



Safety sensor Extreme BZ 16-03F IP69 Extreme Material number: 1355632

Features/Options:

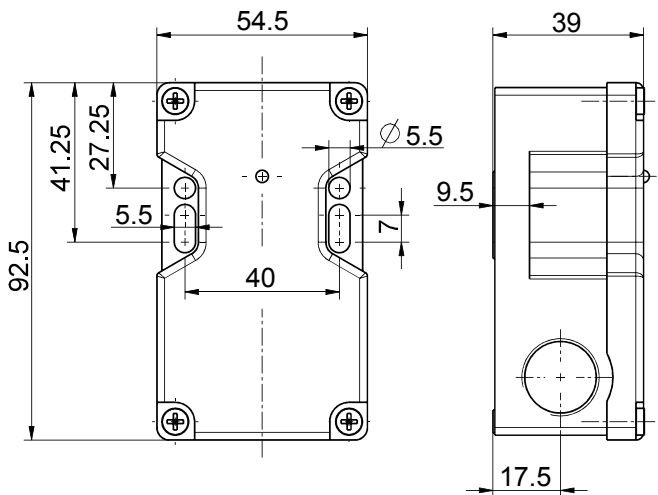
- Version with higher degree of protection IP69: suitable for cleaning with 80 °C hot water at 100 bar pressure at a distance of 100 mm from different directions
- Thermoplastic enclosure
- Long life
- Differential inputs: Induction / magnetic operating principle
- Internal monitoring, high manipulation protection
- Potential-free outputs

- Signalling contact
- Status LED
- 3 NC contacts
- Actuating plane: actuating from the front "F"
- Rated switching distance $s_n = 12$ mm
- Wiring compartment

Notes

- The actuator is not included in the delivery of the switches
- 1 cable gland M20x1.5 - IP69 and 2 locking screws M20x1.5 included in delivery

Dimensions



Technical data

| | |
|-----------------------|---|
| Applied standards | EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 60947-5-2, EN 60947-5-3, EN ISO 14119, EN 60204-1, EN ISO 13849-1, EN 62061, 2004/108/EG |
| Enclosure | thermoplastic, glass-fibre reinforced, impact resistant, self-extinguishing UL 94 V-0 |
| Sensor type | type 4 interlocking device |
| Coding level | low coding |
| Tightening torque | enclosure mounting screws: max. 2 Nm cover screws: max. 1.5 Nm actuator screws: max. 2 Nm |
| Degree of protection | IP 69 (IEC/EN 60529) |
| Safety-relevant data: | |
| EN ISO 13849-1 | Performance Level PL e |
| Category | 3 |
| B_{10d} (10 % load) | 20 million |
| T_M | max. 20 years |
| MTTF _d | 100 years |
| DC/DC _{avg} | 96 % |
| EN 62061 | SIL CL 3 |
| PFH _d | $\geq 4.29 \times 10^{-8}$ 1/h |
| h_{op} | 8 h/day |

Errors and omissions excepted.



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Technical data

| | |
|---|---|
| d_{op} | 220 days/year |
| t_{zyklus} | 20 s |
| Note | The safety-related data are based on a load of 24 V / 0.1 A / DC-1 for the enabling paths. With higher load currents for the enabling paths and other requirement rates n_{op} , the safety-related data vary from the given data and can be provided on request. |
| Rated switching distance s_n | 12 mm (10 mm with flush mounting) |
| Assured switching distance »ON« s_{ao} | 10 mm (8 mm with flush mounting) |
| Assured switching distance »OFF« s_{ar} | 25 mm |
| Hysteresis | approx. 6 mm |
| Sideways tolerance | ≤ 3 mm |
| Repeatability | ± 1 mm |
| Rated operating current/voltage I_e/U_e | 140 mA/24 VDC ± 15 % (reverse voltage protected); output contacts: max. 3 A/24 VAC/DC, min. 10 mA/5 VAC/DC; signalling contact: max. 1 A/24 VAC/DC, min. 100 μ A/100 mVDC |
| No-load supply current I_0 | ≤ 70 mA |
| Short-circuit protection | U_e : 0.25 A (slow blow); output contacts: 4 A (gG/gN) incoming series-connected |
| Outputs | 2 enabling paths (2 NC) 1 signalling contact (1 NC) |
| Switching voltage | max. 30 VAC/DC |
| Conditional short-circuit current | 100 A |
| Utilisation category | AC-15; DC-13 (output contacts) AC-12; DC-12 (signalling contact) |
| Rated insulation voltage U_i | 250 VAC |
| Rated impulse withstand voltage U_{imp} | 1.5 kV |
| Voltage drop at I_e | max. 0.6 V |
| Overvoltage category | III |

Errors and omissions excepted.

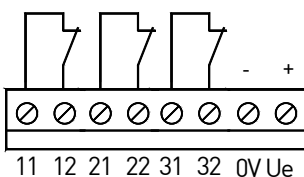


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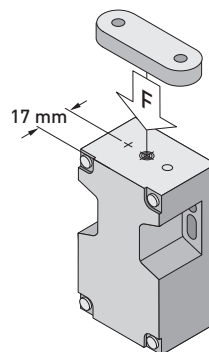
Technical data

| | |
|----------------------------------|---|
| Switching frequency | max. 1 Hz |
| Attendance delay t_v | < 300 ms |
| Risk time | max. 165 ms |
| Degree of pollution | 3 |
| Ambient temperature | 0 °C ... +55 °C |
| Storage and shipping temperature | -20 °C ... +70 °C |
| Mechanical life | 50 mio. operations |
| Contact material | output contacts: AgSnO self-cleaning, positive-guided; signalling contact: AgNi, gold-plated |
| Contact resistance | output contacts: 100 mΩ in new condition; signalling contact: max. 30 mΩ |
| Connection | wiring compartment with socket screw clamps 8-pole |
| Cable entry | 3 x M20 x 1.5 (press-out blanks in enclosure) |
| Cable cross-section | min. 0.14 mm ² / AWG 28 max. 1.5 mm ² / AWG 16 |
| Weight | 240 g |

Contact diagram



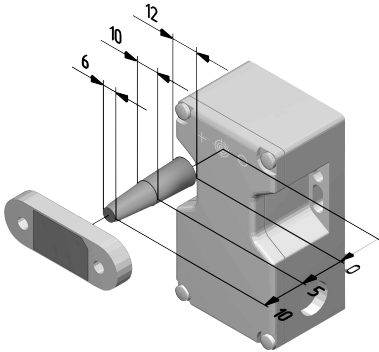
Actuating planes



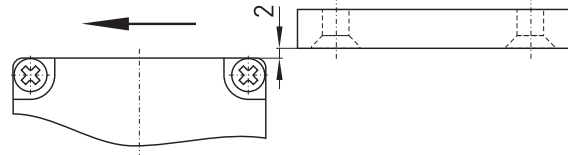


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Axial misalignment



Approach from side



Minimum distance 2 mm for approach from side.