



MZM 100 B ST2-1P2PW2REM-A-2930

- Connector M12, 8-pole
- Power to lock
- Automatic latching
- Solenoid interlocks (for the protection of man) 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 ST2-1P2PW2REM-A-2930
Article number (order number)	103013468
EAN (European Article Number)	4030661490816
eCl@ss number, Version 9.0	27-27-26-03
eCl@ss number, Version 11.0	27-27-26-03

Approval - Standards

Certificates	TÜV cULus EAC
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General data

Product name	MZM 100
Standards	IEC 61508 EN 60947-5-3 EN ISO 13849-1 EN ISO 14119
general information	Universal coding
Coding level according to ISO 14119	Low
Active principle	inductive
Enclosure material	Glass-fibre, reinforced thermoplastic
Gross weight	640 g
Time to readiness, maximum	4,000 ms
Reaction time, maximum	150 ms
Duration of risk, maximum	150 ms

General data - Features

Power to lock	Yes
Actuator monitored	Yes
Latching	Yes
Short circuit detection	Yes
Short-circuit recognition	Yes
Series-wiring	Yes
Safety functions	Yes
Integral System Diagnostics, status	Yes
Number of safety contacts	2
Number of Series-wiring of sensors	31

Safety appraisal

Standards	IEC 61508 EN ISO 13849-1
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Safety appraisal - Interlocking

Performance level, up to	e
Control 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

Mechanical life, minimum	1,000,000 Operations
Note (Mechanical lifetime)	Actuating speed Operations for door weights ≤ 5 kg
Clamping force, typically	750 N
Clamping force, guaranteed	500 N
Latching force, minimum	45 N
Latching force, maximum	115 N

Mechanical data - Connection technique

Terminal Connector	Connector M12, 8-pole
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Mechanical data - Dimensions

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

Ambient conditions

Degree of protection	IP65 to EN 60529 IP67 to EN 60529
Ambient temperature, minimum	-25 °C
Ambient temperature, maximum	+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 to EN 60068-2-6	10 ... 150 Hz, amplitude 0.35 mm
Resistance to shock	30 g / 11 ms
Protection rating	III

Ambient conditions - Insulation value

Rated insulation voltage U_i	32 VDC
Rated impulse withstand voltage U_{imp}	0.8 kV
Overvoltage category	III
Degree of pollution to VDE 0100	3

Electrical data

Operating voltage, minimum	20.4 VDC
Operating voltage, maximum	26.4 VDC
No-load supply current I_0	600 mA
Operating current	1,000 mA 50 mA
Required rated short-circuit current to EN 60947-5-1	100 A
Note	Cable length and cable section alter the voltage drop depending on the output current
Switching frequency, maximum	1 Hz

Electrical data - Solenoid control

Switching thresholds	-3 V ... 5 V (Low) 15 V ... 30 V (High)
Classification ZVEI CB24I, Sink	C0
Classification ZVEI CB24I, Source	C1 C2 C3

Electrical data - Fail-safe digital inputs

Switching thresholds	-3 V ... 5 V (Low) 15 V ... 30 V (High)
Classification ZVEI CB24I, Sink	C1
Classification ZVEI CB24I, Source	C1 C2 C3

Electrical data - Fail-safe digital outputs

Rated operating current (safety outputs)	250 mA
Voltage drop U_d , maximum	1 V
Current leakage I_r	0.5 mA
Voltage, Utilisation category DC13	24 VDC
Current, Utilisation category DC13	0.25 A
Classification ZVEI CB24I, Source	C1
Classification ZVEI CB24I, Sink	C1

Electrical data - Diagnostic output

Voltage drop U_d , maximum	2 V
Voltage, Utilisation category DC13	24 VDC
Current, Utilisation category DC13	0.05 A

Status indication

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

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

Scope of delivery

Included in delivery Actuators must be ordered separately.

Accessory

Recommendation (actuator) MZM 100-B1.1

Notes

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)

(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")
(4)		
without		without latching force
RE		electrically adjustable latching force 30 ... 100 N
(5)		
M		Permanent magnet approx. 30 N

Documents

Operating instructions and Declaration of conformity

MZM 100 / MZM 100 B (626.6 kB, 24.11.2020, I)

Operating instructions (supplementary sheet/quick guide)

MZM 100 B-...-2930 (105.8 kB, 11.02.2021)

UL Certificate

(413.4 kB, 01.08.2019)

EAC certification

(1.9 MB, 05.11.2019)

Brochure

Electronic Safety Sensors and Solenoid Interlocks (5.7 MB, 07.11.2019, Revision 09)

SISTEMA-VDMA library

(129.2 kB, 18.01.2021)

Pictures

Product picture (catalogue individual photo)

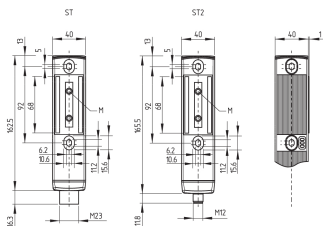


ID: kmzm1f25

| 273.6 kB | .jpg | 352.778 x 477.661 mm - 1000 x 1354 px - 72 dpi

| 22.1 kB | .png | 74.083 x 100.189 mm - 210 x 284 px - 72 dpi

Dimensional drawing basic component



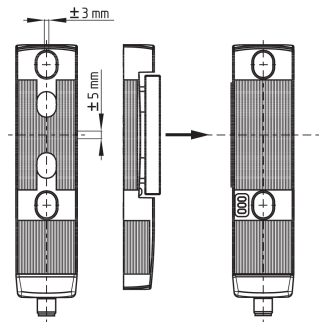
ID: 1mzm1g14

| 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

System components

Control-Modul



SRB-E-201LC

- STOP 0 Function
- 1 oder 2-channel control
- Start button / Auto-start
- 2 Safety outputs 2 A
- 1 Signalling output



SRB-E-301ST

- STOP 0 Function
- 1 oder 2-channel control
- Start button / Auto-start
- 3 safety contacts
- 1 Auxiliary contact



SRB-E-204ST

- STOP 0 Function
- Monitoring of 4 sensors
- Start button / Auto-start
- 2 Safety outputs
- 4 Signalling outputs

Schmersal Ltd., Sparrowhawk Close, WR14 1GL Malvern

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.

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