

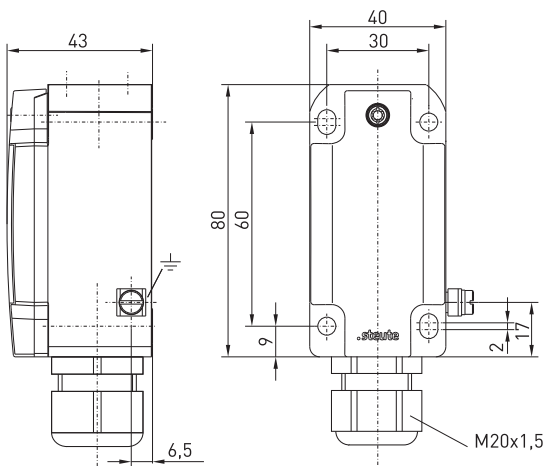
Ex position switches with/without safety function

// Series Ex 98

Features/Options

- Ex zone 1 and 21
- Cold-resistant down to -40 °C
- Design according to EN 50041
- Available with contact overlapping
- Wiring compartment
- Actuator heads can be repositioned in 4 x 90° steps
- Angle of offset roller lever can be adjusted in 10° steps
- Special version only for gas Ex zone 2 and dust Ex zone 22 available

// EX 98



Technical data

Standards	EN 60947-5-1; EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-14, EN 60079-31; EN ISO 13849-1; EN ISO 14119
Enclosure	Corrosion-resistant aluminium, powder-coated, similar to RAL 7016
Cover	Stainless steel 1.4401, powder-coated, similar to RAL 1003
Switch type	type 1
Coding level	no coding
Degree of protection	IP 66 to IEC/EN 60529
Contact material	silver
Switching system	slow or snap action, positive break NC contacts ⊖
Switching elements	1 NC/1 NO, 2 NC or 1 NC/1 NO contact with contact overlapping, type Zb
Connection	screw connection terminals
Cable cross-section	min. 0.75 mm ² AWG 18, max. 1.5 mm ² AWG 16 (incl. conductor ferrules)
Cable entry	1 x M20 x 1.5 for Ø 5 ... 9 mm
B_{10d} (10 % load)	2 million
T_M	max. 20 years
U_{imp}	4 kV
U_i	250 V
I_{the}	2 contacts: 6 A, 3 contacts: 1.5 A
I_e	max. 4.4 A T6 / max. 6.6 A T5
U_e	max. 250 VAC; 125 VDC
Utilisation category	AC-15; DC-13
Max. fuse rating	6 A gG/gN fuse
Mechanical life	> 1 million operations
Impact energy	max. 7 J
Ex marking	⊕ II 2G Ex de IIC T6/T5 Gb, II 2D Ex tb IIIC T80 °C/T95 °C Db IECEx Ex de IIC T6/T5 Gb, Ex tb IIIC T80 °C/T95 °C Db
Approvals	DMT 01 ATEX E 178, IECEx BVS 07.0014 ERC

Type code

Ex ES 98 R-11-3G/D

Equipment Categ. 3G/D, gas
Ex zone 2 and dust Ex zone 22
Contact type 10/1S, (2Ö, UE)
Actuator R (H, PH, D, etc.)
Series
Slow action (EM snap action)
Ex certified component

Ex position switches with/without safety function

// Series Ex 98, actuators

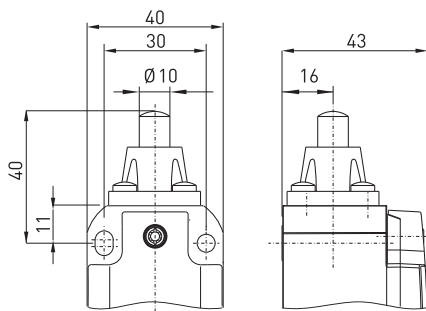
Features/Options

- Actuator type B to EN 50041

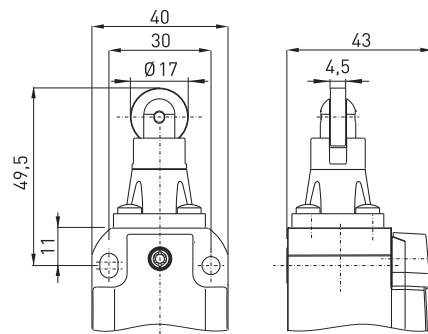
Features/Options

- Actuator type C to EN 50041
- Wear-resistant thermoplastic roller
- Metal roller available on request
- Actuator heads can be repositioned in 4 x 90° steps

// Plunger



// Roller plunger R



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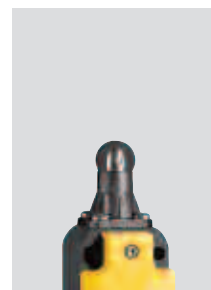
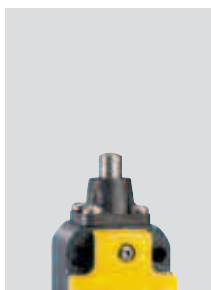
Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC/1 NO contact Material Number	Ex EM 98-11 1407644 	Ex ES 98-11 1387893 ✓
1 NC/1 NO contact with overlapping Material number		Ex ES 98-11U 1400703
2 NC contacts Material Number		Ex ES 98-02 1400705

Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC/1 NO contact Material Number	Ex EM 98 R-11 1442200 	Ex ES 98 R-11 1400709 ✓
1 NC/1 NO contact with overlapping Material number		Ex ES 98 R-11U 1400711
2 NC contacts Material Number		Ex ES 98 R-02 1400713

✓ in stock



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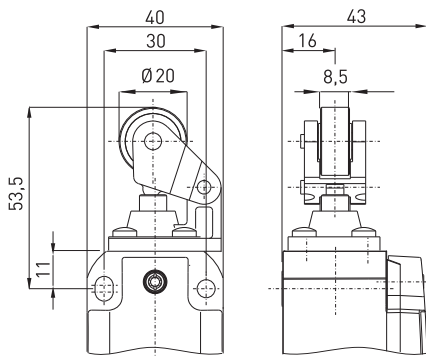
Features/Options

- Actuating speed 0.5 m/s with an actuating angle of a = 40° and b = 25°
- Actuator type E to EN 50041
- Actuator with collar
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Metal roller available on request

Note

Actuation from left should be avoided since this reduces the mechanical life of the position switch.

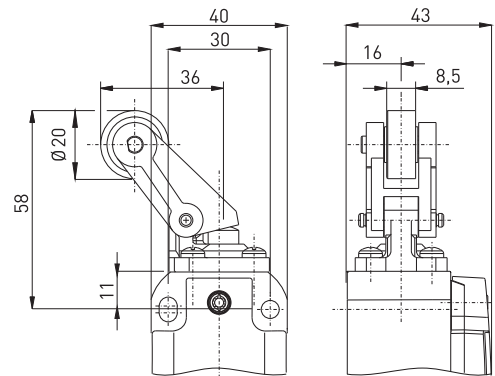
// Roller lever H



Features/Options

- Actuating speed 0.5 m/s with an actuating angle of a = 30°
- Actuation parallel to switch from below
- Actuator with collar
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Metal roller available on request

// Parallel roller lever PH

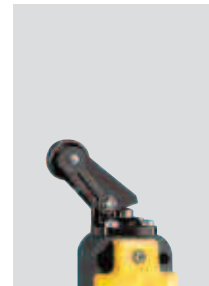
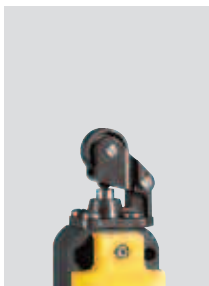


Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC/1 NO contact Material Number	Ex EM 98 H-11 1409658 	Ex ES 98 H-11 1400717 ✓
1 NC/1 NO contact with overlapping Material number		Ex ES 98 H-11U 1400719
2 NC contacts Material Number		Ex ES 98 H-02 1400721 ✓

Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC/1 NO contact Material Number	Ex EM 98 PH-11 1410011 	Ex ES 98 PH-11 1400725
1 NC/1 NO contact with overlapping Material number		Ex ES 98 PH-11U on request
2 NC contacts Material Number		Ex ES 98 PH-02 1400729



Ex position switches with/without safety function

// Series Ex 98, actuators

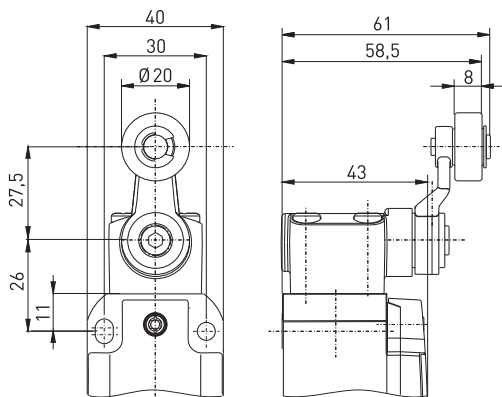
Features/Options

- Lever angle adjustable in 10° steps
- Actuator heads can be repositioned in 4 x 90° steps

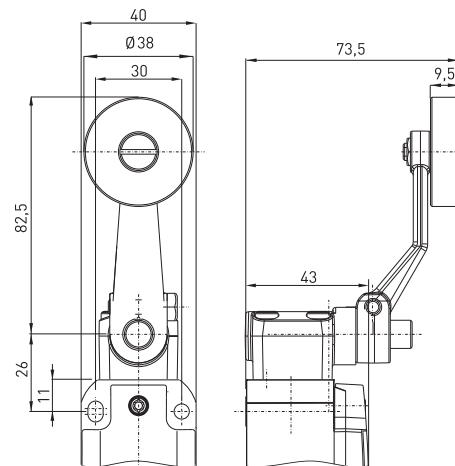
Features/Options

- Lever angle adjustable in 10° steps
- Actuator heads can be repositioned in 4 x 90° steps

// Rocking lever D



// Long rocking lever DL



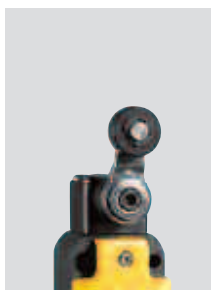
Contact variants: switch travel/contacts

Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC/1 NO contact Material Number	Ex EM 98 D-11 1409961 82° 37° 0° 37° 82° 23-24 11-12 23-24 11-12 61,5° 12° 12° 61,5°	Ex ES 98 D-11 1400733 ✓ 75° 47° 0° 47° 75° 13-14 21-22 45° 32° 32° 45°
1 NC/1 NO contact with overlapping Material number		Ex ES 98 D-11U 1400735 65° 29,5° 0° 29,5° 65° 13-14 21-22 53° 39,5° 39,5° 53°
2 NC contacts Material Number		Ex ES 98 D-02 1400737 ✓ 75° 47° 0° 47° 75° 11-12 21-22 32° 32°

	Snap action	Slow action
1 NC/1 NO contact Material Number	Ex EM 98 DL-11 1442030 82° 37° 0° 37° 82° 23-24 11-12 23-24 11-12 61,5° 12° 12° 61,5°	Ex ES 98 DL-11 1400741 ✓ 75° 47° 0° 47° 75° 13-14 21-22 45° 32° 32° 45°
1 NC/1 NO contact with overlapping Material number		Ex ES 98 DL-11U 1400743 65° 29,5° 0° 29,5° 65° 13-14 21-22 53° 39,5° 39,5° 53°
2 NC/1 NO contacts Material Number		Ex ES 98 DL-02 1400745 75° 47° 0° 47° 75° 11-12 21-22 32° 32°

✓ in stock



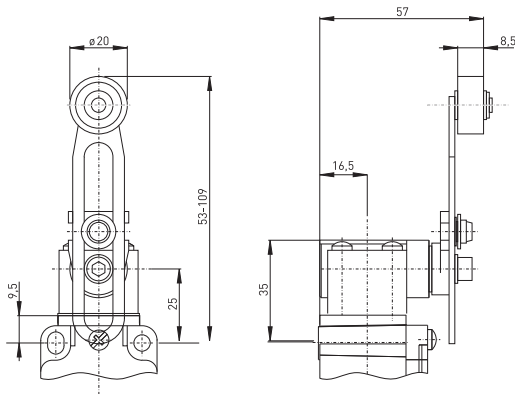
Features/Options

- No safety switch!
- Lever angle adjustable in 10° steps
- Length of roller lever adjustable
- Wear-resistant thermoplastic roller
- Actuator heads can be repositioned in 4 x 90° steps
- Metal roller available on request

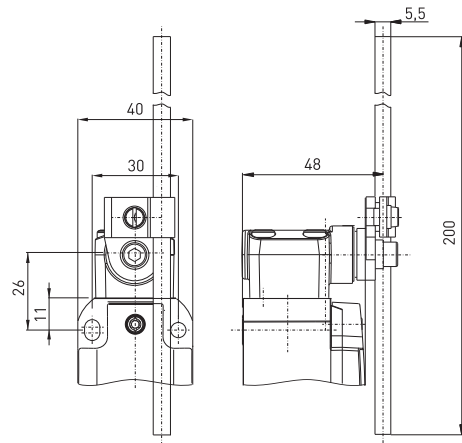
Features/Options

- No safety switch!
- Lever angle adjustable in 10° steps
- Actuator heads can be repositioned in 4 x 90° steps

// Adjustable rocking lever DS



// Rod lever DD



Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC/1 NO contact Material Number	Ex EM 98 DS-11 1442493 82° 37° 0° 37° 82° 23-24 11-12 23-24 11-12 12° 12°	Ex ES 98 DS-11 1400749 ✓ 75° 47° 0° 47° 75° 13-14 21-22 32° 32°
1 NC/1 NO contact with overlapping Material number		Ex ES 98 DS-11U 1400751 75° 32° 0° 32° 75° 13-14 21-22 45° 45°
2 NC contacts Material Number		Ex ES 98 DS-02 1400753 75° 0° 75° 11-12 21-22 32° 32°

Contact variants: switch travel/contacts

	Snap action	Slow action
1 NC/1 NO contact Material Number	Ex EM 98 DD-11 1442593 82° 37° 0° 37° 82° 23-24 11-12 23-24 11-12 12° 12°	Ex ES 98 DD-11 1400757 75° 47° 0° 47° 75° 13-14 21-22 32° 32°
1 NC/1 NO contact with overlapping Material number		Ex ES 98 DD-11U 1400759 75° 32° 0° 32° 75° 13-14 21-22 45° 45°
2 NC contacts Material Number		Ex ES 98 DD-02 1400761 75° 0° 75° 11-12 21-22 32° 32°

