

## Datasheet - MZM 100 ST-AS MAP

AS interface safety at work / Safety switchgear / Solenoid interlock / MZM 100 AS



(Minor differences between the printed image and the original product may exist!)

- Solenoid interlock
- Thermoplastic enclosure
- Integrated AS-Interface
- 40 mm x 179 mm x 40 mm
- Solenoid interlocks (for the protection of man) with innovating and unique operating principle
- Electronic contact-free, coded system
- 3 LEDs to show operating conditions
- Automatic latching
- Sensor technology permits an offset between actuator and interlock of  $\pm 5$  mm vertically and  $\pm 3$  mm horizontally
- Intelligent diagnosis
- Power to lock
- Guard locking monitored
- Permanent magnet

### Ordering details

|                          |                   |
|--------------------------|-------------------|
| Product type description | MZM 100 ST-AS MAP |
| Article number           | 101209554         |
| EAN Code                 | 4030661383187     |
| eCI@ss                   | 27-27-26-03       |

### Approval

Approval




### Classification

|                  |  |
|------------------|--|
| Standards        | EN ISO 13849-1, IEC 61508, IEC 60947-5-3 |
| PL               | up e                                     |
| Control category | up 4                                     |
| PFH              | $\leq 5 \times 10^{-9}/h$                |
| SIL              | up 3                                     |
| Mission time     | 20 Years                                 |
| Classification   | PDF-M                                    |

### Global Properties

|                 |            |
|-----------------|------------|
| Permanent light | MZM 100 AS |
|-----------------|------------|

|  |  |
|--|--|
| Standards  | EN 60947-5-1, IEC 61508, EN 50295, IEC 60947-5-3, EN ISO 13849-1 |
| Compliance with the Directives (Y/N)  | Yes  |
| Suitable for safety functions (Y/N)  | Yes  |
| Protection rating  | III  |
| Active principle   | inductive  |
| Coding   | Universal coding   |
|  | low  |
| Duty cycle ED  | 100 %  |
| Materials  |  |
| - Material of the housings   | Plastic, glass-fibre reinforced thermoplastic                    |
| Housing coating  | None   |
| Weight   | 628  |
| Guard locking monitored (Y/N)  | Yes  |
| Actuator monitored (Y/N)   | No   |
| Response time  | < 150 ms   |
| Duration of risk   | < 150 ms   |
| Time to readiness  | < 4000   |
| Recommended actuator   | MZM 100-B1.1   |

## Mechanical data

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|  |  |
|--|--|
| Design of electrical connection        | connector plug M12, 4-pole                                 |
| Mechanical life                        | ≥ 1.000.000 operations                                     |
| notice - Mechanical life               | operations for guards ≤ 5 kg;<br>actuating speed ≤ 0,5 m/s |
| restistance to shock                   | 30 g / 11 ms   |
| Resistance to vibration                | 10 ... 150 HZ, Amplitude 0,35 mm                           |
| Latching (Y/N)                         | No   |
| electrically adjustable latching force | -  |
| Permanent magnet                       | 30   |
| Clamping force F                       | 500 N  |

## Ambient conditions

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|   |                      |
|---|----------------------|
| Ambient temperature                                     |                      |
| - Min. environmental temperature                        | -25                  |
| - Max. environmental temperature                        | +55                  |
| Storage and transport temperature                       |                      |
| - Min. Storage and transport temperature                | -25                  |
| - Max. Storage and transport temperature                | +85                  |
| Relative humidity                                       | 30... 95             |
| - non-condensing  |                      |
| - non-icing   |                      |
| Protection class  | IP67 to IEC/EN 60529 |
| Protection rating                                       | III                  |
| Air clearances and creepage distances To IEC/EN 60664-1 |                      |
| - Rated impulse withstand voltage $U_{imp}$             | 0,8 kV               |
| - Rated insulation voltage $U_i$                        | 32 VDC               |
| - Overvoltage category                                  | III                  |
| - Degree of pollution                                   | 3                    |

## Electrical data

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|               |     |
|---------------|-----|
| Power to lock | Yes |
|---------------|-----|

## Electrical data - AS interface

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|  |   |
|--|---|
| AS-i Supply voltage  | 26.5 ... 31.6 VDC, Protection against polarity reversal |
| AS-i operating current   | ≤ 100   |
| AS-i Device insulation   | internally short-circuit proof                          |
| AS-i Specification   |   |
| - version  | V 2.1   |
| - Profile  | S-7.B.F.E   |
| - IO-Code  | 0x7   |
| - ID-Code  | 0xB   |
| - ID-Code1   | 0xF   |
| - ID-Code2   | 0xE   |
| AS-i Inputs  |   |
| - Channel 1  | Data bits DI 0/DI 1= dynamic code transmission          |
| - Channel 2  | Data bits DI 2/DI 3= dynamic code transmission          |
| AS-i Outputs   |   |
| - DO 0   | Solenoid control  |
| - DO 1   | not used  |
| - DO 2   | not used  |
| - DO 3   | not used  |
| AS-i Parameter bits  |   |
| - P0   | Actuator in   |
| - P1   | Solenoid interlock locked                               |
| - P2   | Auxiliary voltage in                                    |
| - P3   | device error (Error detected)                           |
| AS-i input module address  | 0   |
| - Default on address 0, programmable via the AS-Interface Master or Hand-held programming device |   |

## Electrical data - Auxiliary voltage (Aux)

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|                      |   |
|----------------------|---|
| Supply voltage $U_B$ | 24 VDC (-15 % / +10 %) stabilised PELV    |
| Operating current    | ≤ 600                                     |
| Device insulation    | ≤ 4 A (if used in accordance with UL 508) |

## LED switching conditions display

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|  |  |
|--|--|
| LED switching conditions display (Y/N) | Yes  |
| AS-i LED switching conditions display  |  |
| (1) green/red LED (AS-i duo LED)       | Supply voltage / Communication error / slave address = 0 |
| (2) yellow LED                         | Device status  |
| (3) red LED                            | device error   |

## ATEX

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|   |      |
|---|------|
| Explosion protection categories for gases | None |
| Explosion protected category for dusts    | None |

## Dimensions

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|                          |     |
|--------------------------|-----|
| Dimensions of the sensor |     |
| - Width of sensor        | 40  |
| - Height of sensor       | 179 |
| - Length of sensor       | 40  |

## Pin assignment

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|   |           |
|---|-----------|
| 1 | AS-i +    |
| 2 | Aux - (P) |
| 3 | AS-i -    |
| 4 | Aux + (P) |

## notice

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As long as the actuating unit remains inserted in the solenoid interlock, the unlocked safety guard can be relocked. The safety outputs then will be enabled again; opening the safety guard therefore is not required.

Interlocks with power to lock principle may only be used in special cases after a thorough evaluation of the accident risk, since the guarding device can immediately be opened on failure of the electrical power supply or when the main switch is opened.

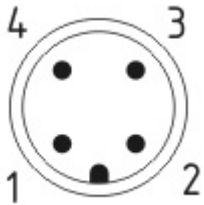
## Included in delivery

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

Actuators must be ordered separately.

## Diagram

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Note Diagram

-  positive break NC contact
-  active
-  no active
-  Normally-open contact
-  Normally-closed contact

## Ordering code

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MZM 100 (1) ST-AS (2)(3)AP

(1)

without

**B** Guard locking monitored

Actuator monitored

(2)

without

without latching ( Only for Guard locking monitored)

**RE** electrically adjustable latching force 30 N ... 100 N

(3)

without

without Permanent magnet

**M** Permanent magnet 30 N

## Documents

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Operating instructions and Declaration of conformity (nl) 992 kB, 15.11.2010

Code: mrl\_mzm100as\_nl

**Operating instructions and Declaration of conformity (nl)** 348 kB, 31.08.2018

Code: mrl\_mzm100as\_nl

**Operating instructions and Declaration of conformity (en)** 373 kB, 28.08.2018

Code: mrl\_mzm100as\_en

**Operating instructions and Declaration of conformity (pt)** 363 kB, 31.08.2018

Code: mrl\_mzm100as\_pt

**Operating instructions and Declaration of conformity (jp)** 414 kB, 27.01.2012

Code: mrl\_mzm100as\_jp

**Operating instructions and Declaration of conformity (es)** 367 kB, 28.08.2018

Code: mrl\_mzm100as\_es

**Operating instructions and Declaration of conformity (da)** 359 kB, 28.08.2018

Code: mrl\_mzm100as\_da

**Operating instructions and Declaration of conformity (de)** 362 kB, 28.08.2018

Code: mrl\_mzm100as\_de

**Operating instructions and Declaration of conformity (pl)** 371 kB, 31.08.2018

Code: mrl\_mzm100as\_pl

**Operating instructions and Declaration of conformity (fr)** 357 kB, 31.08.2018

Code: mrl\_mzm100as\_fr

**Operating instructions and Declaration of conformity (fr)** 983 kB, 20.12.2010

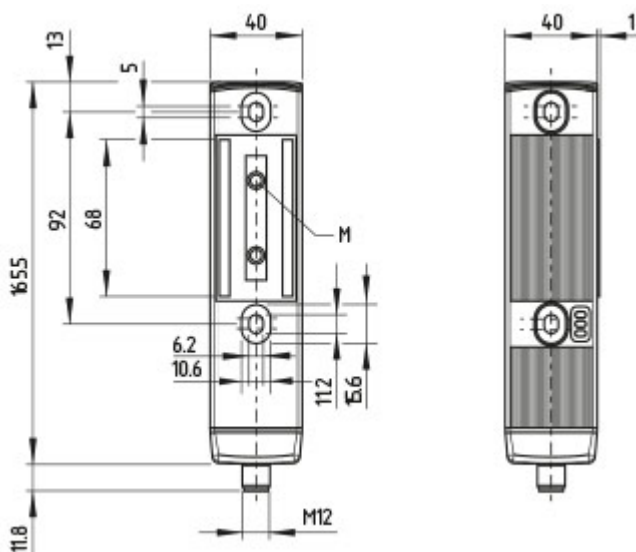
Code: mrl\_mzm100as\_fr

**Operating instructions and Declaration of conformity (it)** 356 kB, 31.08.2018

Code: mrl\_mzm100as\_it

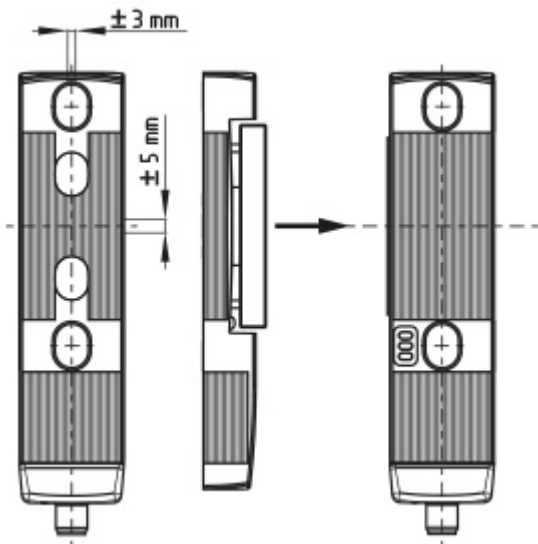
## Images

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Dimensional drawing (basic component)

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Dimensional drawing (miscellaneous)

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## System components

### Actuator



**101204290 - MZM 100-B1.1**

- actuator free from play
- neutralisation of undesired noises

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### Accessories



**101185510 - MS MZM 100-W**