



## MZM 100 B ST2-1P2PW2R60M-A

- 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  $\pm 5$  mm vertically and  $\pm 3$  mm horizontally
- Intelligent diagnosis
- Self-monitoring series-wiring
- Patented

## Data

### Ordering data

EAN (European Article Number) 4030661387734

eCl@ss number, Version 9.0 27-27-26-03

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### Approval - Standards

Certificates TÜV  
cULus  
EAC

### General data

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	623.5 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	$3.54 \times 10^{-9}$ /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 $\leq 5$ kg
Clamping force, typically	750 N
Clamping force, guaranteed	500 N
Latching force	60 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.
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## Accessory

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

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