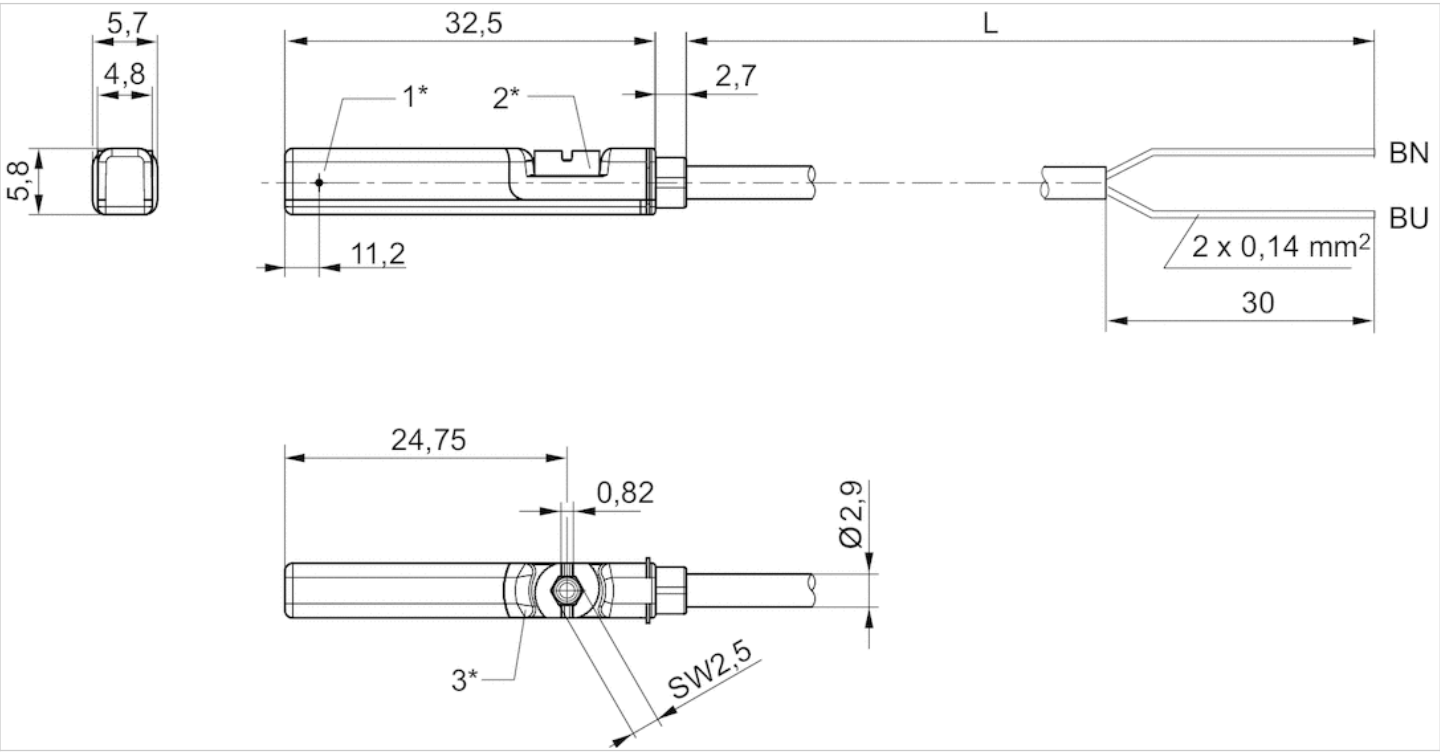
No cULus certification for 230 V variant.

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

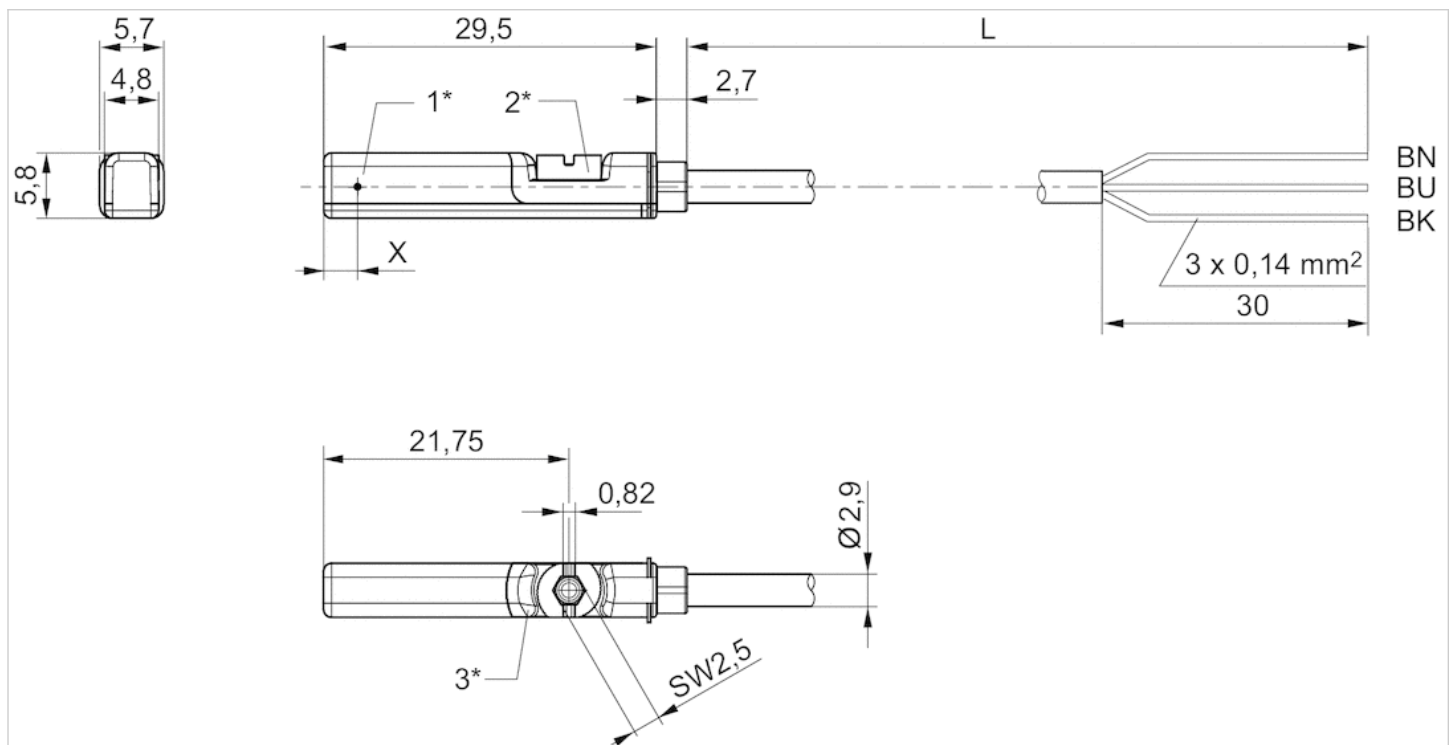
Dimensions

Fig. 1



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

Fig. 2



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

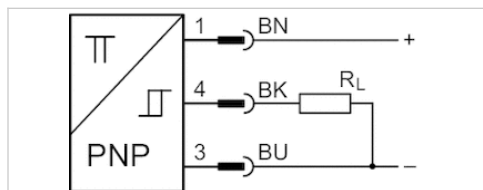
L = cable length

BN = brown, BK = black, BU = blue

X = electronic: 11.6 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 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, RPC, ICS-D2, 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

Cable length L

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

3 5 m

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

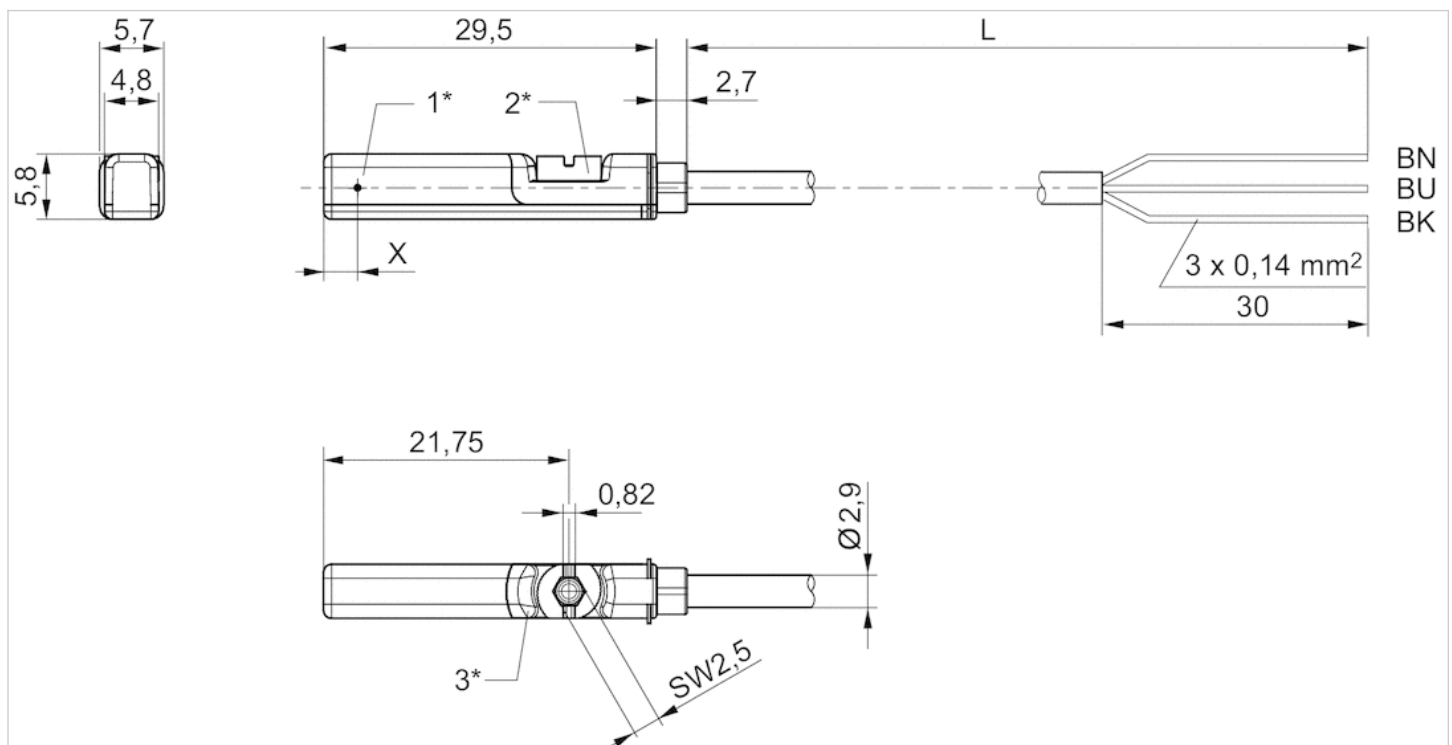
Part No.	Version
R412022854	short circuit resistant Protected against polarity reversal

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

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions



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

L = cable length

BN = brown, BK = black, BU = blue

X = electronic: 11.6 mm

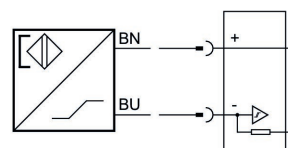
Sensor, Series ST6

R412027173

General series information

AVENTICS Series ST6 Magnetic proximity sensors

- The AVENTICS Series ST6 sensors are suitable for mounting in the 6 mm T-slot as well as sensor mounting to the cylinder. They are suited for mounting to all AVENTICS round cylinders, tie rod cylinders, and profile cylinders. With their optimized, compact shape, the sensors can be flush-fit into existing slots and integrated into any machine environment, even with sensor mounting. Retaining ribs on the side of the sensor enable simple mounting, including in hard-to-reach locations or for overhead assembly. The durable mounting screw holds the sensor in the desired position and can withstand shocks or vibrations.



Technical data

Industry

Direct mounting for series

Indirect mounting for series

Industrial

PRA
PRE
CCI
KPZ
SSI
GPC
CVI
TRB
ITS
CCL-IS
MNI
CSL-RD
RPC
ICS-D2
ICM
KHZ
TRR

Slot width	6 mm T-slot
Cable	with cable
Certificates	ATEX CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Protection class	IP67
Min. ambient temperature	-25 °C
Max. ambient temperature	80 °C
Max. switching frequency	1000 Hz
Electrical connection 2, type	Plug
Electrical connection 2, thread size	M12x1
Electrical connection 2, number of poles	2-pin
Operating voltage DC, max.	8.2 V DC
Shock resistance	30 g / 11 ms
Vibration resistance	10 - 55 Hz, 1 mm
Cable length L	0.3 m

Material

Housing material	Polyamide fiber-glass reinforced
Material cable sheath	Polyurethane
Material locking screw	Stainless Steel
Part No.	R412027173

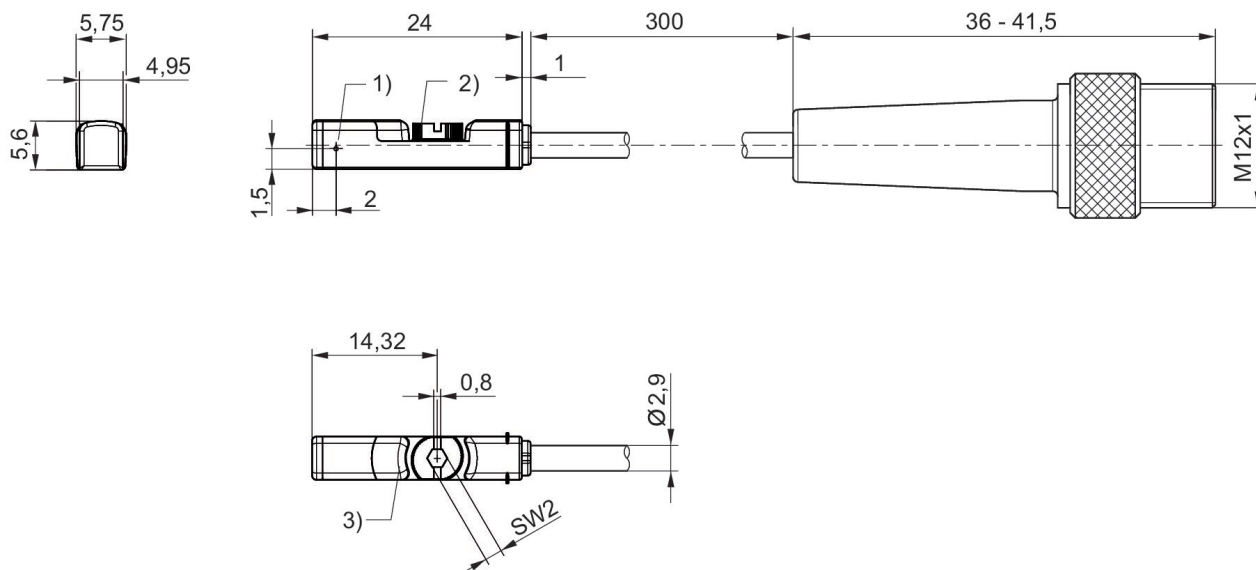
Technical information

The pressure dew point must be at least 15 °C less than 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 <https://www.emerson.com/en-us/support>).

Dimensions in mm



- 1) Switching point
- 2) Locking screw
- 3) LED window, transparent

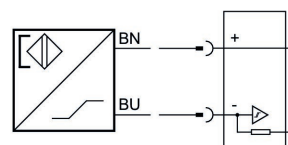
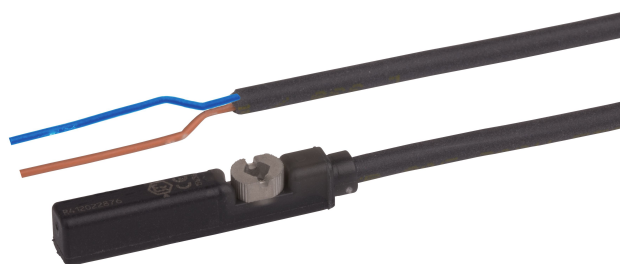
Sensor, Series ST6

R412027174

General series information

AVENTICS Series ST6 Magnetic proximity sensors

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Technical data

Industry

Direct mounting for series

Indirect mounting for series

Industrial

PRA
PRE
CCI
KPZ
SSI
GPC
CVI
TRB
ITS
CCL-IS
MNI
CSL-RD
RPC
ICS-D2
ICM
KHZ
TRR

Slot width	6 mm T-slot
Cable	with cable
Certificates	ATEX CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Protection class	IP67
Min. ambient temperature	-25 °C
Max. ambient temperature	80 °C
Max. switching frequency	1000 Hz
Electrical connection 2, type	Wire end clips
Electrical connection 2, number of poles	2-pin
Operating voltage DC, max.	8.2 V DC
Shock resistance	30 g / 11 ms
Vibration resistance	10 - 55 Hz, 1 mm
Cable length L	5 m

Material

Housing material	Polyamide fiber-glass reinforced
Material cable sheath	Polyurethane
Material locking screw	Stainless Steel
Part No.	R412027174

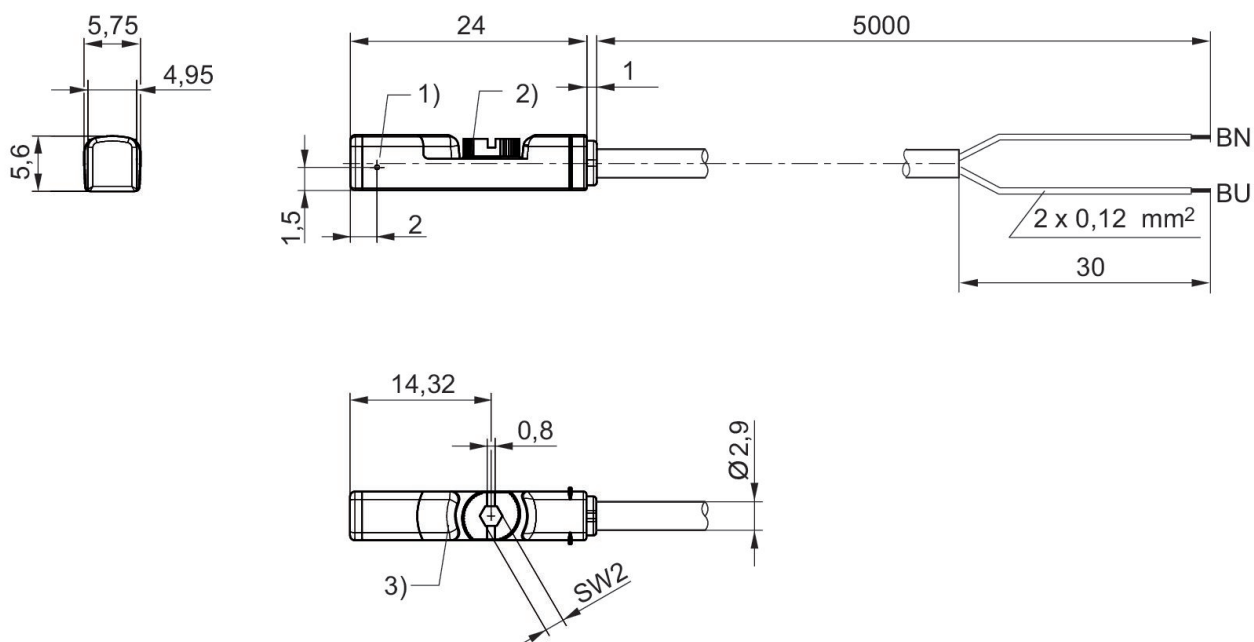
Technical information

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Dimensions in mm



- 1) Switching point
2) Locking screw
3) LED window, transparent
BN = brown, BU = blue

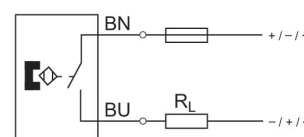
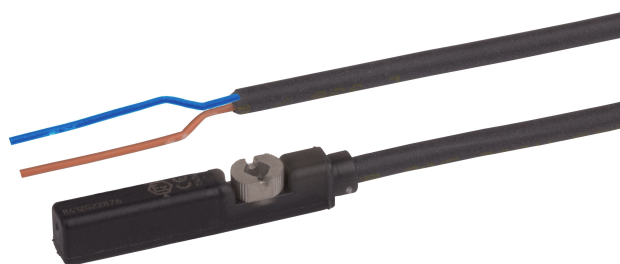
Sensor, Series ST6

R412027175

General series information

AVENTICS Series ST6 Magnetic proximity sensors

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Technical data

Industry

Direct mounting for series

Indirect mounting for series

Slot width

Industrial

PRA

PRE

CCI

KPZ

SSI

GPC

CVI

TRB

ITS

CCL-IS

MNI

CSL-RD

RPC

ICS-D2

ICM

KHZ

TRR

6 mm T-slot

Cable	with cable
Type of contact	Reed
Certificates	ATEX CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Protection class	IP67
Min. ambient temperature	-20 °C
Max. ambient temperature	60 °C
Max. switching frequency	400 Hz
Electrical connection 2, type	open cable ends
Electrical connection 2, number of poles	2-pin
Operating voltage DC, min.	5 V DC
Operating voltage DC, max.	30 V DC
Operating voltage AC, min.	5 V AC
Operational voltage AC, max.	30 V AC
Shock resistance	30 g / 11 ms
Vibration resistance	10 - 55 Hz, 1 mm
Cable length L	5 m

Material

Housing material	Polyamide fiber-glass reinforced
Material cable sheath	Polyurethane
Material locking screw	Stainless Steel
Part No.	R412027175

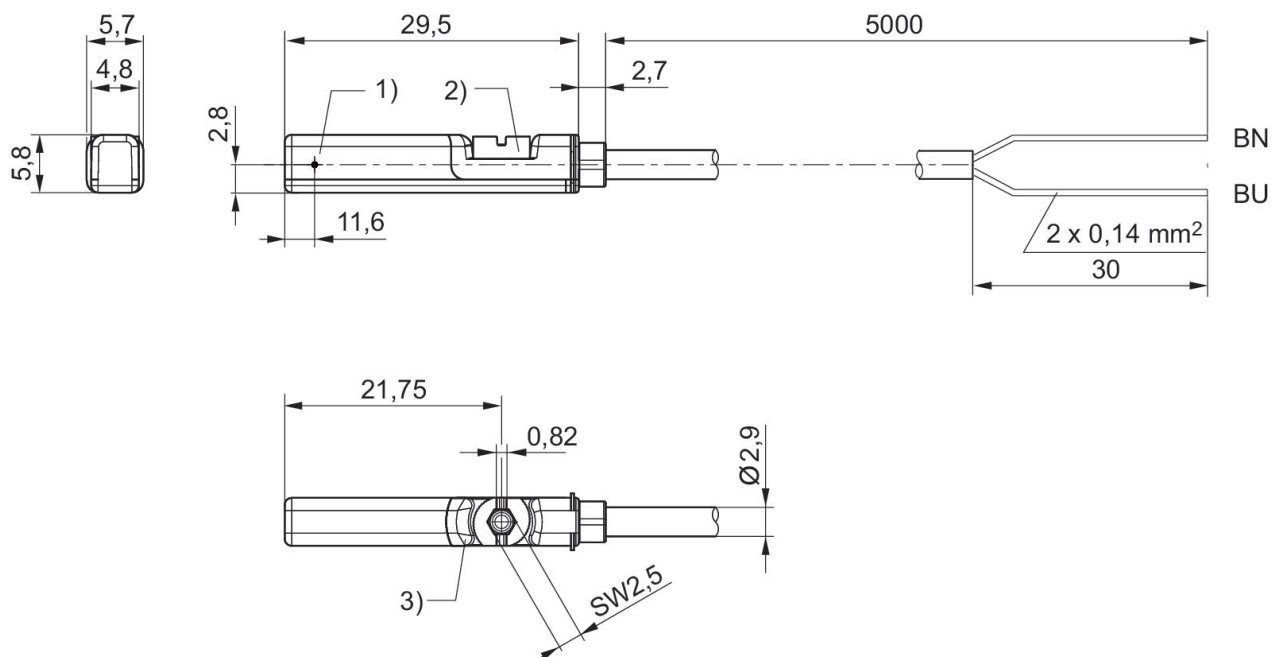
Technical information

The pressure dew point must be at least 15 °C less than 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 <https://www.emerson.com/en-us/support>).

Dimensions in mm



- 1) Switching point
2) Locking screw
3) LED window, transparent
BN = brown, BU = blue

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, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
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
Cable length L	0.3 0.5 m

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

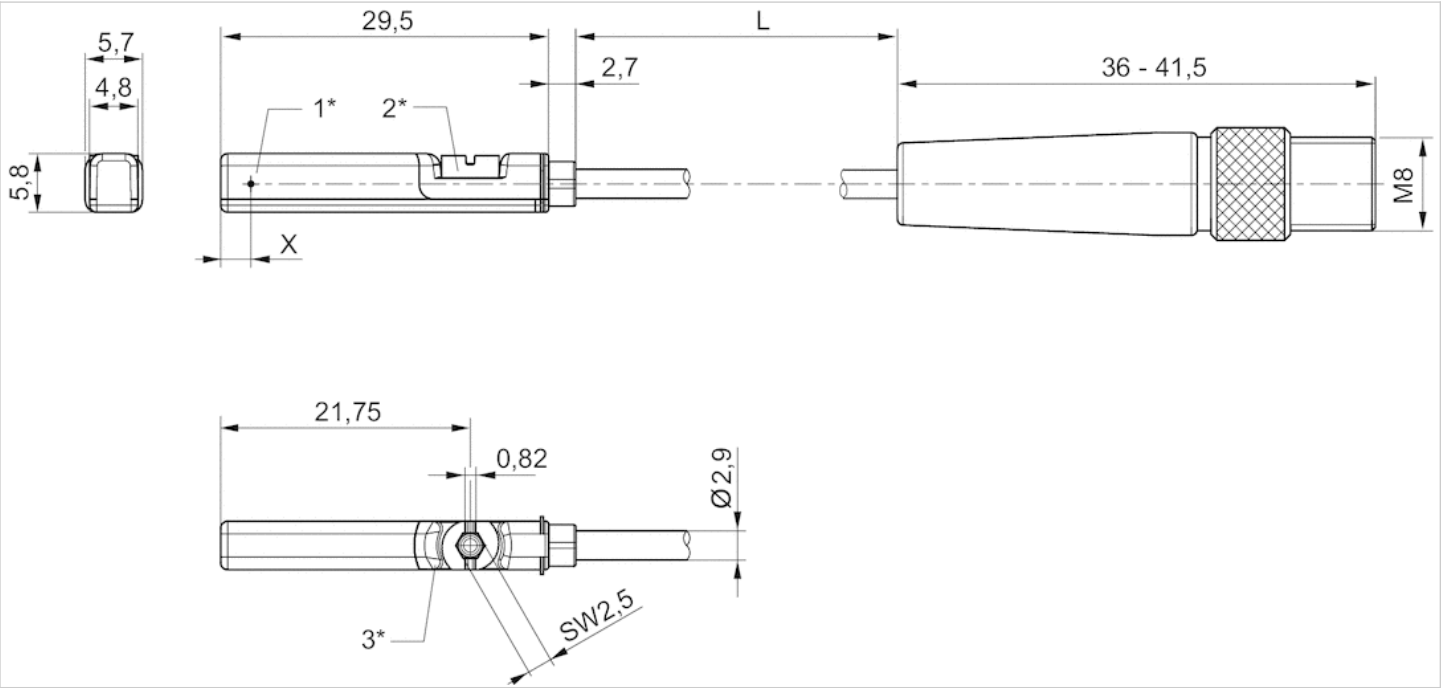
Part No.	Version
R412022873	Protected against polarity reversal
R412022875	Protected against polarity reversal
R412022874	Protected against polarity reversal
R412022859	short circuit resistant Protected against polarity reversal
R412022862	short circuit resistant Protected against polarity reversal
R412022861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

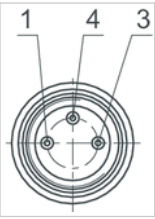
Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = electronic: 11,6 mm, Reed: 8,3 mm

Pin assignments

Pin assignments



Pin	1	3	4
Allocation	(+)	(-)	(OUT)

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin Plug, M8, 2-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, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
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)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m

Technical data

Part No.		for	Type of contact
R412022868		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412027172		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
R412027172	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
R412027172	0.13 A	0.13 A
R412022872	0.3 A	0.5 A
R412022858	0.13 A	-

Part No.	DC switching current, max.	AC switching current, max.
R412022851	0.13 A	-

Part No.	Switching capacity	Max. switching frequency
R412022868	Reed, 2-pin: max. 10 W	400 Hz
R412027172	Reed, 2-pin: max. 10 W	400 Hz
R412022872	Reed, 3-pin: max. 6 W	400 Hz
R412022858	-	1000 Hz
R412022851	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched
R412022868	-	-
R412027172	-	-
R412022872	-	-
R412022858	8 mA	30 mA
R412022851	8 mA	30 mA

Part No.	Version	
R412022868	Protected against polarity reversal	1)
R412027172	Protected against polarity reversal	1)
R412022872	Protected against polarity reversal	1)
R412022858	short circuit resistant Protected against polarity reversal	-
R412022851	short circuit resistant Protected against polarity reversal	-

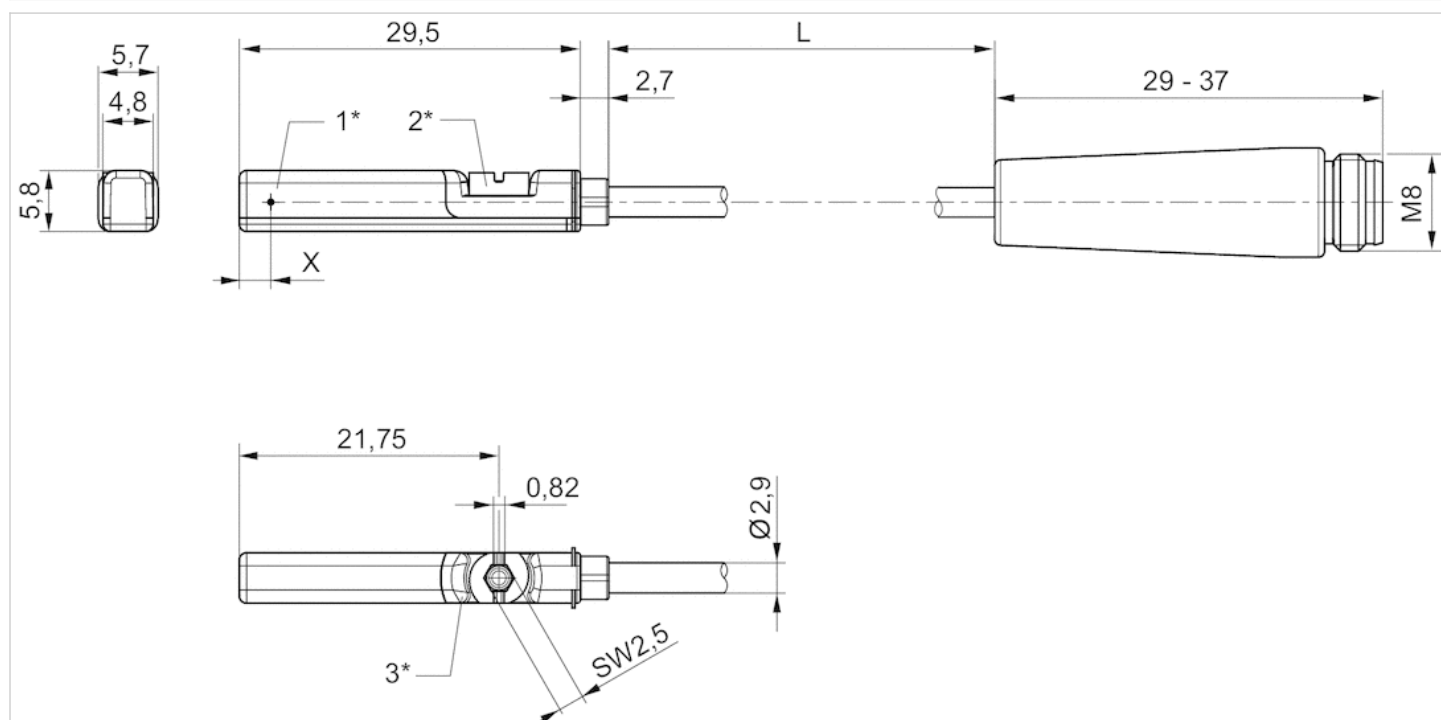
1) The product of operating voltage and continuous current must not exceed the maximum switching capacity.

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



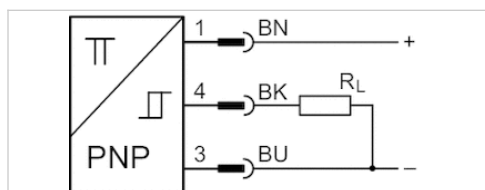
1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

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

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, RPC, ICS-D2, ICM, KHZ, TRR



Certificates

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

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

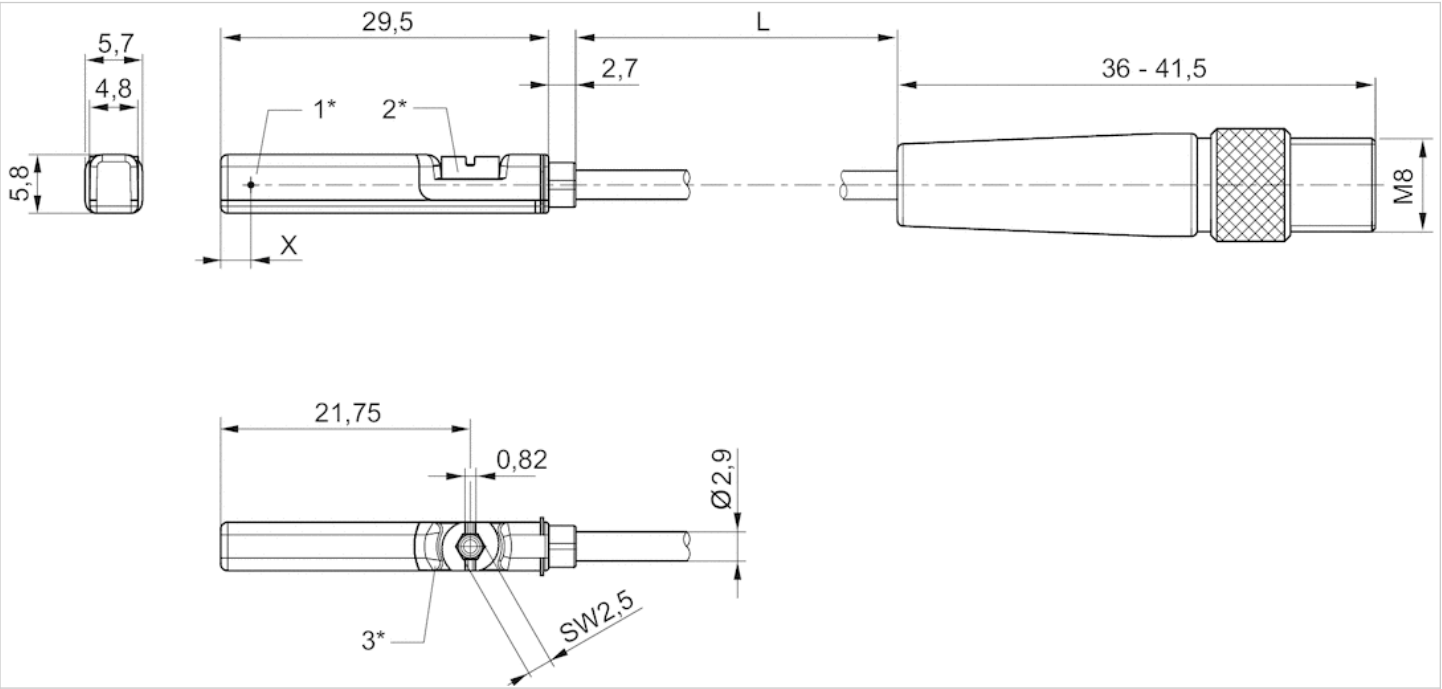
Part No.	Version
R412022860	short circuit resistant Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

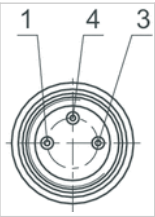
Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length
 X = electronic: 11,6 mm, Reed: 8,3 mm

Pin assignments

Pin assignments



Pin	1	3	4
Allocation	(+)	(-)	(OUT)

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M12, 2-pin, with knurled screw 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, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	See table below
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)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 0.1 3 5 m

Technical data

Part No.		for	Type of contact
R412027171		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022876		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022879		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022863		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022877		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022878		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP

Part No.	Cable length L	Min./max. AC operating voltage	Voltage drop U at I _{max}
R412027171	0.3 m	10 ... 30 V AC	≤ 3,5 V
R412022876	0.3 m	10 ... 30 V AC	≤ 0,1 V
R412022879	0.1 m	-	≤ 2,5 V
R412022863	0.3 m	-	≤ 2,5 V
R412022877	3 m	-	≤ 2,5 V
R412022878	5 m	-	≤ 2,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412027171	0.13 A	0.13 A
R412022876	0.3 A	0.5 A

Part No.	DC switching current, max.	AC switching current, max.
R412022879	0.13 A	-
R412022863	0.13 A	-
R412022877	0.13 A	-
R412022878	0.13 A	-

Part No.	Switching capacity	Max. switching frequency
R412027171	Reed, 2-pin: max. 10 W	400 Hz
R412022876	Reed, 3-pin: max. 6 W	400 Hz
R412022879	-	1000 Hz
R412022863	-	1000 Hz
R412022877	-	1000 Hz
R412022878	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched	Protection class
R412027171	-	-	IP65, IP67
R412022876	-	-	IP65, IP67
R412022879	8 mA	30 mA	IP65, IP67
R412022863	8 mA	30 mA	IP65, IP67, IP69K
R412022877	8 mA	30 mA	IP65, IP67
R412022878	8 mA	30 mA	IP65, IP67

Part No.	Version	
R412027171	Protected against polarity reversal	1)
R412022876	Protected against polarity reversal	1)
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	-

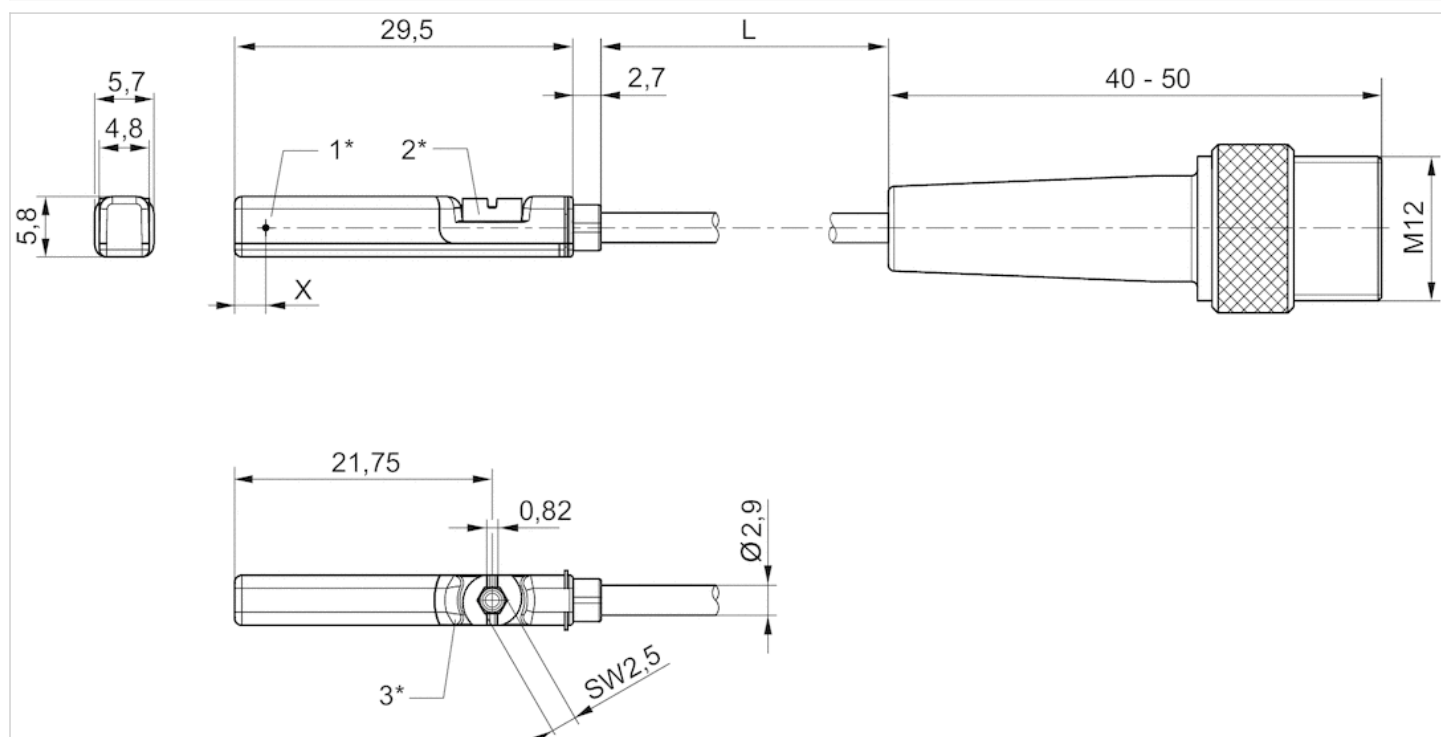
1) The product of operating voltage and continuous current must not exceed the maximum switching capacity.

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



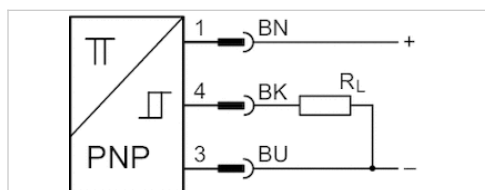
1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

X = PNP: 11,6 mm, reed: 8,3 mm

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, RPC, ICS-D2, ICM, KHZ, TRR



Certificates

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

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

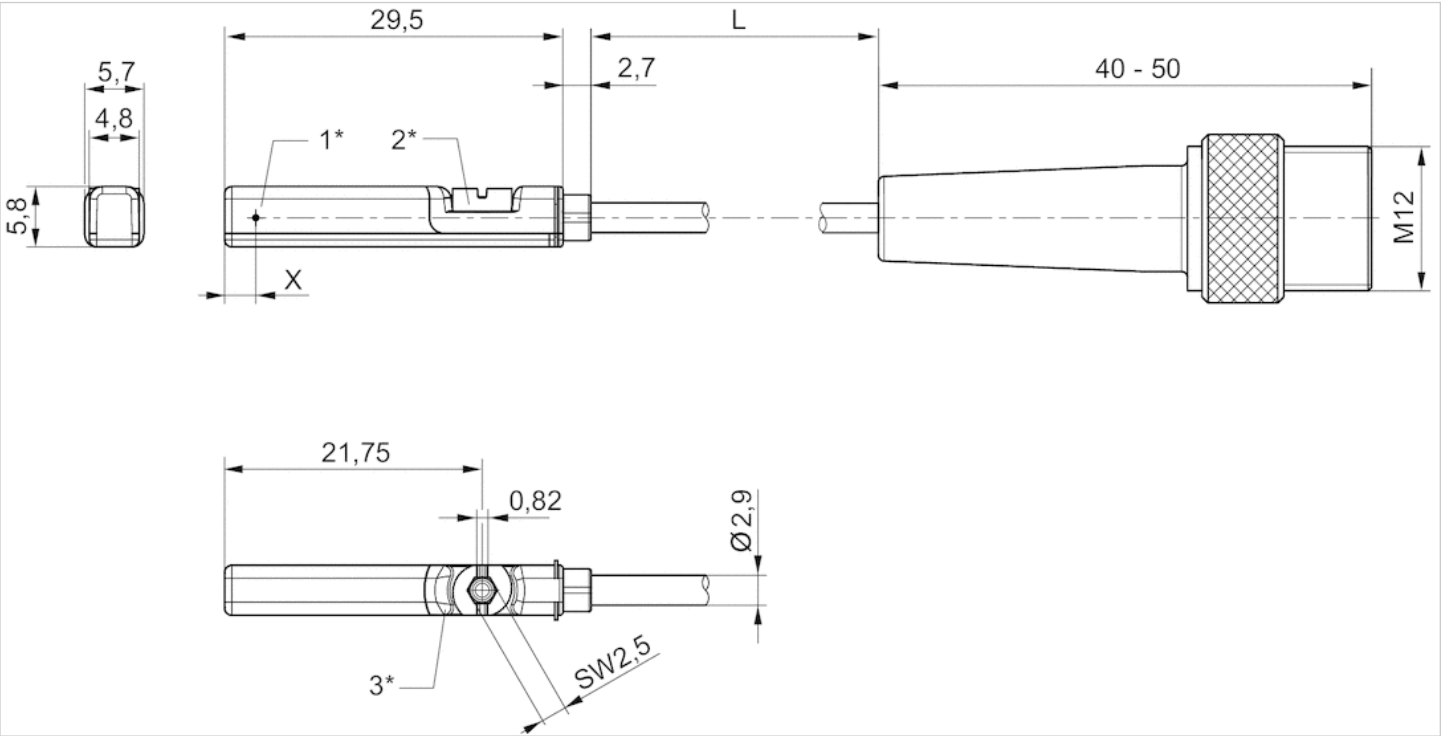
Part No.	Version
R412022864	short circuit resistant Protected against polarity reversal

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, reed: 8,3 mm

Pin assignments

Pin assignments



Pin	1	3	4
Allocation	(+)	(-)	(OUT)

Sensor, Series ST6-HT

- 6 mm T-slot
- with cable
- open cable ends, 2-pin
- Heat resistant
- UL certification
- Reed
- Direct mounting for series PRA, PRE, CCI, KPZ
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC



Certificates

Ambient temperature min./max.

Protection class

Switching point precision

Min./max. DC operating voltage

Min./max. AC operating voltage

Switching logic

Switching capacity

Vibration resistance

Shock resistance

Cable length L

RoHS, UL (Underwriters Laboratories)

-20 ... 120 °C

IP65, IP67

±0,1 mT

0 ... 30 V DC

0 ... 30 V AC

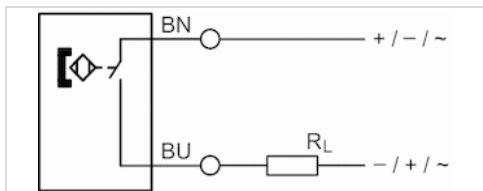
NO (make contact)

Reed, 2-pin: max. 10 W

10 - 55 Hz, 1 mm

30 g / 11 ms

see table



Technical data

Part No.	for	Type of contact	Cable length L	Voltage drop U at I _{max}
R412022865	PRA, PRE, CCI, KPZ	Reed	3 m	≤ 3,5 V
R412022867	PRA, PRE, CCI, KPZ	Reed	10 m	≤ 3,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412022865	0.13 A	0.13 A
R412022867	0.13 A	0.13 A

Part No.	Max. switching frequency	Version
R412022865	400 Hz	Protected against polarity reversal
R412022867	400 Hz	Protected against polarity reversal

Part No.	Temperature resistance
R412022865	Heat resistant

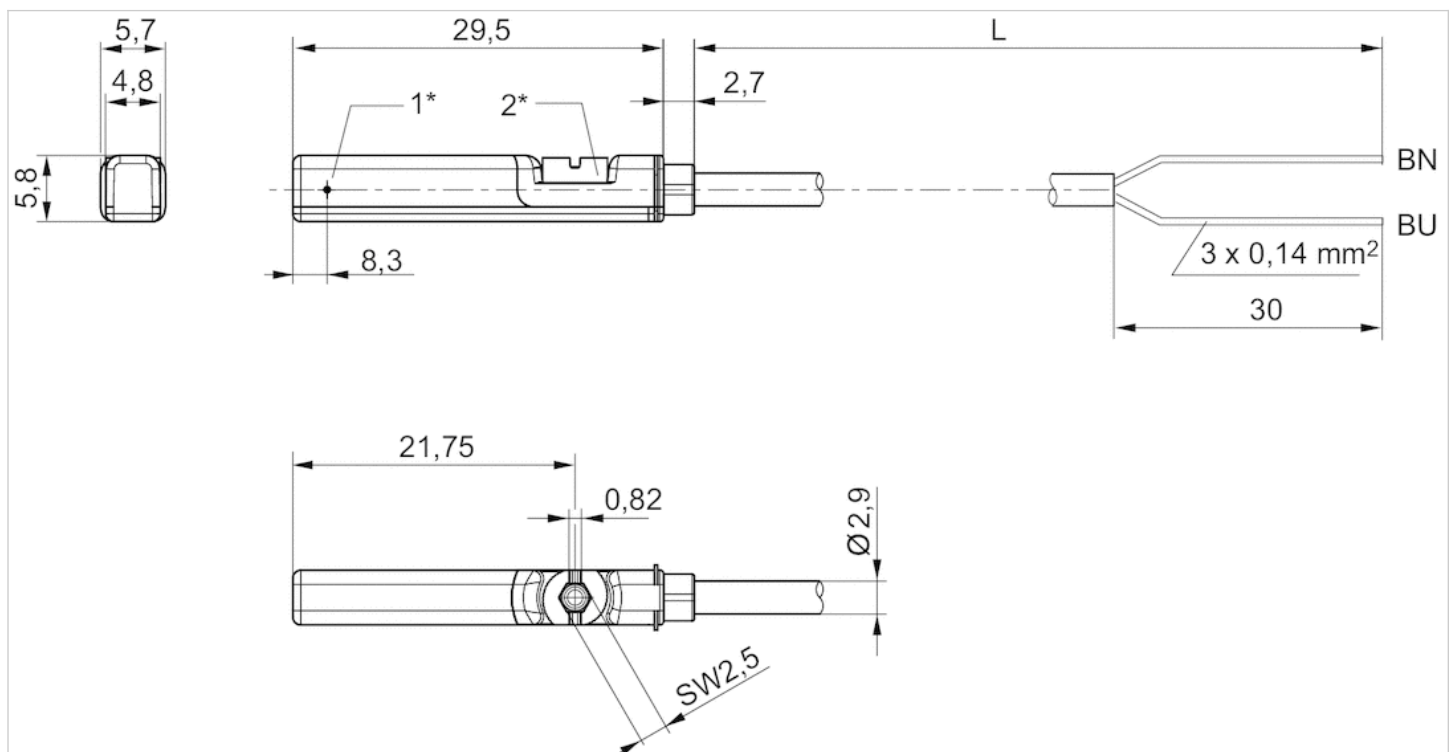
Part No.	Temperature resistance
R412022867	Heat resistant

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw

L = cable length

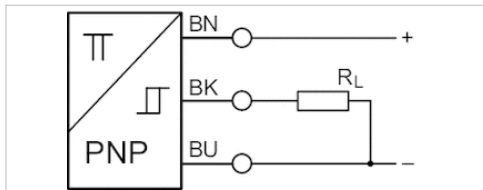
BN=brown, BU=blue

Sensor, Series ST6-LT

- 6 mm T-slot
- with cable
- open cable ends, 3-pin Plug, M8x1, 3-pin, with knurled screw Plug, M12x1, 3-pin, with knurled screw
- -40 °C cold-resistant
- UL certification
- electronic PNP
- Direct mounting for series PRA
- Indirect mounting for series TRB, ITS



Certificates	RoHS, UL (Underwriters Laboratories), cULus
Ambient temperature min./max.	-40 ... 80 °C
Protection class	IP65, IP67, IP68
Switching point precision	±0,1 mT
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	10 ... 30 V DC
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
Cable length L	see table



Technical data

Part No.	for	Type of contact	Cable length L	Voltage drop U at I _{max}
R412024011	PRA	electronic PNP	5 m	≤ 2,5 V
R412024669	PRA	electronic PNP	0.3 m	≤ 2,5 V
R412024670	PRA	electronic PNP	0.3 m	≤ 2,5 V

Part No.	DC switching current, max.	Max. switching frequency	Material Housing
R412024011	0.2 A	1000 Hz	Polyurethane
R412024669	0.2 A	1000 Hz	Polyamide
R412024670	0.2 A	1000 Hz	Polyamide

Part No.	Version	Temperature resistance	Fig.	
R412024011	short circuit resistant	-40 °C cold-resistant	Fig. 1	1)
R412024669	short circuit resistant	-40 °C cold-resistant	Fig. 2	2)
R412024670	short circuit resistant	-40 °C cold-resistant	Fig. 3	3)

- 1) open cable ends, 3-pin
- 2) Plug M8x1, 3-pin, with knurled screw
- 3) plug M12, 3-pin, with knurled screw

Technical information

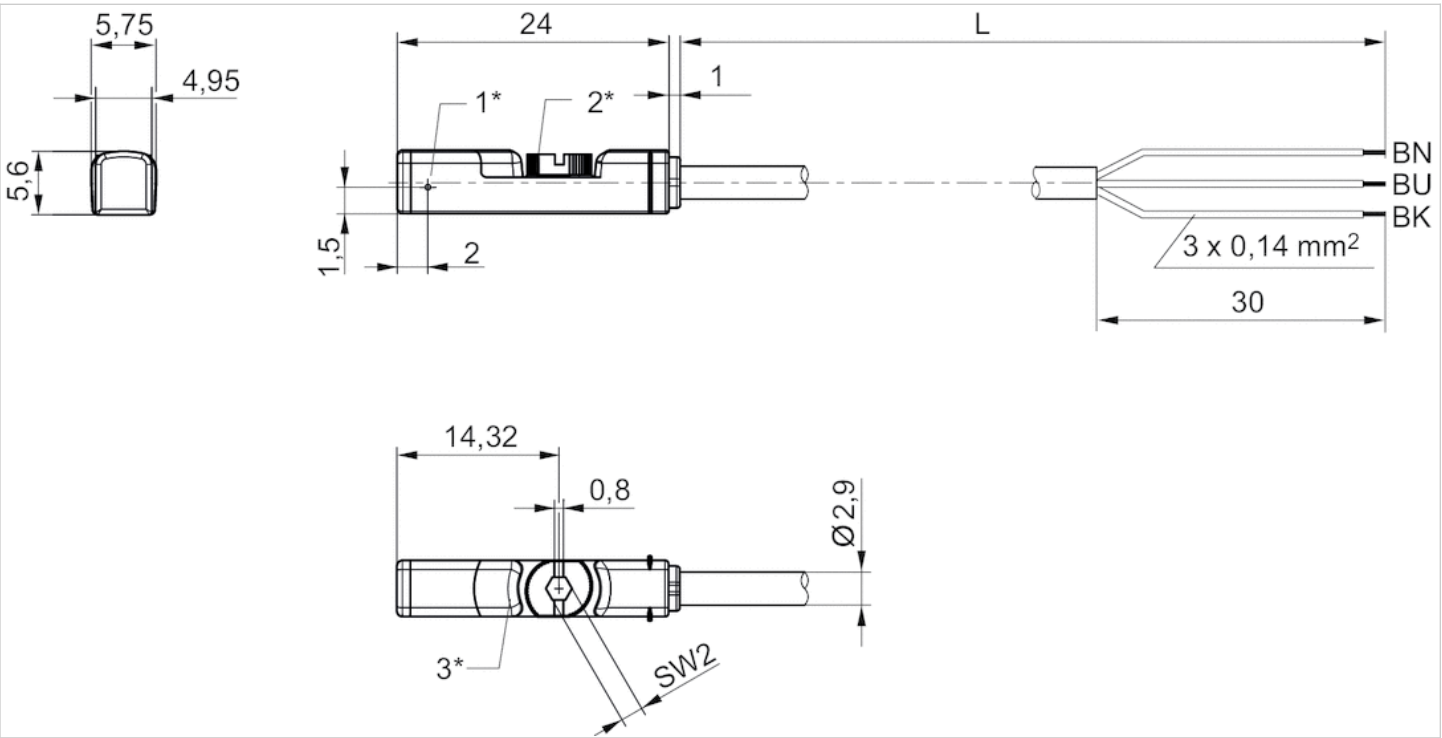
Cables must be firmly installed at temperatures of -40 °C ... -20 °C.

Technical information

Material	
Housing	Polyurethane Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

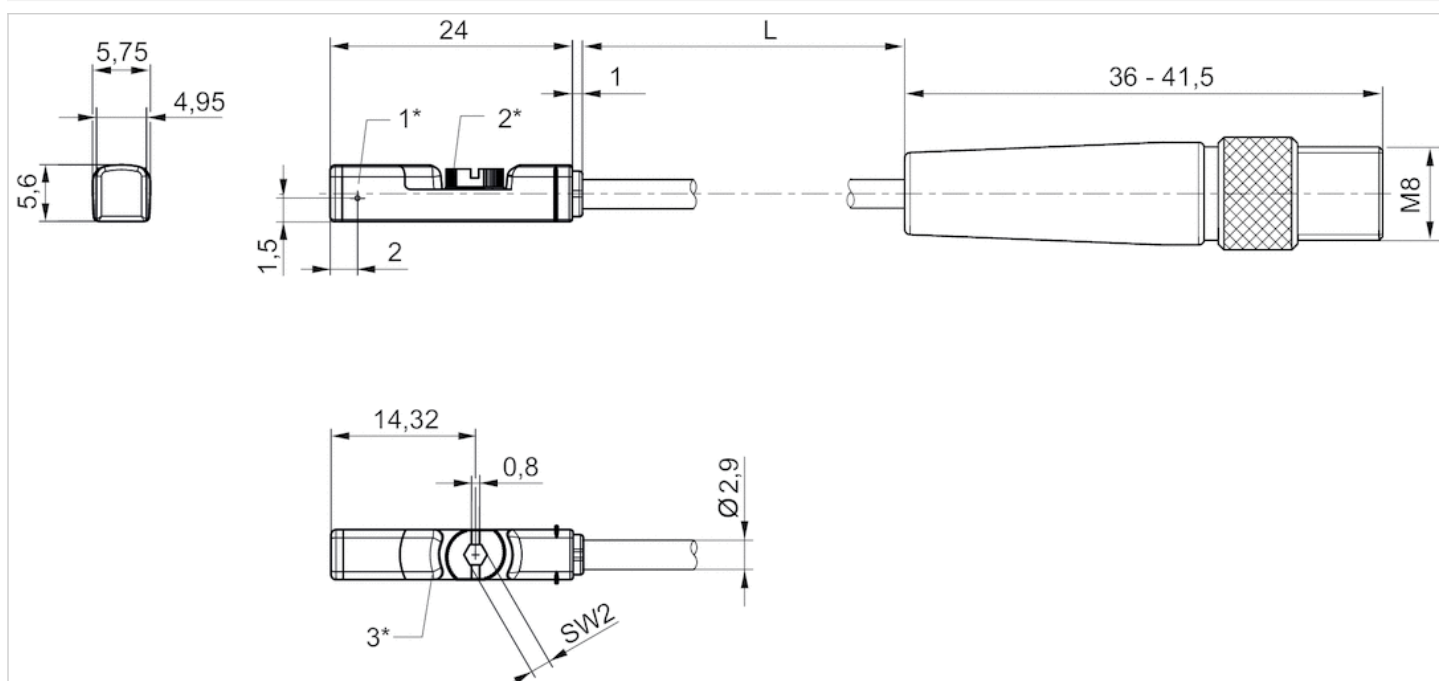
Dimensions

Fig. 1



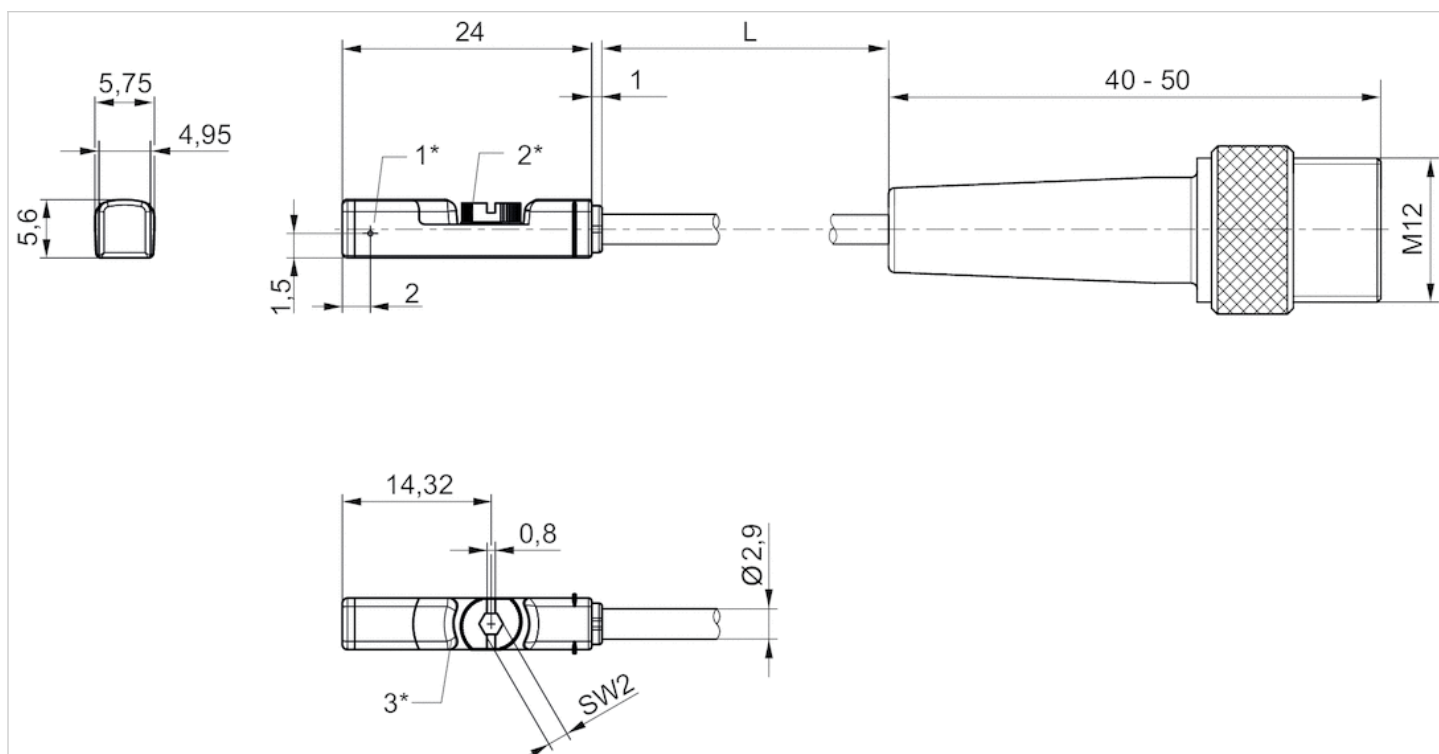
1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
BN = brown, BK = black, BU = blue

Fig. 2



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

Fig. 3



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

Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 3-pin Plug, M8, 3-pin Plug, M12, 3-pin, with knurled screw
- UL certification, 1.6 mT response sensitivity
- electronic PNP
- Direct mounting for series CCL-IC



Certificates

Ambient temperature min./max.

Protection class

Switching point precision

Min./max. DC operating voltage

Switching logic

LED status display

Vibration resistance

Shock resistance

Cable length L

RoHS, UL (Underwriters Laboratories), cULus

-30 ... 80 °C

IP65, IP67, IP69K

±0,1 mT

10 ... 30 V DC

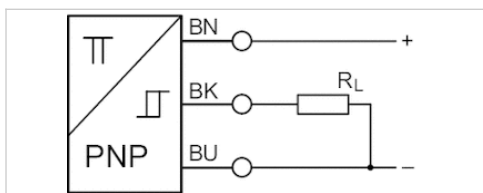
NO (make contact)

Yellow Yellow

10 - 55 Hz, 1 mm

30 g / 11 ms

see table



Technical data

Part No.	for	Type of contact	Cable length L	Voltage drop U at I _{max}
R412025609	CCL-IC	electronic PNP	5 m	≤ 2,5 V
R412025610	CCL-IC	electronic PNP	0.3 m	≤ 2,5 V
R412025611	CCL-IC	electronic PNP	0.3 m	≤ 2,5 V

Part No.	DC switching current, max.	Max. switching frequency	Version
R412025609	0.13 A	1000 Hz	short circuit resistant
R412025610	0.13 A	1000 Hz	short circuit resistant
R412025611	0.13 A	1000 Hz	short circuit resistant

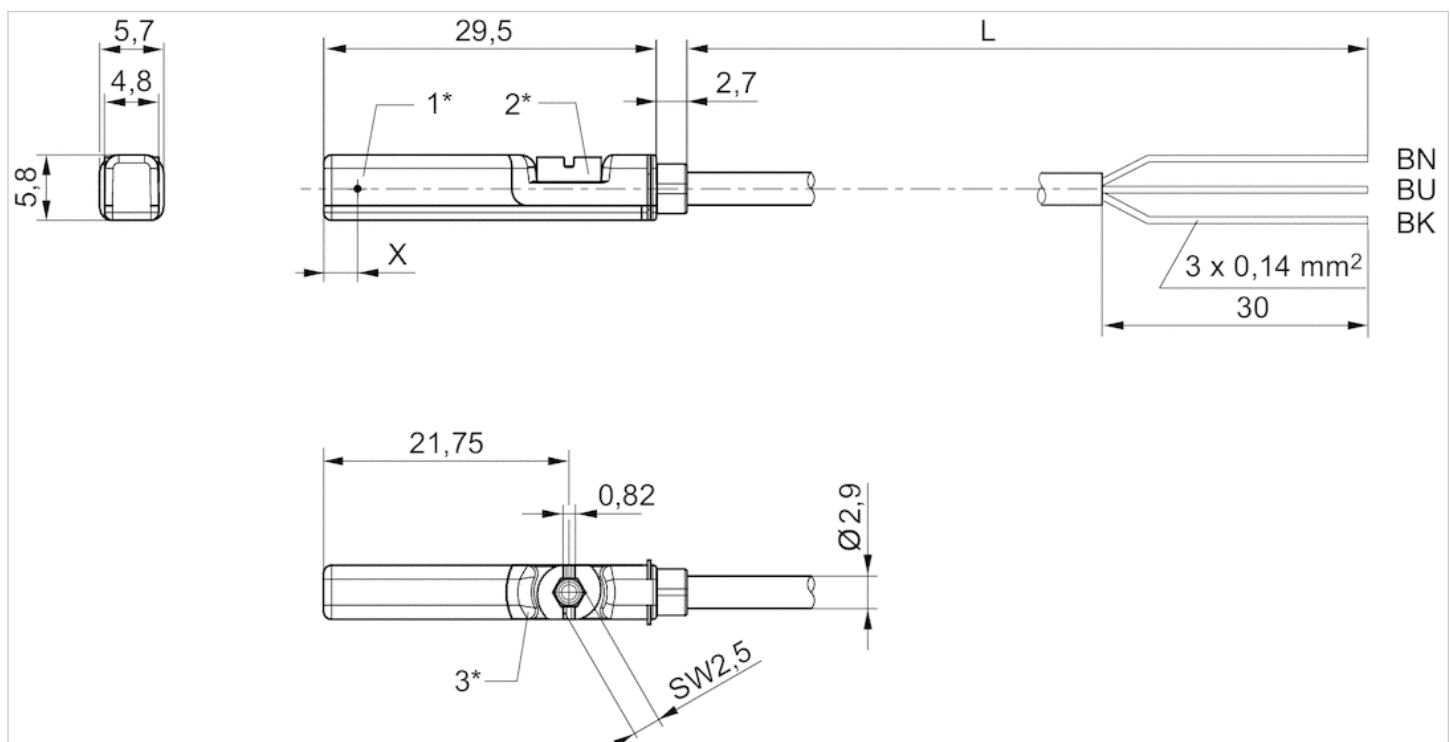
Part No.	Fig.
R412025609	Fig. 1
R412025610	Fig. 2
R412025611	Fig. 3

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Fig. 1



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

L = cable length

BN = brown

BK = black

BU = blue

X = electronic: 11.6 mm

Fig. 2

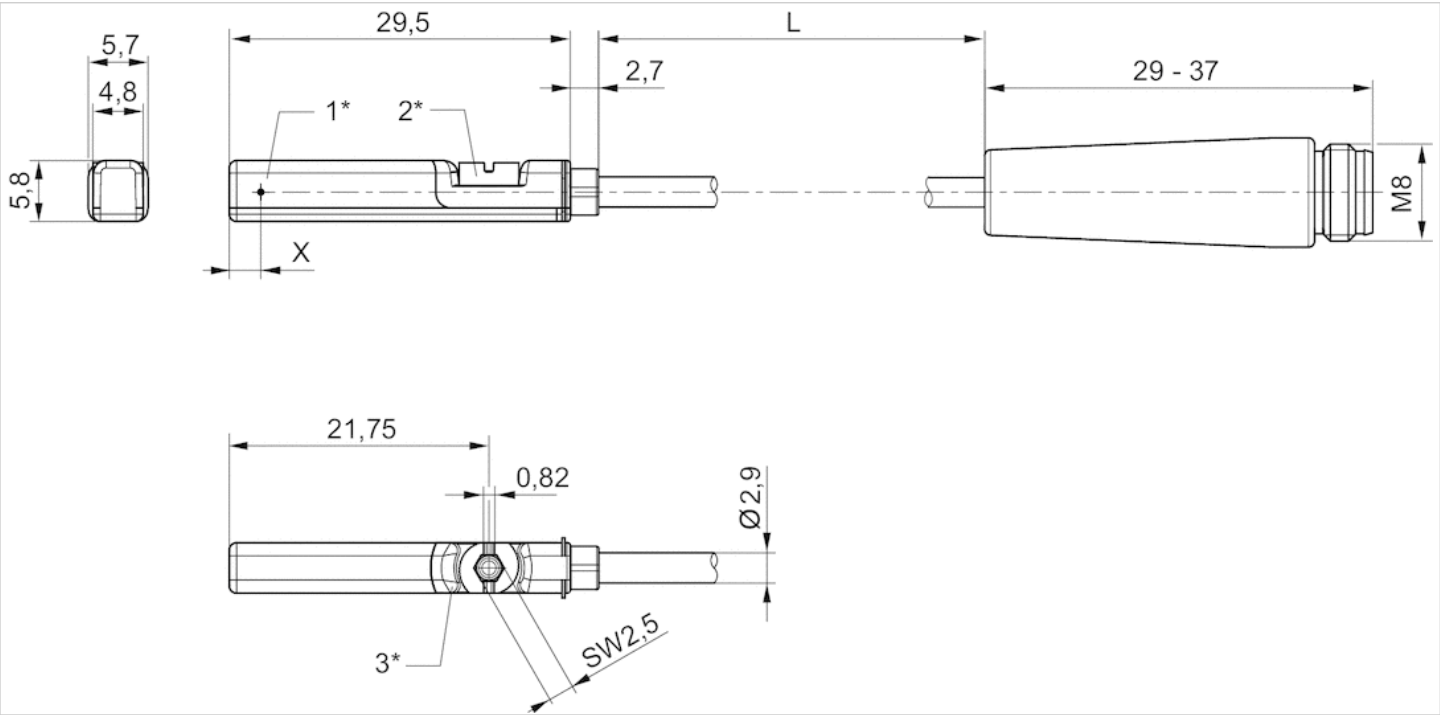
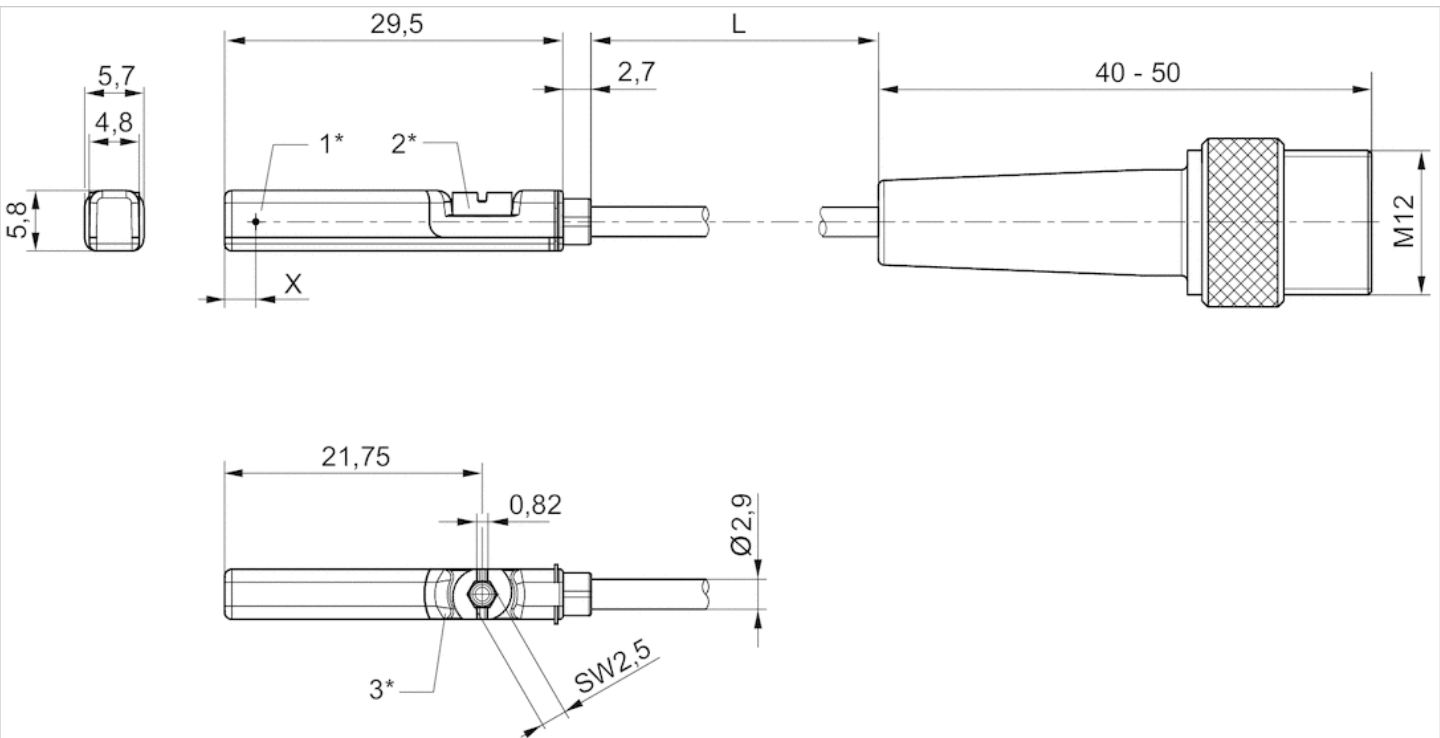
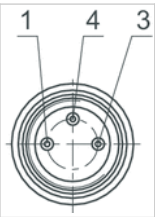


Fig. 3



Pin assignments

Pin assignments



Pin	1	3	4
Allocation	(+)	(-)	(OUT)

Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded straight 180°
- Plug A-coded straight 180°
- with cable
- unshielded

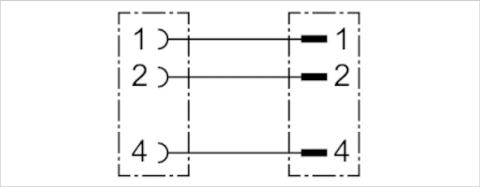


Protection class

Weight

IP68

See table below



Technical data

Part No.	Number of wires	Cable-Ø	Cable length	Weight
8946203702	3	4.5 mm	1 m	0.038 kg
8946203712	3	4.5 mm	2 m	0.067 kg
8946203722	3	4.5 mm	5 m	0.148 kg

Technical information

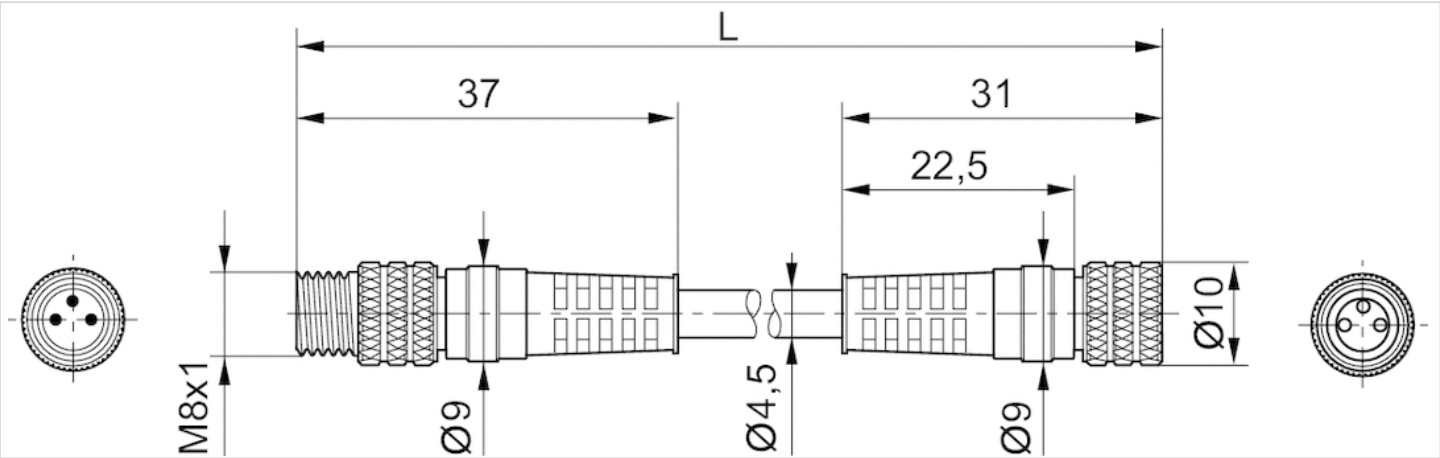
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

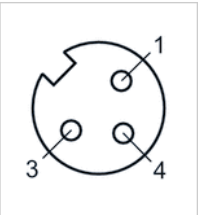
Dimensions



L = length

Pin assignments

Pin assignment, socket



Plug pin assignment

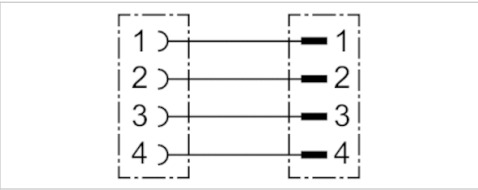


Round plug connector, Series CON-RD

- Socket M12x1 4-pin A-coded straight 180°
- Plug M12x1 4-pin A-coded straight 180°
- EN 61076-2-101
- with cable
- unshielded



Ambient temperature min./max.	-40 ... 105 °C
Protection class	IP65, IP67, IP68, IP69
Wire cross-section	0.34 mm²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length	Delivery unit	Weight
R402003760	4 A	4	45 mm	4.5 mm	5 m	1 piece	0.258 kg
R402003761	4 A	4	45 mm	4.5 mm	10 m	1 piece	0.484 kg
R402003762	4 A	4	45 mm	4.5 mm	15 m	1 piece	0.721 kg

Technical information

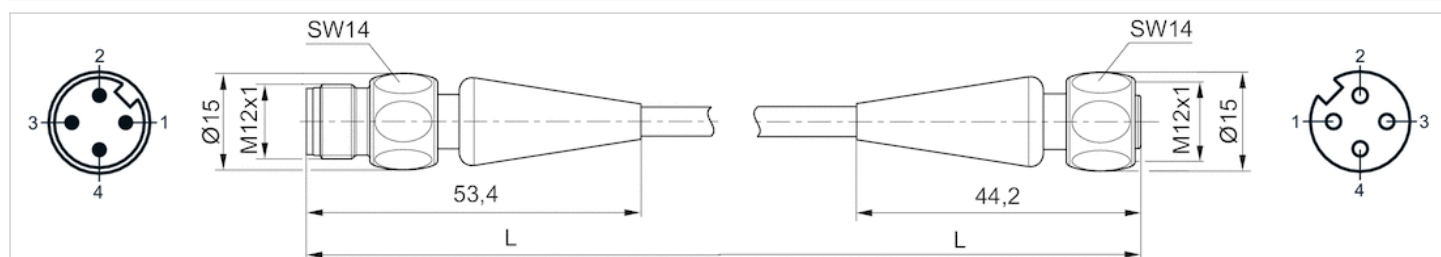
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polypropylene
Seals	Ethylene propylene diene monomer rubber
Cable sheath	Polyvinyl chloride

Dimensions

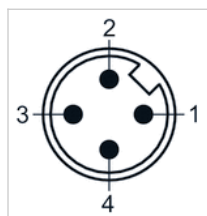
Dimensions



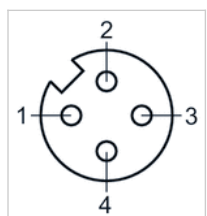
L = cable length

Pin assignments

Plug pin assignment



Pin assignment, socket

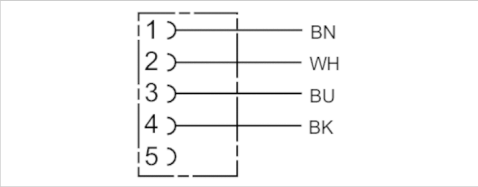


Round plug connector, Series CON-RD

- Socket M12x1 5-pin A-coded straight 180°
- open cable ends
- with cable
- unshielded



Ambient temperature min./max.	-25 ... 70 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.34 mm²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
1834484256	4 A	4	5.2 mm	3 m	0.122 kg
1834484257	4 A	4	5.2 mm	5 m	0.194 kg
1834484258	4 A	4	5.2 mm	10 m	0.373 kg

Technical information

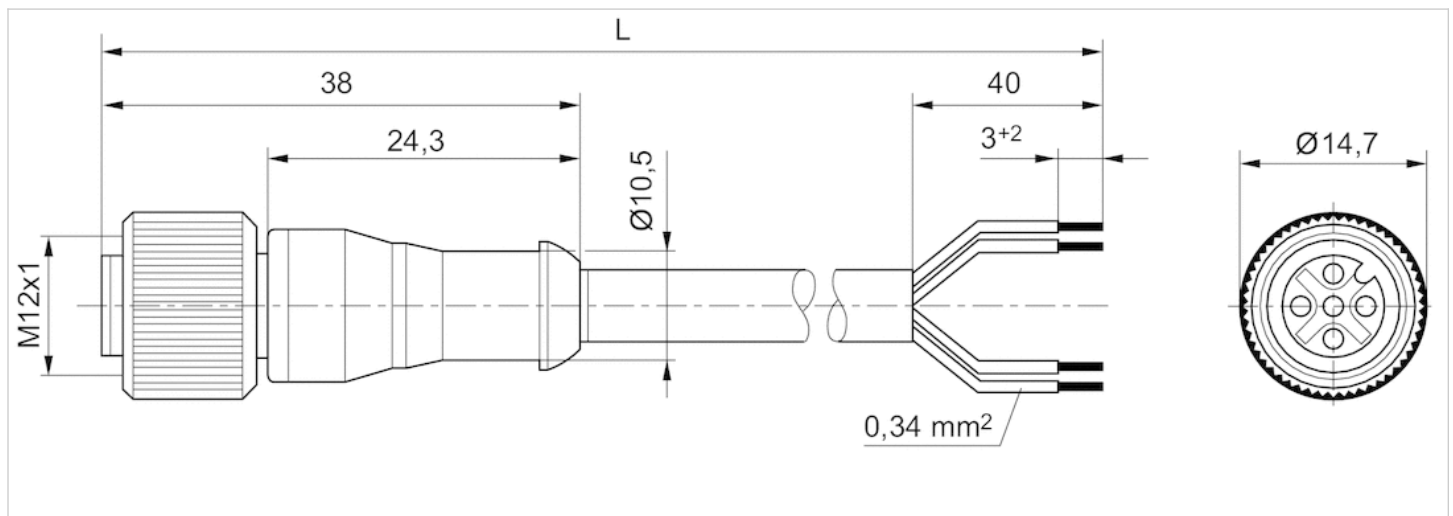
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyurethane

Dimensions

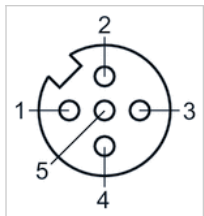
Dimensions



L = length

Pin assignments

Pin assignment, socket



- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) not assigned

Sensor mounting, Series CB1

- for series ST4, ST6
- to mount on cylinder MNI, ICM, CSL-RD



Ambient temperature min./max.

-30 ... 80 °C

Weight

0.007 kg

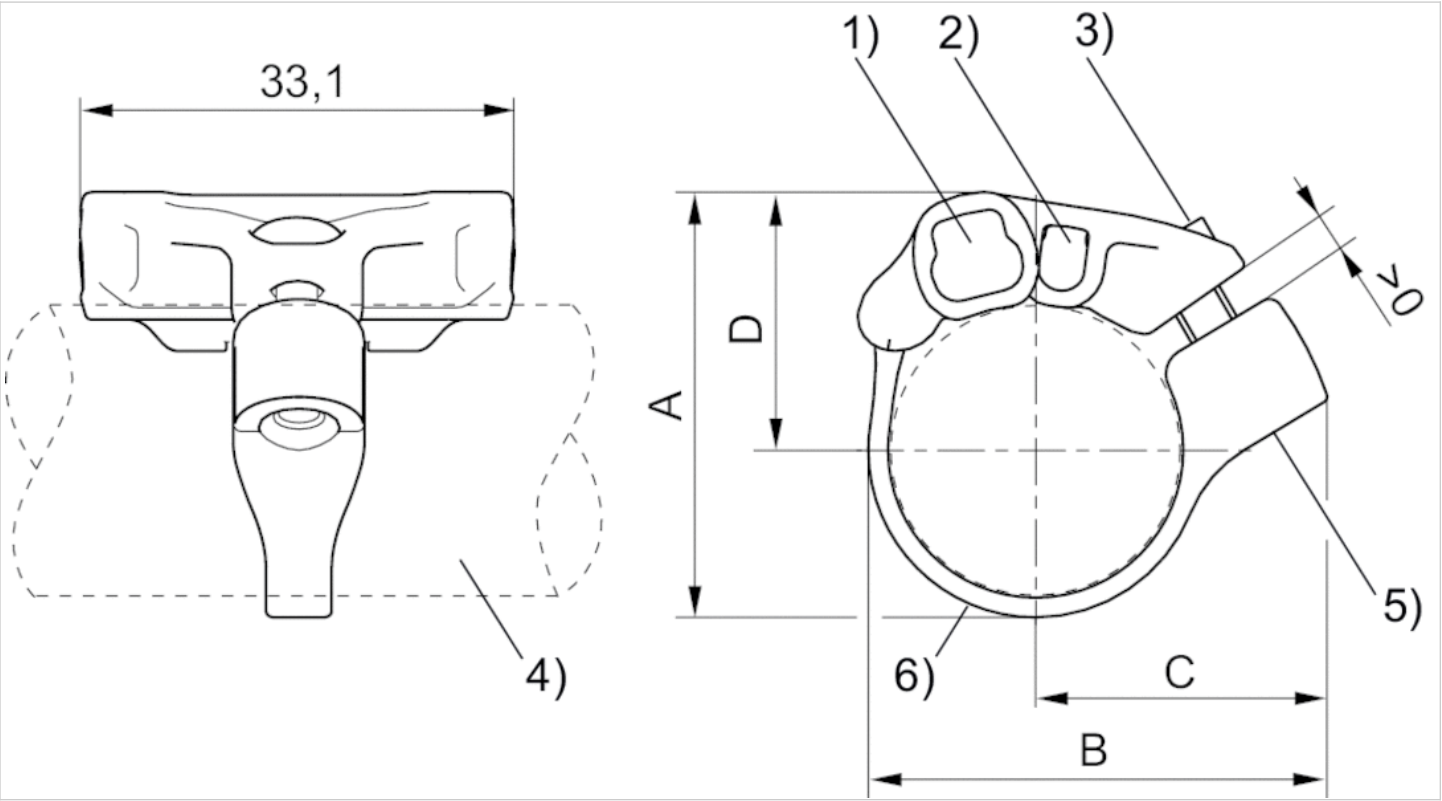
Technical data

Part No.	Cylinders Ø	for series	Scope of delivery
	min.		
R412021791	16 mm	ST4, ST6	1 piece
R412021792	20 mm	ST4, ST6	1 piece
R412021793	25 mm	ST4, ST6	1 piece

Technical information

Material	
	Polyamide Stainless steel

Dimensions



1) Sensor slot for ST6 2) Sensor slot for ST4 3) Mounting screw (made of stainless steel) 4) Cylinder profile 5) Thread insert (made of stainless steel) 6) Tightening strap

Dimensions

Part No.	A	B	C	D
R412021791	27.7	32.5	22.1	17.3
R412021792	32.4	35	22.4	19.7
R412021793	37.4	39.5	24.3	22.2

Sensor mounting, Series CB1

- for series ST6, SN2, SN6, SN1, SM6, SM6-AL
- to mount on cylinder C12P, ITS



Weight

See table below

Technical data

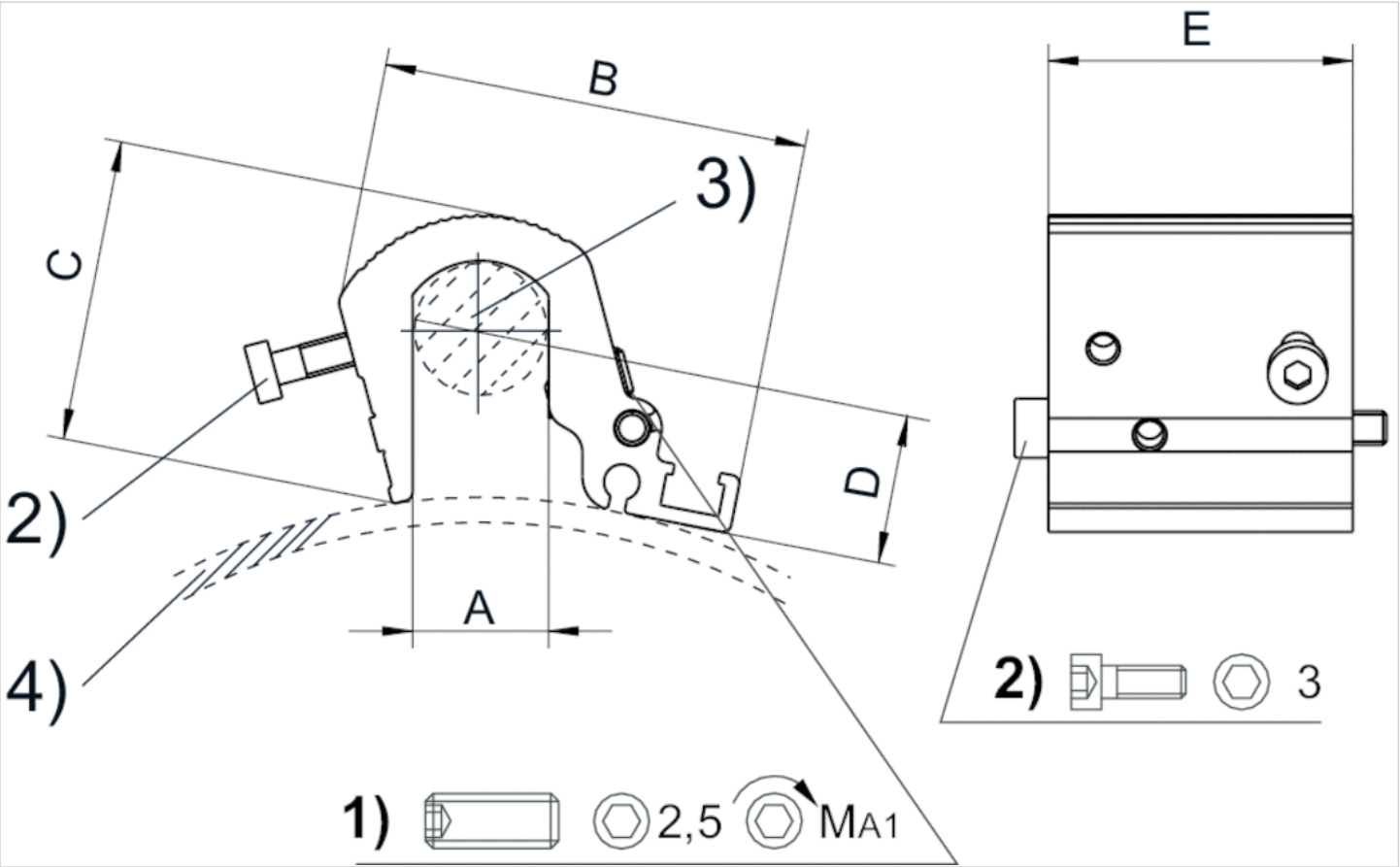
Part No.	Cylinders Ø	Cylinders Ø	for series	Weight
	min.	max.		
R412017979	160 mm	200 mm	ST6, SN2, SN6, SN1, SM6, SM6-AL	0.058 kg
R412017980	250 mm	320 mm	ST6, SN2, SN6, SN1, SM6, SM6-AL	0.073 kg

Scope of delivery: Incl. mounting screws

Technical information

Material	
	Aluminum

Dimensions



1) Clamping threaded pin 2) Mounting screws for sensor 3) Tie rod 4) Cylinder profile

Dimensions

Part No.	Cylinders Ø	A	B	C	D	E	MA1 [Nm]
R412017979	200 mm	16	51	36	6.8	36	2
R412017980	320 mm	24	56	44.5	6.8	36	2

Scope of delivery: Incl. mounting screws

Sensor mounting, Series CB1

- for series ST6
- to mount on cylinder KHZ



Weight

0.034 kg

Technical data

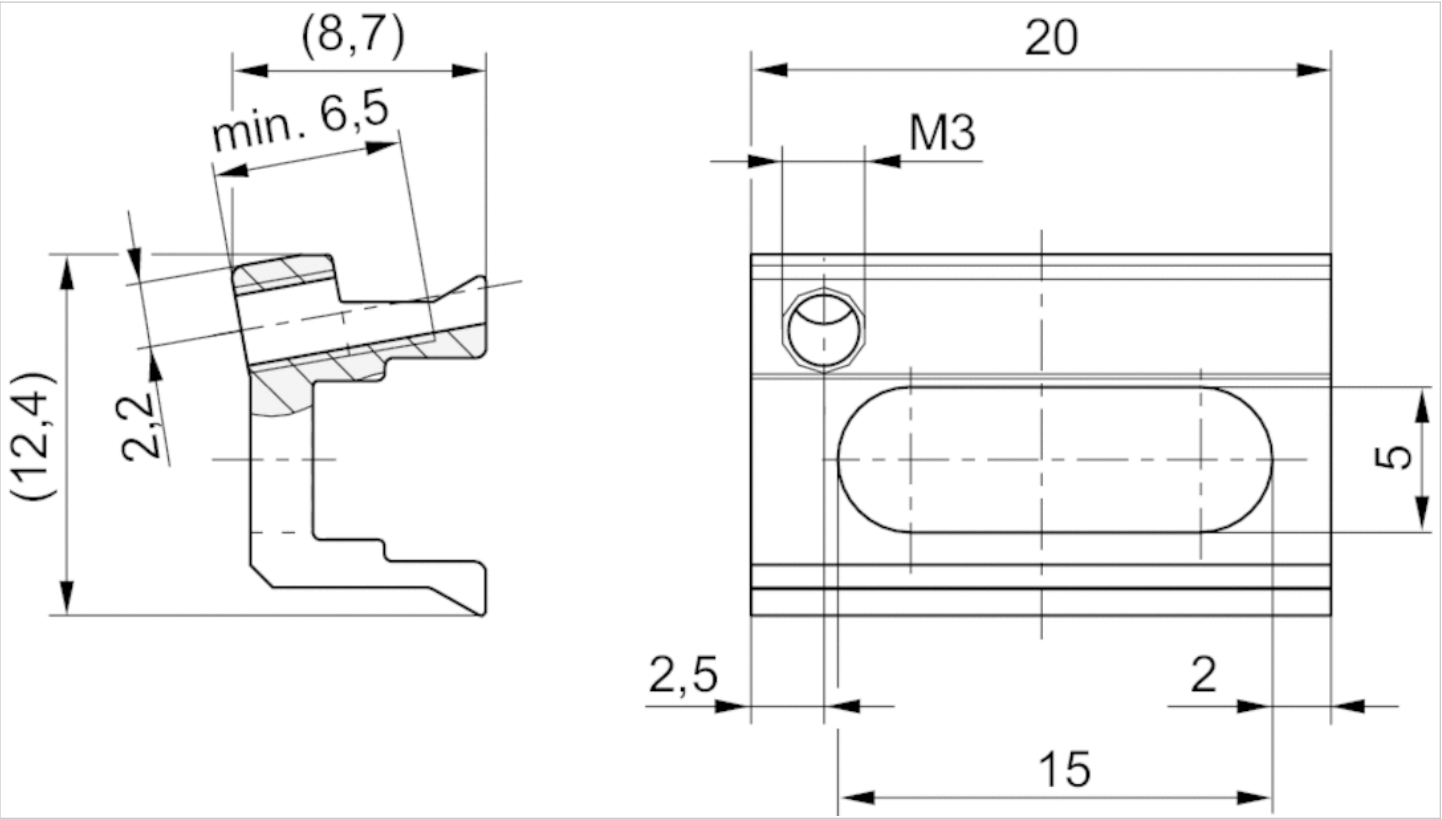
Part No.	for series
R422100250	ST6

Scope of delivery: incl. threaded pin

Technical information

Material
Aluminum, anodized

Dimensions



Dimensions

Part No.
R422100250

Scope of delivery: incl. threaded pin

Sensor mounting, Series CB1

- for series ST6, SM6
- to mount on cylinder MNI, ICM



Weight

See table below

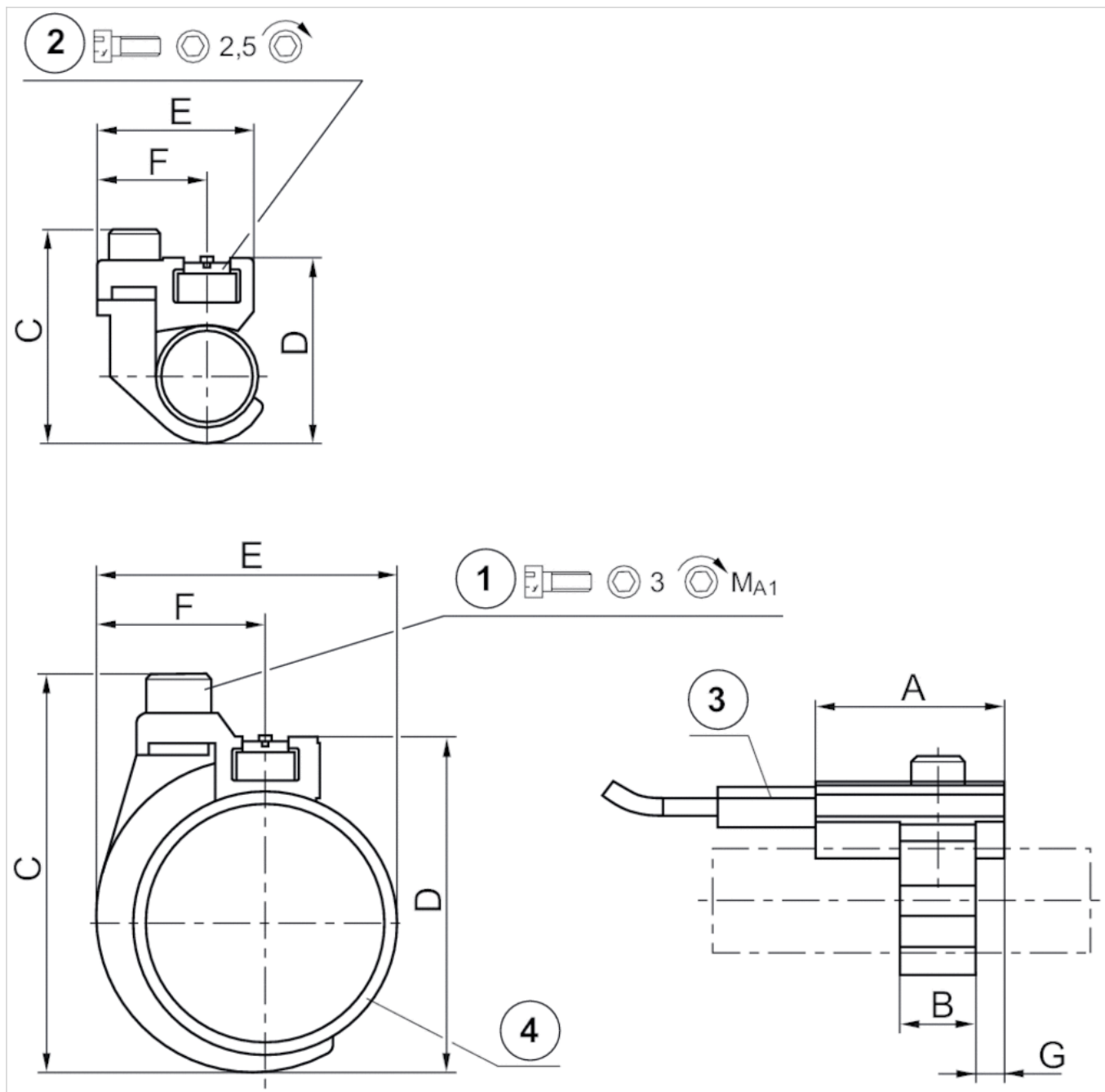
Technical data

Part No.	Cylinders Ø	for series	Weight
	min.		
1827020296	10 mm	ST6, SM6	0.009 kg
1827020297	12 mm	ST6, SM6	0.01 kg
1827020298	16 mm	ST6, SM6	0.014 kg
1827020299	20 mm	ST6, SM6	0.014 kg
1827020300	25 mm	ST6, SM6	0.015 kg

Technical information

Material	
	Aluminum

Dimensions



1) Mounting screw 2) Mounting screw for sensor 3) Sensor 4) Cylinder pipe

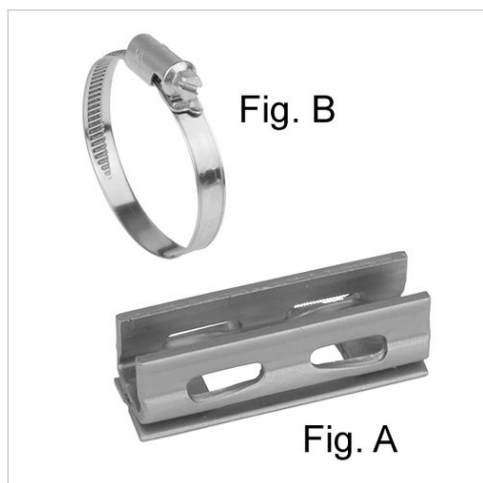
Dimensions

Part No.	A	B	C	D	E	F	G	1)	MA1 [Nm]
1827020296	20	8	24	19	17.5	11.8	3	M3x8	1 +0,2
1827020297	20	8	26	22	19	11.8	3	M3x8	1 +0,2
1827020298	20	12	34	30	23	13.8	4	M4x10	2 +0,3
1827020299	20	12	38	32	26	13.8	4	M4x10	2 +0,3
1827020300	20	12	43	37	31	13.8	4	M4x10	2 +0,3

Sensor mounting, Series CB1

- for series ST6

- to mount on cylinder CSL-RD, ICM, ICS-D1, ICS-D2, RPC



Weight

See table below

Technical data

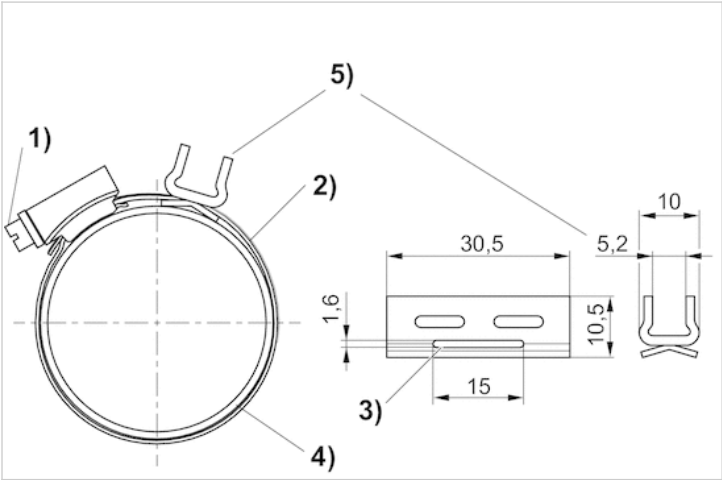
Part No.	Cylinders Ø	Cylinders Ø	for series	Weight	Fig.
	min.	max.			
R412024050	25 mm	32 mm	ST6	-	Fig. B
R412024051	40 mm	40 mm	ST6	-	Fig. B
R412024052	50 mm	50 mm	ST6	-	Fig. B
R412024053	63 mm	63 mm	ST6	-	Fig. B
R412024054	25 mm	63 mm	ST6	0.011 kg	Fig. A

Sensor holder (Fig. A) and tightening strap (Fig. B) must be ordered separately.

Technical information

Material	
	Stainless steel

Dimensions



1) Mounting screw 2) Tightening strap 3) Opening for tightening strap 4) Cylinder tube 5) Sensor holder

Dimensions

Part No.	Cylinder tube Ø	For series	Fig.
R412024050	25 40 mm	ST6	Fig. B
R412024051	32 50 mm	ST6	Fig. B
R412024052	40 60 mm	ST6	Fig. B
R412024053	50 70 mm	ST6	Fig. B
R412024054	-	ST6	Fig. A

Sensor mounting, Series CB1

- for series ST6
- to mount on cylinder RPC



Weight

See table below

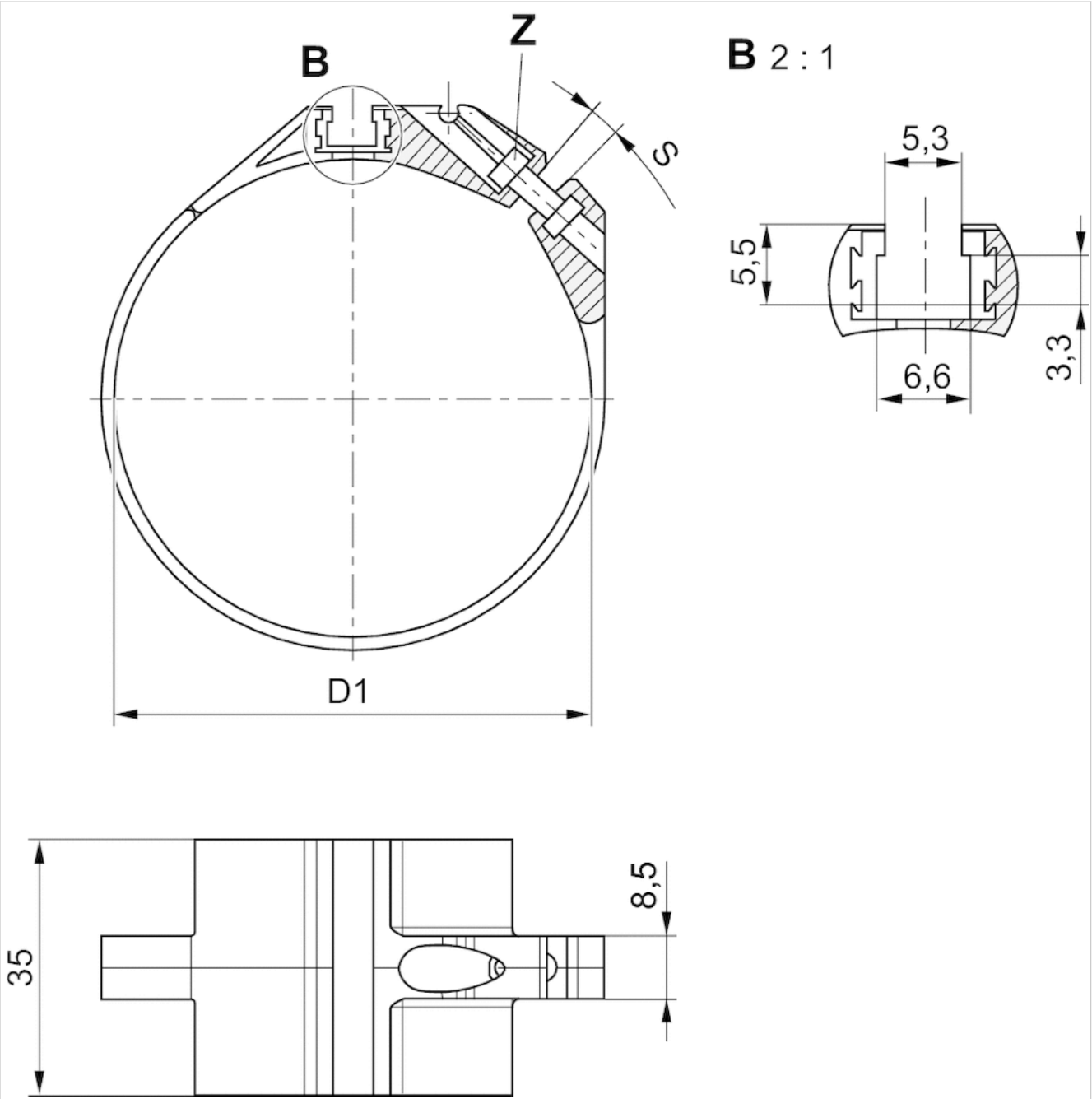
Technical data

Part No.	Cylinders Ø	Cylinders Ø	for series	Weight
	min.	max.		
R412025665	32 mm	32 mm	ST6	0.01 kg
R412025666	40 mm	40 mm	ST6	0.011 kg
R412025667	50 mm	50 mm	ST6	0.013 kg
R412025668	63 mm	63 mm	ST6	0.014 kg

Technical information

Material	
	Polyoxymethylene Aluminum

Dimensions



Dimensions

Part No.	D1	S	Z
R412025665	34	35	ISO 4762 - M3 x 10 A2
R412025666	42	43	ISO 4762 - M3 x 12 A2
R412025667	52,9	54	ISO 4762 - M3 x 12 A2
R412025668	65	66	ISO 4762 - M3 x 12 A2

S = recommended max. spread width [mm]

Sensor mounting, Series CB1

- for series ST6, SM6, SN1, SN2
- to mount on cylinder TRB, C12P, CVI, 523



Weight

0.031 kg

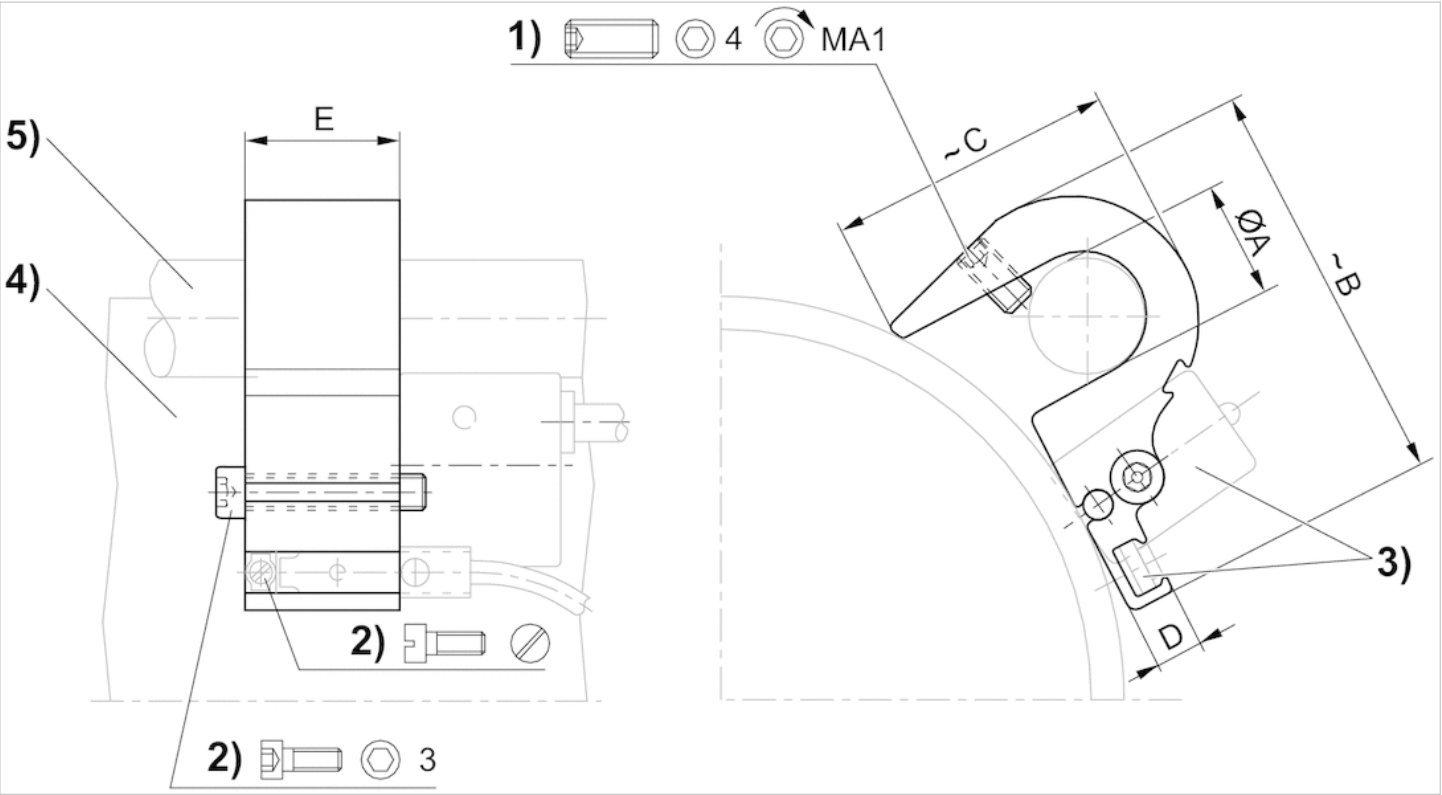
Technical data

Part No.	Cylinders Ø		for series
	min.	max.	
1827020292	125 mm	125 mm	ST6, SM6, SN1, SN2

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.	Ø A	B	C	D	E	1)	MA1 [Nm]
1827020292	12	45	29	6.5	21	M5x10	2

Sensor mounting, Series CB1

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



Weight

See table below

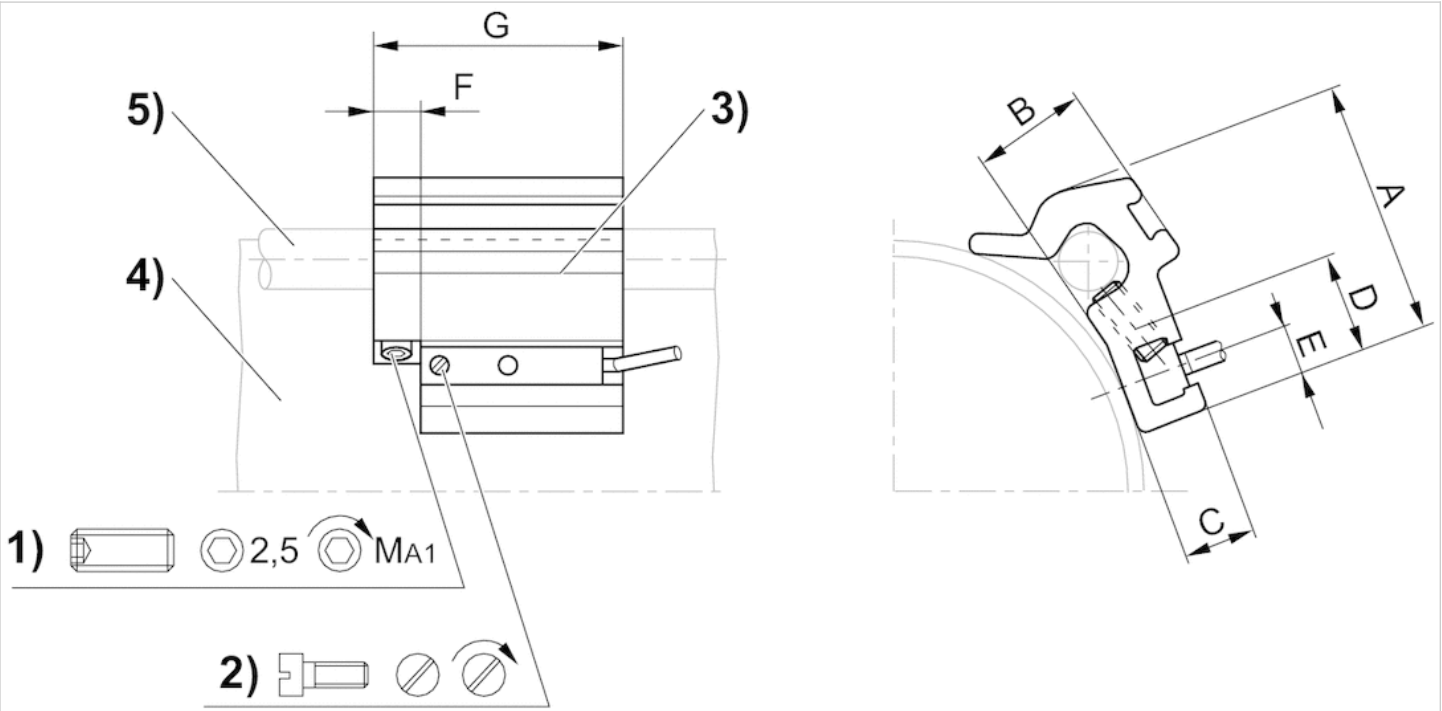
Technical data

Part No.	Cylinders Ø	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

Sensor mounting, Series CB1

- for series ST6
- to mount on cylinder CCL-IS



Weight
0.006 kg

Technical data

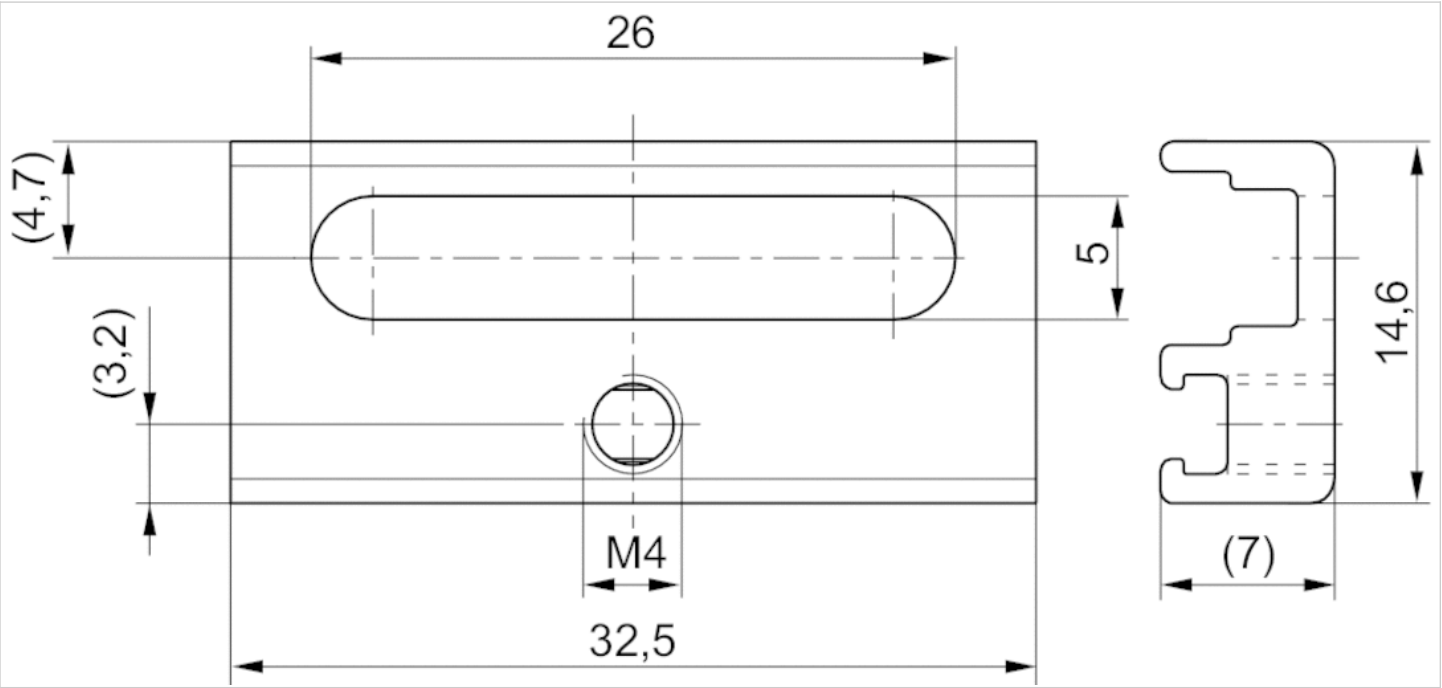
Part No.	for series
R402000040	ST6

Scope of delivery: incl. threaded pin

Technical information

Material
Aluminum

Dimensions



Sensor mounting, Series CB1

- for series ST6, SM6

Weight

0.01 kg

- to mount on cylinder 167

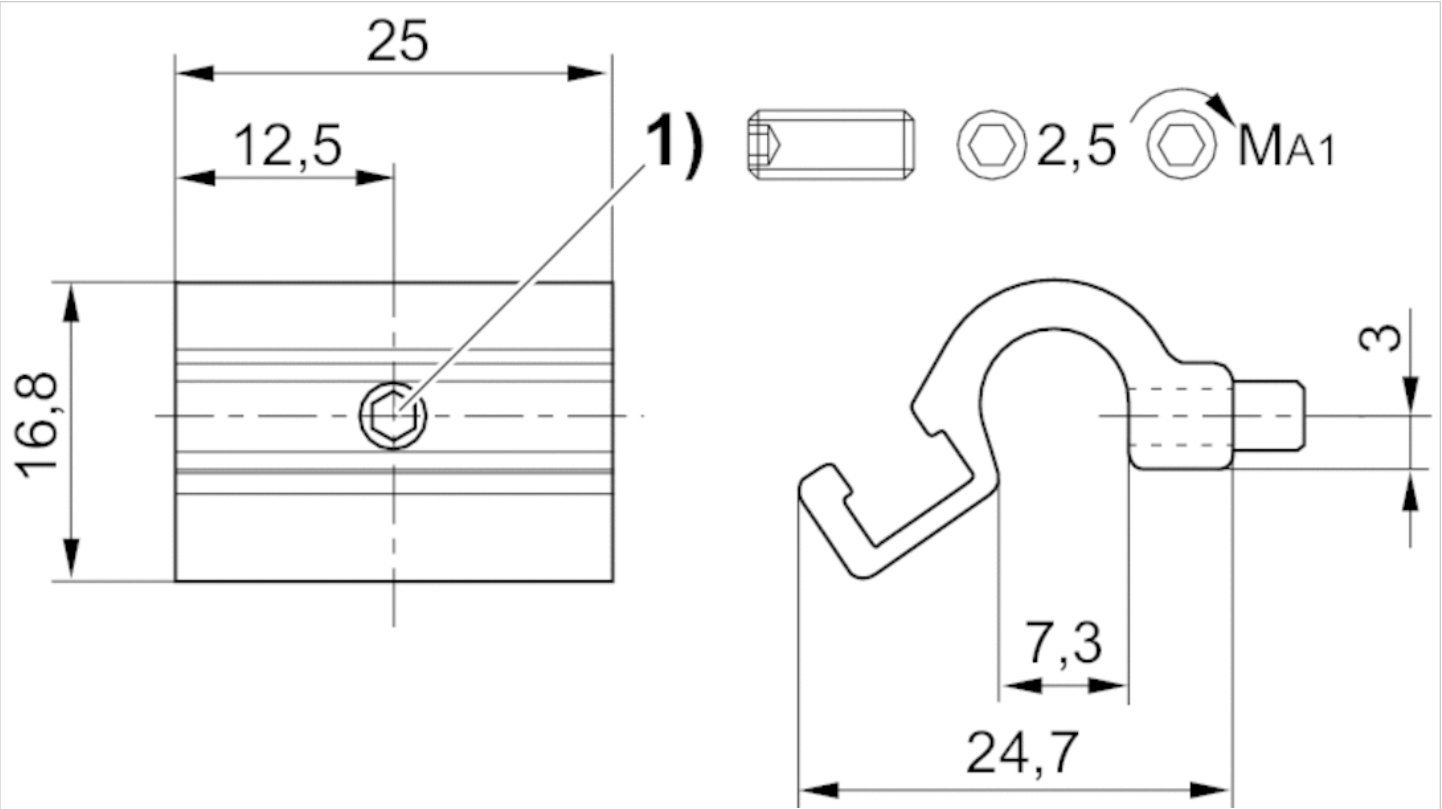
Technical data

Part No.	Cylinders Ø	for series	Scope of delivery
	max.		
R412022357	25 mm	ST6, SM6	1 piece

Technical information

Material	
	Aluminum

Dimensions



1) Mounting screw

Dimensions

Part No.	MA1 [Nm]
R412022357	1 + 0,3

Name plate

- Halogen-free
- Direct mounting for series ST4, ST6



Ambient temperature min./max.

-40 ... 100 °C

Technical data

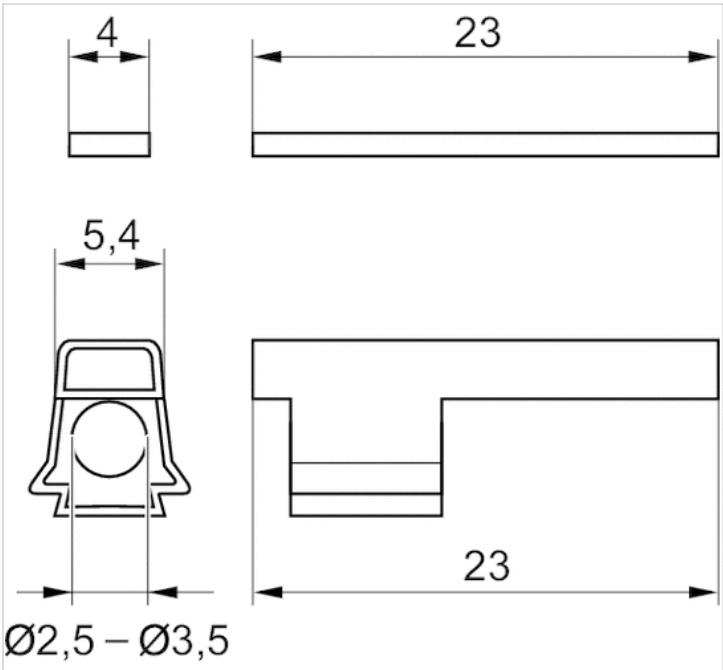
Part No.	for	Delivery unit
R412026278	ST4, ST6	10 piece

Scope of delivery: 10 marking sleeves and 10 marking signs, Cable not included in the scope of delivery

Technical information

Material	
Housing	Polycarbonate

Dimensions



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