



## Ex safety switch with separate actuator Ex ES 99 ST-02 -60°C X Material number: 1442235

### Features/Options:

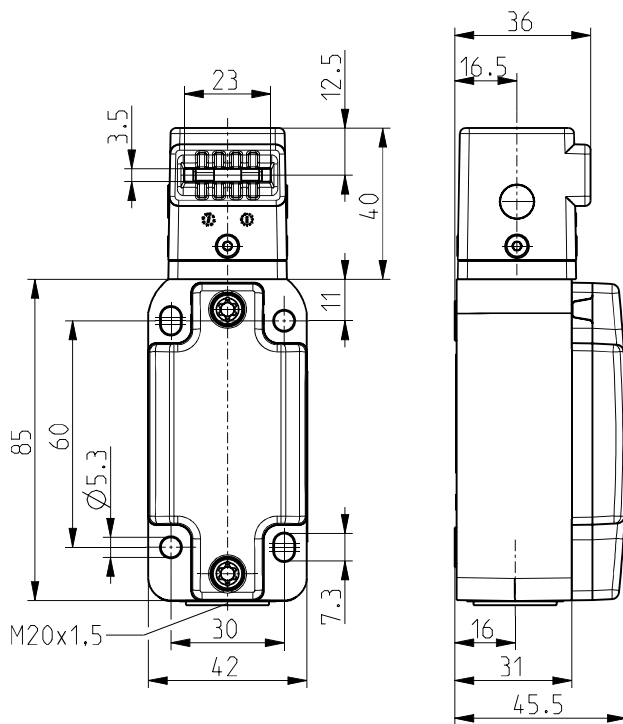
- Ex zone 1 and 21
- Thermoplastic enclosure
- Cold-resistant (storage/Ex protection down to -60 °C; mechanical function down to -50 °C)
- High degree of protection IP 66 / IP 67 / IP 69

- Mounting details to EN 50041
- Wiring compartment
- Actuator head can be repositioned by 4 x 90°
- Double insulated

### Notes

- 1 Ex"e" cable gland M20x1.5 included in delivery

### Dimensions



### Technical data

Applied standards	EN 60947-5-1, EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31, EN ISO 13849-1, EN ISO 14119
Enclosure	thermoplastic, glass-fibre reinforced, impact resistant, self-extinguishing UL 94 V-0
Cover	thermoset, glass-fibre reinforced, impact resistant, self-extinguishing UL 94 V-0
Sealing	silicone
Switch type	type 2
Coding level	low coding
Tightening torque	cover screws: 1.5 ... 2 Nm connecting thread of cable gland: max. 2 Nm cap nut of cable gland: max. 5 Nm
Degree of protection	IP 66 (EN 60079-0 + IEC/EN 60529) IP 67, IP 69 (IEC/EN 60529) IP 69K (ISO 20653)
B <sub>10d</sub> (10 % load)	2 million
T <sub>M</sub>	max. 20 years
Switch insert	1 x 8080/1-3
Contact material	Silver, nickel-plated
Switching system	slow action, positive break NC contacts $\ominus$
Switching elements	2 NC contacts, type Zb
Connection	screw connection terminals
Cable cross-section	min. 0,75 mm <sup>2</sup> / AWG 18, max. 1,5 mm <sup>2</sup> / AWG 16, incl. conductor ferrules

Errors and omissions excepted.

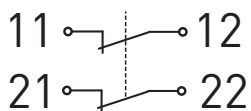


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## Technical data

Cable entry	M20 x 1,5; screwing depth max. 9 mm; use only Ex approved and certified cable glands with min. degree of protection IP 66 and suitable for the specified ambient temperature range
Clamping range	7 ... 12 mm
Utilisation category	AC-15
Rated operating current I <sub>e</sub>	max. 2 A or 4 A
Rated operating voltage U <sub>e</sub>	max. 400 VAC, max. 250 VAC for unequal potential
Mechanical life	> 1 million operations
Impact energy	max. 7 J down to -40 °C max. 4 J down to -60 °C
Temperature class	T6
Ambient temperature	-50 °C ... +55 °C max. 4 A, +60 °C max. 2 A
Storage and shipping temperature	-60 °C ... +60 °C
Short-circuit protection	2 A / 4 A gG/gN fuse
Ex marking	II 2G Ex db eb IIC T6 Gb, II 2D Ex tb IIIC T80 °C Db IECEX Ex db eb IIC T6 Gb, Ex tb IIIC T80 °C Db
Approvals	BVS 16 ATEX E113 X IECEX BVS 16.0076X 
Weight	260 g

## Contact diagram

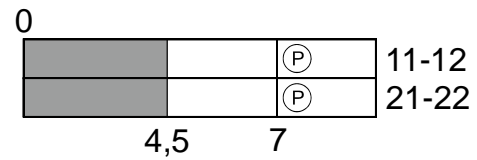


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## Switching diagram



Ⓟ Positive break travel/angle

### Note

Inserted position of actuator = 0 in switching diagram.  
The actuator is not included with the switches.