

CES-A-C5H-01-EX (Order no. 097945)

Non-contact safety switch CES-A-C5... ATEX

- ▶ ATEX version
- ▶ With protective plate
- ▶ Suitable for use in zones 2 and 22 (gases and dusts)
- ▶ Safety switches as interlocking device of type 4
- ▶ Safety switch with integrated evaluation electronics
- ▶ Pulsed signals can be switched
- ▶ 2 safety outputs (semiconductor outputs)
- ▶ Up to category 4 / PL e according to EN ISO 13849-1



Approach direction

Can be adjusted in 90° steps

Protective plate

A protective plate included protects the safety switch against impacts on the housing and the ingress of an explosive atmosphere.

Unicode evaluation

Each actuator is highly coded (unicode). The evaluation unit detects only actuators that have been taught-in. Additional actuators can be taught-in.

Category according to EN ISO 13849-1

Due to two redundantly designed semiconductor outputs (safety outputs) with internal monitoring suitable for:

- ▶ CES-A-C5H-01, category 4 / PL e according to EN ISO 13849-1

LED indicator

STATE Status LED

OUT/ERROR Safety outputs status / diagnostics LED (combined)

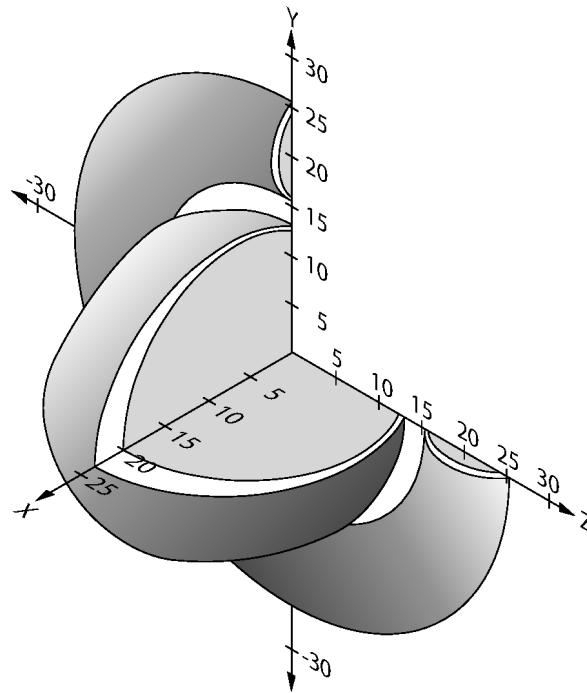
Additional connections

OUT Monitoring output (semiconductor)

Attention:

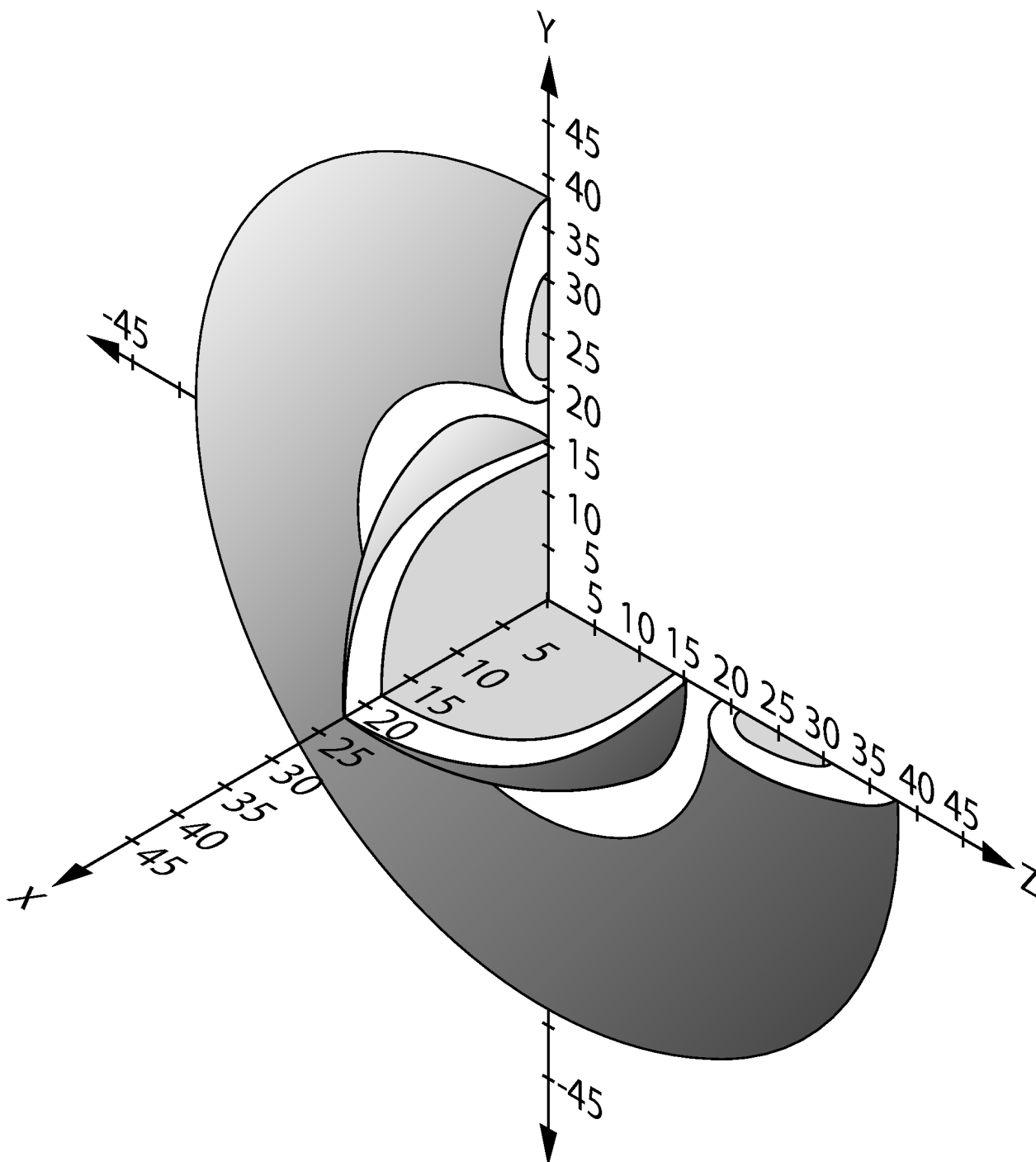
The actuating range may vary depending on the substrate material and installation situation.

Typical actuating range
(Only in combination with actuator CES-A-BBA, CES-A-BCA)



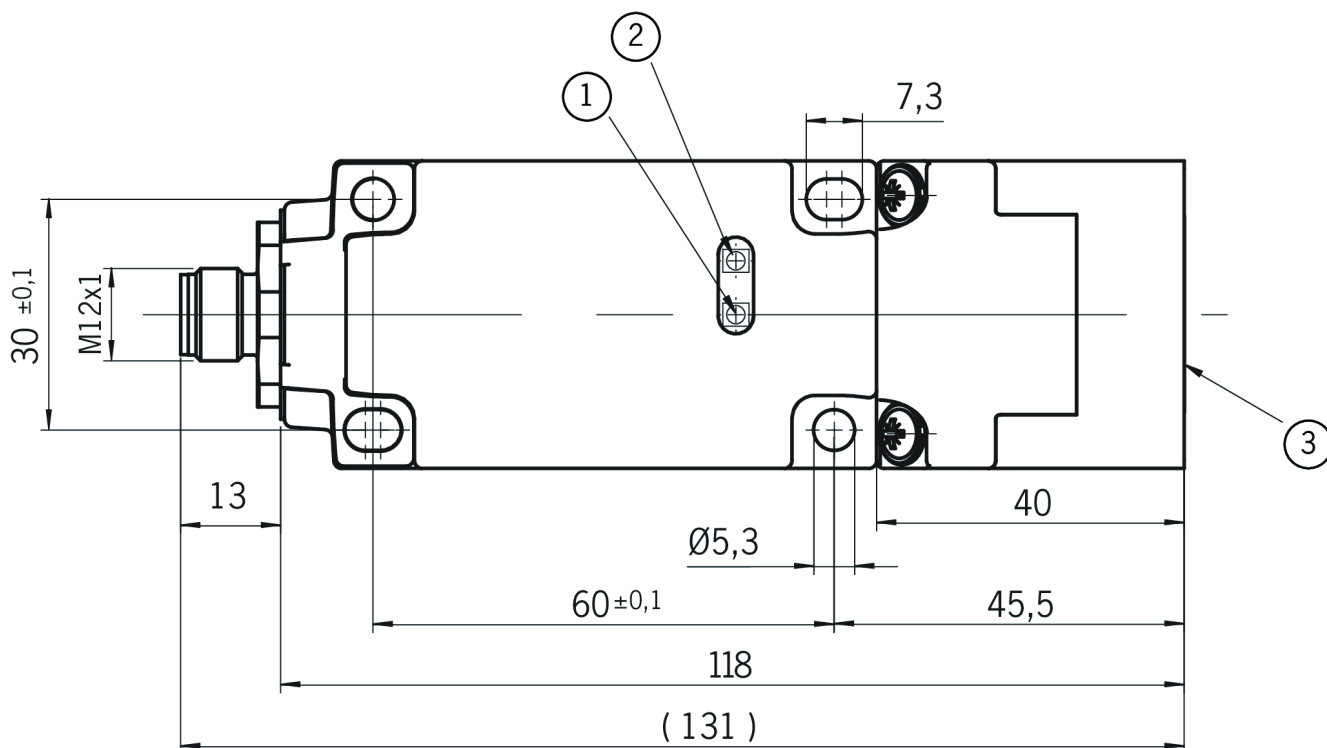
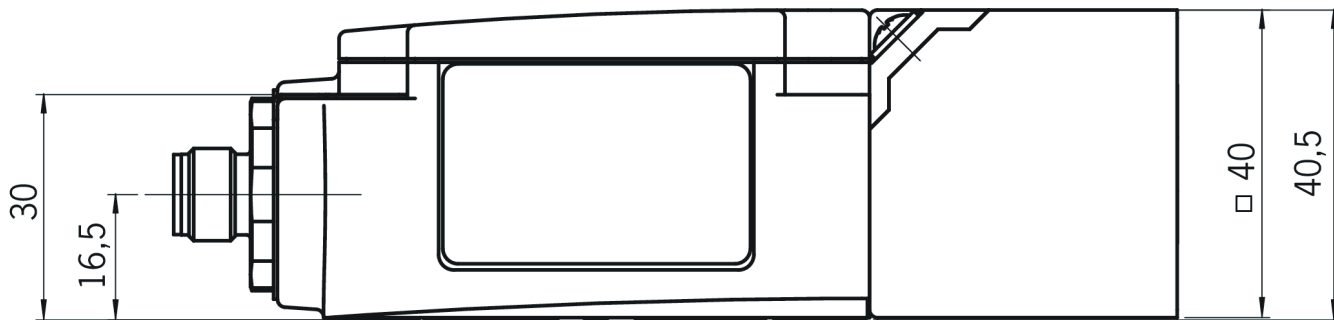
For a side approach direction for the actuator and safety switch, a minimum distance of $s = 4$ mm must be maintained so that the actuating range of the side lobes is not entered.

Typical actuating range
(Only in combination with actuator CES-A-BPA)



For a side approach direction for the actuator and safety switch, a minimum distance of $s = 6$ mm must be maintained so that the actuating range of the side lobes is not entered.

Dimensional drawings

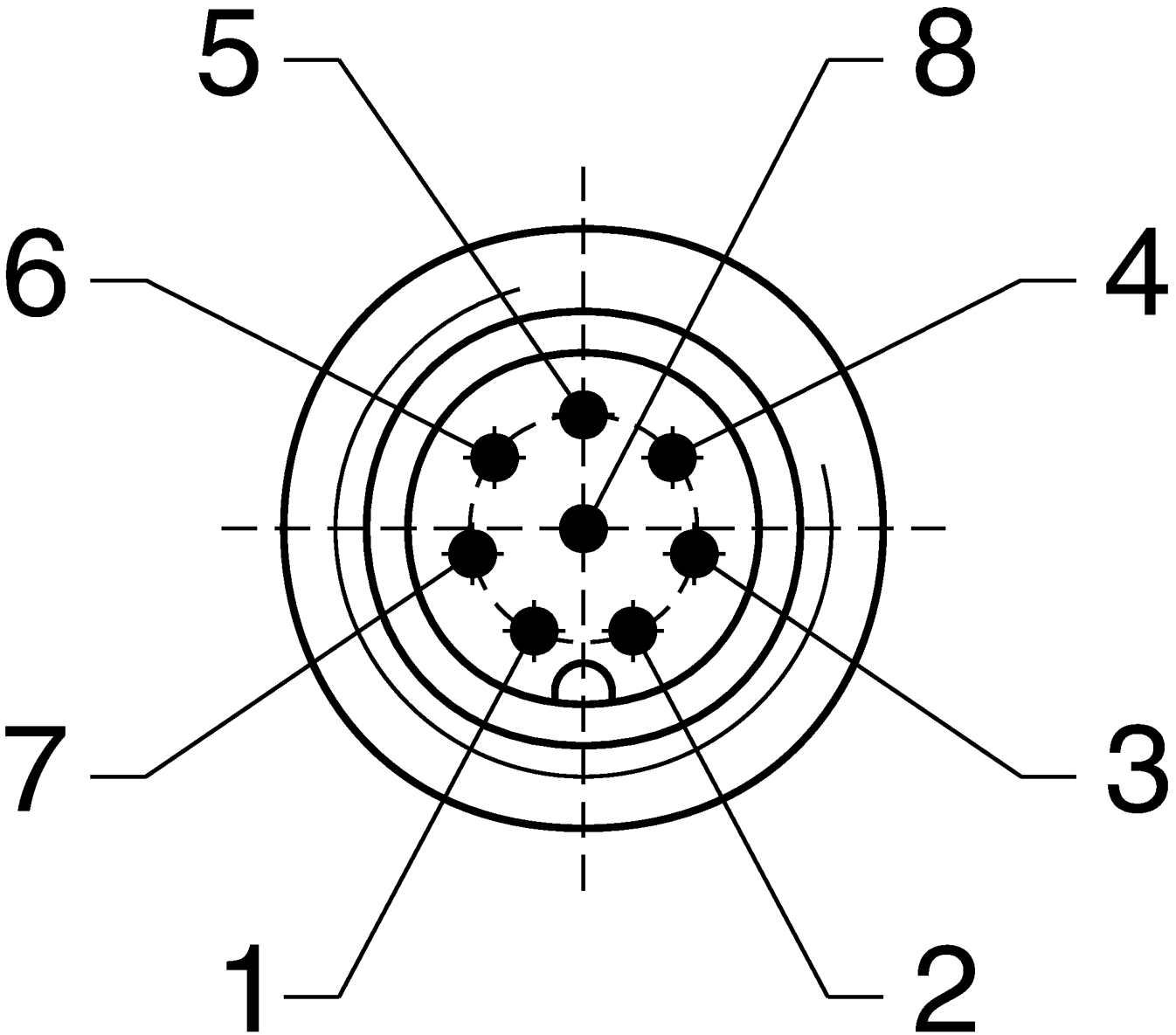


1 LED status indication

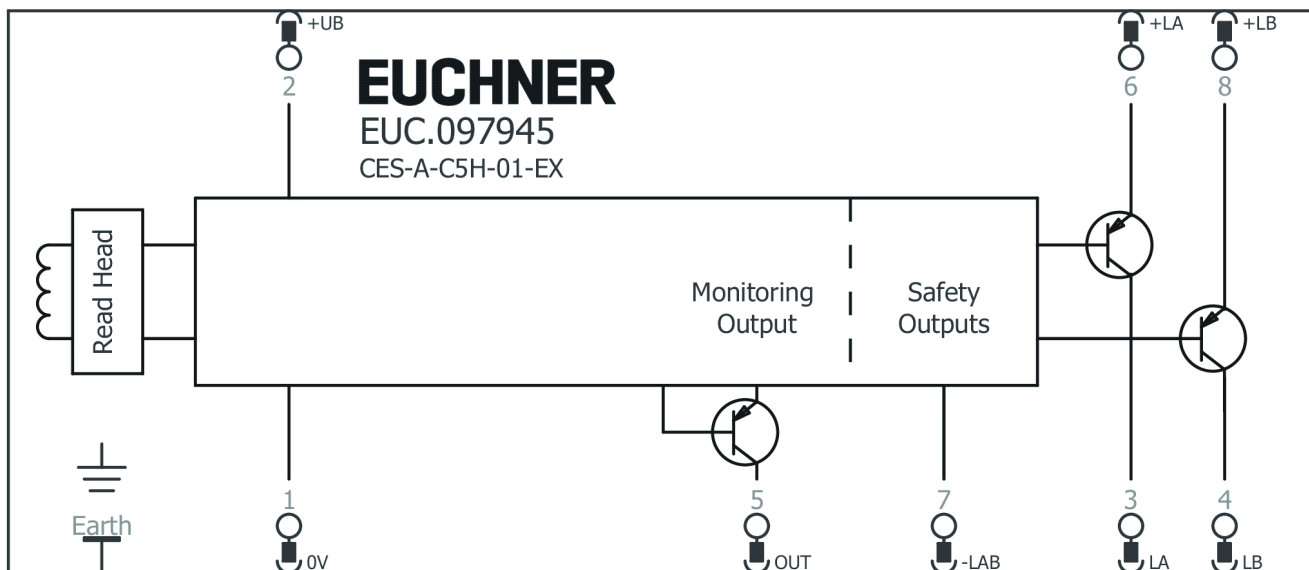
2 LED status indication

3 Active face

Connection examples

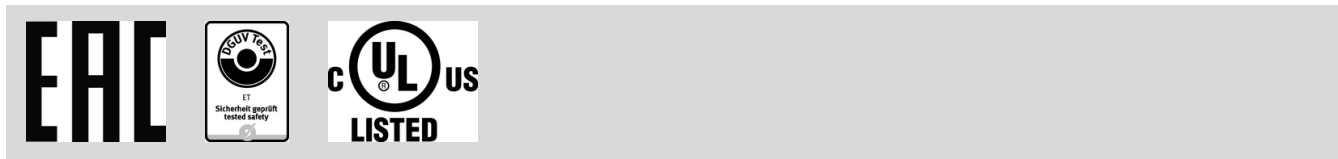


Connection examples



Technical data

Approvals



Workspace

Repeat accuracy R	
	according to EN 60947-5-2 10 %

Operating and display elements

LED display

Safety outputs status / diagnostics LED (combined)

Status LED

Electrical connection values

Fuse	
(external) operating voltage	0.25 ... 8 A
Rated insulation voltage U_i	50 V
Rated impulse voltage U_{imp}	0.5 kV
Operating voltage DC	21 ... 24 ... 27 V DC regulated, residual ripple < 5%
EMC protection requirements	Acc. to EN IEC 60947-5-3
Current consumption	80 mA
Degree of contamination (external, according to EN 60947-1)	3

Monitoring output OUT

Output type	Semiconductor output, p-switching, short circuit-proof
Output voltage	0.8 x U_B ... U_B V DC
Switching current	max. 20 mA

Safety outputs LA / LB

Fuse	
external, safety circuit U(+LA) / U(+LB)	0.1 A medium slow-blow

Response time

after change in the actuation status max. 180 ms
 (Corresponds to the risk time according to EN 60947-5-3. This is the maximum OFF time for the safety outputs following removal of the actuator.)

Degree of protection IP65/IP67

Ambient temperature

with $U_B = 24 \text{ V DC}$ $-20 \dots +50 \text{ }^\circ\text{C}$

Dwell time

min. 0.5 s
 (The dwell time of an actuator inside and outside the actuating range must be at least 0.5 s to ensure safe detection of internal faults in the evaluation unit (self-monitoring).)

Material

Housing Plastic PBT V0 GF30

Characteristic values according to EN ISO 13849-1 and EN IEC 62061

	PL	Maximum SIL	PFH _D	Category	Mission time
Monitoring of the guard position	PL e	-	3.7×10^{-9}	4	20 y

Miscellaneous

Explosion protection in accordance with ATEX Directive 2024/34/EU

incl. cover hood II3G Ex ic ec IIB T5 Gc X / II3D Ex ic tc IIIC T90°C Dc X

Notices for UL approval Operation only with UL Class 2 power supply or equivalent measures

In combination with actuator CES-A-BPA-EX-102125

Actuator distance s

Minimum distance for side approach direction min. 6 mm

Switch-on distance

with center offset $m=0$ 22 mm
 (for non-flush mounting; assembly on aluminum; in a metal-free environment, the typical strand increases to 30 mm)

Secured switch-off distance s_{ar} max. 58 mm

Secured switching distance s_{ao}

with center offset $m=0$ min. 15 mm
(for non-flush mounting; assembly on aluminum)

Switching hysteresis 1 ... 2 mm
(for non-flush mounting; assembly on aluminum)

In combination with actuator CES-A-BBA-EX-098158

Actuator distance s

Minimum distance for side approach direction min. 4 mm

Switch-on distance

with center offset $m=0$ 20 mm
(for non-flush mounting; assembly of the actuator)

Secured switch-off distance s_{ar} max. 40 mm

Secured switching distance s_{ao}

with center offset $m=0$ min. 18 mm
(for non-flush mounting; assembly of the actuator)

Switching hysteresis 2 ... 3 mm
(for non-flush mounting; assembly of the actuator)

Downloads

All documentation for this material can be found on our website:

<https://www.euchner.de/en-us/a/097945/?#downloads-tab>

Ordering data

Ordernumber	097945
Item designation	CES-A-C5H-01-EX
Gross weight	0,545kg
Global Trade Item Number (GTIN)	4047048006355
Customs tariff number	85365019000
ECLASS	27-27-24-03 Safety-related transponder switch

Accessories

Actuator

Actuator CES-A-BBA-EX



098158
CES-A-BBA-EX-098158

- ▶ ATEX version
- ▶ Suitable for use in zones 2 and 22 (gases and dusts)
- ▶ Cube-shaped design 42 x 25 mm

Actuator CES-A-BPA-EX



102125
CES-A-BPA-EX-102125

- ▶ ATEX version
- ▶ Suitable for use in zones 2 and 22 (gases and dusts)
- ▶ Cube-shaped design 40 x 40 mm

Connection material

Connecting cable with plug connector M12, 8-pin, 10 m



077752
C-M12F08-08X025PV10,0-GA-077752

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable, screened
- ▶ Cable length 10 m
- ▶ With flying lead

Connecting cable with plug connector M12, 8-pin, 15 m



077753
C-M12F08-08X025PV15,0-GA-077753

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable, screened
- ▶ Cable length 15 m
- ▶ With flying lead

Connecting cable with plug connector M12, 8-pin, 20 m



077871
C-M12F08-08X025PV20,0-GA-077871

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable, screened
- ▶ Cable length 20 m
- ▶ With flying lead

Connecting cable with plug connector M12, 8-pin, 25 m



077872
C-M12F08-08X025PV25,0-GA-077872

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable, screened
- ▶ Cable length 25 m
- ▶ With flying lead

Connecting cable with plug connector M12, 8-pin, 5 m



077751
C-M12F08-08X025PV05,0-GA-077751

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable, screened
- ▶ Cable length 5 m
- ▶ With flying lead

Connecting cable with plug connector M12, 8-pin, 50 m



077873

C-M12F08-08X025PV50,0-GA-077873

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable, screened
- ▶ Cable length 50 m
- ▶ With flying lead