



MZM 100 B ST-1P2PW2R-A

- Power to lock
- Actuator monitored
- Connector M23, 8+1-pole
- Automatic latching
- Solenoid interlocks with innovating and unique operating principle
- 40 mm x 179 mm x 40 mm
- Electronic contact-free, coded system
- Thermoplastic enclosure
- Max. length of the sensor chain 200 m
- 3 LEDs to show operating conditions
- Sensor technology permits an offset between actuator and interlock of ± 5 mm vertically and ± 3 mm horizontally
- Intelligent diagnosis
- Self-monitoring series-wiring
- Patented

Data

Ordering data

| | |
|-------------------------------|------------------------|
| Product type description | MZM 100 B ST-1P2PW2R-A |
| Article number (order number) | 101204267 |
| EAN (European Article Number) | 4030661379661 |
| eCl@ss number, version 12.0 | 27-27-26-03 |
| eCl@ss number, version 11.0 | 27-27-26-03 |
| eCl@ss number, version 9.0 | 27-27-26-03 |
| ETIM number, version 7.0 | EC002593 |
| ETIM number, version 6.0 | EC002593 |

Approvals - Standards

| | |
|--------------|----------------------|
| Certificates | TÜV cULus UKCA |
|--------------|----------------------|

General data

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|--|--|
| Standards | EN ISO 13849-1 EN ISO 14119 EN IEC 60947-5-3 EN IEC 61508 |
| Coding | Universal coding |
| Coding level according to EN ISO 14119 | Low |
| Working principle | inductive |
| Housing material | Plastic, glass-fibre reinforced thermoplastic, self-extinguishing |
| Reaction time, maximum | 150 ms |
| Duration of risk, maximum | 150 ms |
| Gross weight | 646 g |

General data - Features

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|-------------------------------------|-----|
| Power to lock | Yes |
| Actuator monitored | Yes |
| Latching | Yes |
| Short circuit detection | Yes |
| Cross-circuit detection | Yes |
| Series-wiring | Yes |
| Safety functions | Yes |
| Integral system diagnostics, status | Yes |
| Number of safety contacts | 2 |

Safety classification

| | |
|-----------|--------------------------------|
| Standards | EN ISO 13849-1 EN IEC 61508 |
|-----------|--------------------------------|

Safety classification - Interlocking function

| | |
|--|--------------------------|
| Performance Level, up to | e |
| Category | 4 |
| PFH value | 3.54×10^{-9} /h |
| Safety Integrity Level (SIL), suitable for applications in | 3 |
| Mission time | 20 Year(s) |

Mechanical data

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|--|---|
| Mechanical life, minimum | 1,000,000 Operations |
| Note (Mechanical life) | Actuating speed ≤ 0.5 m/s Operations for door weights ≤ 5 kg |
| Holding force, typically | 750 N |
| Holding force, guaranteed | 500 N |
| Latching force | 30 N |
| Type of the fixing screws | 2x M6 |
| Tightening torque of the fixing screws | 8 Nm |

Mechanical data - Switching distances according EN IEC 60947-5-3

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|---|------|
| Assured switching distance "ON" S_{ao} | 0 mm |
| Assured switching distance "OFF" S_{ar} | 1 mm |

Mechanical data - Connection technique

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|-----------------------------------|--|
| Length of sensor chain, maximum | 200 m |
| Note (length of the sensor chain) | Cable length and cross-section change the voltage drop depending on the output current |
| Note (series-wiring) | Unlimited number of devices, observe external line fusing, max. 31 devices in case of serial diagnostic SD |

Termination

Connector M23, 8+1-pole

Mechanical data - Dimensions

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|------------------|--------|
| Length of sensor | 40 mm |
| Width of sensor | 40 mm |
| Height of sensor | 179 mm |

Ambient conditions

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|--|--|
| Degree of protection | IP65 IP67 |
| Ambient temperature | -25 ... +55 °C |
| Storage and transport temperature, minimum | -25 °C |
| Storage and transport temperature, maximum | +70 °C |
| Relative humidity, minimum | 30 % |
| Relative humidity, maximum | 95 % |
| Note (Relative humidity) | non-condensing non-icing |
| Resistance to vibrations | 10 ... 150 Hz, amplitude 0.35 mm / 5 g |
| Resistance to shock | 30 g / 11 ms |
| Protection class | III |
| Permissible installation altitude above sea level, maximum | 2,000 m |

Ambient conditions - Insulation values

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|---|--------|
| Rated insulation voltage U_i | 32 VDC |
| Rated impulse withstand voltage U_{imp} | 0.8 kV |
| Overvoltage category | III |
| Degree of pollution | 3 |

Electrical data

| | |
|---|---|
| Operating voltage | 24 VDC -15 % / +10 % (stabilised PELV power supply) |
| No-load supply current I_0 , typical | 100 mA |
| Current consumption with magnet ON, average | 350 mA |
| Current consumption with magnet ON, peak | 550 mA / 10 ms |
| Rated operating voltage | 24 VDC |
| Operating current | 1,100 mA |
| Required rated short-circuit current | 100 A |
| External wire and device fuse rating | 2 A gG |
| Time to readiness, maximum | 4,000 ms |
| Switching frequency, maximum | 1 Hz |

Electrical data - Magnet control

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|-----------------------------------|--|
| Designation, Magnet control | IN |
| Switching thresholds | -3 V ... 5 V (Low) 15 V ... 30 V (High) |
| Current consumption at 24 V | 10 mA |
| Magnet switch-on time | 100 % |
| Test pulse duration, maximum | 5 ms |
| Test pulse interval, minimum | 40 ms |
| Classification ZVEI CB24I, Sink | C0 |
| Classification ZVEI CB24I, Source | C1 C2 C3 |

Electrical data - Safety digital inputs

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|----------------------------|--|
| Designation, Safety inputs | X1 and X2 |
| Switching thresholds | -3 V ... 5 V (Low) 15 V ... 30 V (High) |

| | |
|--------------------------------------|----------------|
| Current consumption at 24 V | 5 mA |
| Test pulse duration, maximum | 1 ms |
| Test pulse interval, minimum | 100 ms |
| Classification ZVEI CB24I, Sink | C1 |
| Classification ZVEI CB24I, Source | C1 C2 C3 |

Electrical data - Safety digital outputs

| | |
|--|-----------------------------|
| Designation, Safety outputs | Y1 and Y2 |
| Rated operating current (safety outputs) | 250 mA |
| Design of control elements | short-circuit proof, p-type |
| Voltage drop U_d , maximum | 1 V |
| Leakage current I_r , maximum | 0.5 mA |
| Voltage, Utilisation category DC-13 | 24 VDC |
| Current, Utilisation category DC-13 | 0.25 A |
| Test pulse interval, typical | 1000 ms |
| Test pulse duration, maximum | 1 ms |
| Classification ZVEI CB24I, Source | C1 |
| Classification ZVEI CB24I, Sink | C1 |

Electrical data - Diagnostic outputs

| | |
|--|-----------------------------|
| Designation, Diagnostic outputs | OUT |
| Design of control elements | short-circuit proof, p-type |
| Voltage drop U_d , maximum | 2 V |
| Voltage, Utilisation category DC-13 | 24 VDC |
| Current, Utilisation category DC-13 | 0.05 A |

Status indication

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|---|--|
| Note (LED switching conditions display) | Operating condition: LED green Error / functional defect: LED red Supply voltage UB: LED green |
|---|--|

Pin assignment

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|-------|-----------------------|
| PIN 1 | A1 Supply voltage UB |
| PIN 2 | X1 Safety input 1 |
| PIN 3 | A2 GND |
| PIN 4 | Y1 Safety output 1 |
| PIN 5 | OUT Diagnostic output |
| PIN 6 | X2 Safety input 2 |
| PIN 7 | Y2 Safety output 2 |
| PIN 8 | IN Solenoid control |
| PIN 9 | without function |

Scope of delivery

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|-------------------|--------------------------------------|
| Scope of delivery | Actuator must be ordered separately. |
|-------------------|--------------------------------------|

Accessory

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|---------------------------|--------------|
| Recommendation (actuator) | MZM 100-B1.1 |
|---------------------------|--------------|

Note

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| Note (General) | As long as the actuating unit is applied to the solenoid interlock, the unlocked safety guard can be relocked. In this case, the safety outputs are re-enabled, so that the safety guard must not be opened. |
|----------------|--|

Ordering code

Product type description:
MZM 100(1)(2)(3)(4)(5)-A

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|----------------|--|--|
| (1) | | |
| without | | Solenoid interlock monitored |
| B | | Actuator monitored |
| (2) | | |
| ST2 | | Connector plug M12, 8-pole |
| ST | | Connector plug M23, 8+1-pole |
| (3) | | |
| 1P2P | | 1 p-type diagnostic output and 2 p-type safety outputs (only in connection with "Solenoid interlock monitored") |
| 1P2PW | | Similar to -1P2P, combined diagnostic signal: guard door closed and solenoid interlock locked (only in connection with "Solenoid interlock monitored") |
| 1P2PW2 | | Similar to -1P2P, combined diagnostic signal: guard door closed and can be locked (only in connection with "Actuator monitored") |
| SD2P | | serial diagnostic output and 2 p-type safety outputs |
| (4) | | |
| without | | without latching (only in connection with "Solenoid interlock monitored") |
| R | | electrical latching force, typically 30 N |
| RE | | electrically adjustable latching force 30 ... 100 N |
| (5) | | |
| M | | permanent magnet, typically 15 N |

Pictures

Product picture (catalogue individual photo)



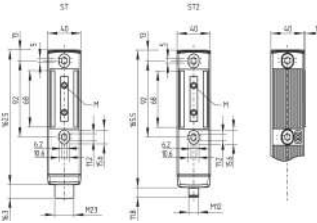
ID: kmzm1f08

| 1.4 MB | .jpg | 216.253 x 833.261 mm - 613 x 2362 px - 72 dpi

| 235.7 kB | .png | 74.083 x 285.397 mm - 210 x 809 px - 72 dpi

| 28.1 kB | .jpg | 32.103 x 123.472 mm - 91 x 350 px - 72 dpi

Dimensional drawing basic component



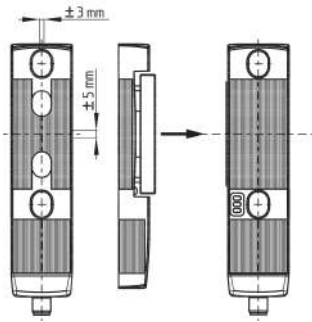
ID: 1mzm1g14

| 20.7 kB | .swf |

| 5.2 kB | .png | 74.083 x 50.8 mm - 210 x 144 px - 72 dpi

| 160.8 kB | .jpg | 352.778 x 242.358 mm - 1000 x 687 px - 72 dpi

Dimensional drawing miscellaneous



ID: 1mzm1g15

| 12.9 kB | .swf |

| 290.8 kB | .jpg | 352.425 x 362.656 mm - 999 x 1028 px - 72 dpi

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The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

Generated on: 27/01/2024, 6:48 am