# Safety switches **with solenoid and separate actuator**



**Main features**

- Actuator holding force F1max: 2800 N
- 30 contact blocks with 4 contacts
- Metal housing, three conduit entries M20
- Protection degree IP67
- Versions with key release and emergency release button
- 4 stainless steel actuators
- Orientable head and devices, not detachable
- Signalling LED
- Operation with energised or de-energised solenoid

**Markings and quality marks:**

| | |
|---|---|
| IMQ approval: | CA02.03848 |
| UL approval: | E131787 |
| CCC approval: | 2013010305602309 |
| EAC approval: | RU C-IT ДМ94.B.01024 |

## Technical data

**Housing**

| | |
|---|---|
| Metal head and housing, baked powder coating. | |
| Three threaded conduit entries: | M20x1.5 (standard) |
| Protection degree: | IP67 acc. to EN 60529 with cable gland having equal or higher protection degree |

**General data**

| | |
|---|---|
| For safety applications up to: | SIL 3 acc. to EN 62061<br>PL e acc. to EN ISO 13849-1 |
| Interlock with mechanical lock, coded: | type 2 acc. to EN ISO 14119 |
| Coding level: | Low acc. to EN ISO 14119 |
| Safety parameters: | |
| $B_{10d}$: | 5,000,000 for NC contacts |
| Service life: | 20 years |
| Ambient temperature: | -25°C … +60°C |
| Max. actuation frequency: | 600 operating cycles[1]/hour |
| Mechanical endurance: | 1 million operating cycles[1] |
| Max. actuation speed: | 0.5 m/s |
| Min. actuation speed: | 1 mm/s |
| Maximum force before breakage $F_{1max}$: | 2800 N acc. to EN ISO 14119 |
| Max. holding force $F_{Zh}$: | 2150 N acc. to EN ISO 14119 |
| Maximum play of locked actuator: | 4.5 mm |
| Released actuator extraction force: | 30 N |
| Tightening torques for installation: | see pages 297-308 |

(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1.

**Cable cross section (flexible copper strands)**

| | | | |
|---|---|---|---|
| Contact blocks: | min. | 1 x 0.34 mm² | (1 x AWG 22) |
| | max. | 2 x 1.5 mm² | (2 x AWG 16) |

**In conformity with standards:**
IEC 60947-5-1, EN 60947-5-1, EN 60947-1, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, EN 61000-6-2, EN 61000-6-3, BG-GS-ET-15, UL 508, CSA 22.2 N. 14.

**Approvals:**
IEC 60947-5-1, UL 508, CSA 22.2 N. 14.

**In conformity with the requirements of:**
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

**Positive contact opening in conformity with standards:**
IEC 60947-5-1, EN 60947-5-1.

**Solenoid**

| | |
|---|---|
| Duty cycle: | 100% ED |
| Solenoid protection 12 V: | type gG fuse 1 A |
| Solenoid protection 24 V: | type gG fuse 0.5 A |
| Solenoid protection 120 V: | fuse 315 mA, delayed |
| Solenoid protection 230 V: | fuse 315 mA, delayed |
| Solenoid consumption: | 9 VA |

**⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see chapter utilization requirements from page 297 to page 308.**

| Electrical data | | | Utilization category |
|---|---|---|---|
| without connector | Thermal current (Ith): | 10 A | Alternating current: AC15 (50÷60 Hz)<br>Ue (V) 120 250 400<br>Ie (A) 6 5 3<br>Direct current: DC13<br>Ue (V) 24 125 250<br>Ie (A) 3 0.7 0.4 |
| | Rated insulation voltage (Ui): | 400 Vac 300 Vdc | |
| | Rated impulse withstand voltage ($U_{imp}$): | 6 kV | |
| | Conditional short circuit current: | 1000 A acc. to EN 60947-5-1 | |
| | Protection against short circuits: | type gG fuse 10 A 500 V | |
| | Pollution degree: | 3 | |
| with M23 connector 12 poles | Thermal current (Ith): | 8 A | Alternating current: AC15 (50÷60 Hz)<br>Ue (V) 120 250<br>Ie (A) 6 5<br>Direct current: DC13<br>Ue (V) 24 125 250<br>Ie (A) 3 0.7 0.4 |
| | Rated insulation voltage (Ui): | 250 Vac 300 Vdc | |
| | Protection against short circuits: | type gG fuse 8 A 500 V | |
| | Pollution degree: | 3 | |
| with M12 connector 12 poles | Thermal current (Ith): | 1.5 A | Alternating current: AC15 (50÷60 Hz)<br>Ue (V) 24<br>Ie (A) 1.5<br>Direct current: DC13<br>Ue (V) 24<br>Ie (A) 1.5 |
| | Rated insulation voltage (Ui): | 30 Vac 36 Vdc | |
| | Protection against short circuits: | type gG fuse 1.5 A | |
| | Pollution degree: | 3 | |