# Datasheet - AZM300Z-ST-1P2P-A

Solenoid interlock / AZM300

**SCHMERSAL**

- Suitable for mounting to profile systems
- Thermoplastic enclosure
- 3 different directions of actuation
- Compact design
- Electronic contact-free, coded system
- 3 LEDs to show operating conditions
- Suitable for hinged and sliding guards
- Series-wiring
- Manual release
- Connector M12, 8-pole
- Power to lock
- Guard locking monitored
- Diagnostic output

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

## Ordering details

| | |
|---|---|
| Product type description | AZM300Z-ST-1P2P-A |
| Article number | 103001450 |
| EAN code | |

## Approval

| | |
|---|---|
| Approval | cULus USA/CAN |
| | TÜV TÜV |
| | ECOLAB |

## Classification

| | |
|---|---|
| Standards | EN ISO 13849-1, IEC 61508 |
| PL | e |
| Control category | 4 |
| SIL | 3 |
| Mission time | 20 Years |
| PFH value | $5.2 \times 10^{-10}$ /h |

## Global Properties

| | |
|---|---|
| Product name | AZM300 |
| Standards | EN 60947-5-1, IEC 60947-5-3, IEC 61508, EN ISO 13849-1 |
| Compliance with the Directives (Y/N) $\mathsf{C\,\mathsf{E}}$ | Yes |
| Suitable for safety functions (Y/N) | Yes |
| Series-wiring | Yes |
| Length of the sensor chain | max. 200 m |
| Active principle | RFID |
| Duty cycle | 100 % |
| Materials | |
| - Material of the housings | Plastic, glass-fibre reinforced thermoplastic |
| Housing coating | None |
| Weight | |
| Guard locking monitored (Y/N) | Yes |
| Actuator monitored (Y/N) | No |
| Idle assignable pushbutton and LED (Y/N) | No |
| Reaction time | < 100 ms |
| Duration of risk | < 200 ms |
| Time to readiness | 5 s |
| Recommended actuator | AZ/AZM300-B1 |

## Mechanical data

| | |
|---|---|
| Design of electrical connection | Connector M12, 8-pole, A-coded |
| Mechanical life | ≥ 1.000.000 operations |
| notice - Mechanical life | ≥ 50000 operations for guards 5 kg; actuating speed 0,5 m/s |
| Switch distance $S_n$ | 2 mm |
| Ensured switch distance ON $S_{ao}$ | 1 mm |
| Ensured switch distance OFF $S_{ar}$ | 20 mm |
| restistance to shock | 30 g / 11 ms |
| Resistance to vibration | 10 … 150 Hz, Amplitude 0,35 mm |
| Emergency unlocking device (Y/N) | No |
| Manual release (Y/N) | Yes |
| Emergency release (Y/N) | No |
| Latching (Y/N) | Yes |
| Latching force | 25 N / 50 N |
| Clamping force $F_{max}$ | 1000 N |
| Actuator and interlock misalignment | ≤ 2° |
| fixing screws | 2 x M6 |

## Ambient conditions

| | |
|---|---|
| Ambient temperature | |
| - Min. environmental temperature | 0 °C |
| - Max. environmental temperature | +60 °C |
| Storage and transport temperature | |
| - Min. Storage and transport temperature | −10 °C |
| - Max. Storage and transport temperature | +90 °C |
| Protection class | IP66, IP67 to IEC/EN 60529 IP69K to DIN 40050-9 |
| Protection rating | II |
| Air clearances and creepage distances To IEC/EN 60664-1 | |
| - Rated impulse withstand voltage $U_{imp}$ | 0,8 kV |
| - Overvoltage category | III |
| - Degree of pollution | 3 |

## Electrical data

| | |
|---|---|
| Number of auxiliary contacts | 0 piece |
| Number of safety contacts | 2 piece |
| Cross circuit/short circuit recognition possible (Y/N) | Yes |
| Power to unlock | No |
| Power to lock | Yes |
| Supply voltage $U_B$ (stabilised PELV) | 24 VDC −15% / +10% |
| Switch frequency | 0,5 Hz |
| Operating current | 100 mA (without load) |
| Rated insulation voltage $U_i$ | 32 VDC |
| Operating current $I_e$ | 1 A |
| Utilisation category | DC-13 |
| Required rated short-circuit current | 100 A |
| Device insulation | 2 A |
| notice | Cable length and cable section alter the voltage drop depending on the output current |

## Electrical data - Safety inputs

| | |
|---|---|
| Safety inputs | X1 and X2 |
| Rated operating voltage $U_e$ | −3 V … 5 V ( Low) <br> 15 V … 30 V ( High) |
| Switching thresholds | −3 V … 5 V ( Low) <br> 15 V … 30 V ( High) |
| Operating current $I_e$ | 5 mA / 24 V |
| Operating current | 5 mA / 24 V |

## Electrical data - Safety outputs

| | |
|---|---|
| Safety outputs | Y1 and Y2 |
| Design of control output | short-circuit proof, p-type |
| Rated operating voltage | 0 V … 4 V under Supply voltage $U_B$ |
| Residual current $I_r$ | ≤ 0,5 mA |
| Operating current $I_e$ | 0,25 A |
| Utilisation category | DC-12, DC-13 |
| | < 0,5 |
| | 1 |

## Electrical data - Diagnostic output

| | |
|---|---|
| Serial diagnostics (Y/N) | No |
| Fuse rating | p-type, short-circuit proof |
| Design of control output | short-circuit proof, p-type |
| Rated operating voltage $U_e$ | 0 V … 4 V under Supply voltage $U_B$ |
| Operating current $I_e$ | 0,05 A |
| Utilisation category | DC-12, DC-13 |
| Wiring capacitance for serial diagnostics | - |
| diagnostic signals | guard door closed and interlocking device locked |
| Operating principle of the diagnostic output | The short-circuit proof diagnostic output OUT can be used for central visualisation or control tasks, e.g. in a PLC. |
| notice | The diagnostic output is not a safety-relevant output! |

## Electrical data - Solenoid control IN

| | |
|---|---|
| Rated operating voltage $U_e$ | −3 V … 5 V (Low) |
| | 15 V … 30 V (High) |
| Switching thresholds | −3 V … 5 V (Low) |
| | 15 V … 30 V (High) |
| Operating current $I_e$ | 10 mA / 24 V |
| Operating current | 10 mA / 24 V |

## LED switching conditions display

| | |
|---|---|
| LED switching conditions display (Y/N) | Yes |
| LED switching conditions display | |
| - Supply voltage $U_B$ | green LED |
| - switching condition | yellow LED |
| - Error functional defect | red LED |

## ATEX

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

## Dimensions

| | |
|---|---|
| Dimensions of the sensor | |
| - Width of sensor | 85 mm |
| - Height of sensor | 100 mm |
| - Length of sensor | 35 mm |

## Pin assignment

| | |
|---|---|
| 1 | A1 Supply voltage $U_B$ |
| 2 | X1 Safety input 1 |
| 3 | A2 GND |
| 4 | Y1 Safety output 1 |
| 5 | OUT Diagnostic output |
| 6 | X2 Safety input 2 |
| 7 | Y2 Safety output 2 |
| 8 | IN Solenoid control |

### notice

As lons 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.

## Included in delivery

Actuators must be ordered separately.

## Ordering code

AZM300**(1)(2)-(3)-(4)-(5)**

**(1)**

| | |
|---|---|
| **Z** | Guard locking monitored |

| | |
|---|---|
| **B** | Actuator monitored |
| **(2)** | |
| *without* | Included in standard versioncoding |
| **I1** | Individual coding |
| **I2** | Individual coding, repeated teaching enabled |
| **(3)** | |
| **ST** | connector plug M12, 8-pole |
| **(4)** | |
| **1P2P** | 1 Diagnostic output, p-type and 2 Safety outputs, p-type |
| **SD2P** | serial diagnostic output and 2 Safety outputs, p-type |
| **(5)** | |
| *without* | Power to unlock |
| **A** | Power to lock |

## Documents

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**Operating instructions and Declaration of conformity** (it) 360 kB, 19.04.2013
Code: mrl_azm300_it

**Operating instructions and Declaration of conformity** (en) 362 kB, 28.01.2013
Code: mrl_azm300_en

**Operating instructions and Declaration of conformity** (da) 371 kB, 22.08.2013
Code: mrl_azm300_da

**Operating instructions and Declaration of conformity** (es) 359 kB, 19.04.2013
Code: mrl_azm300_es

**Operating instructions and Declaration of conformity** (de) 368 kB, 28.01.2013
Code: mrl_azm300_de

**Operating instructions and Declaration of conformity** (fr) 363 kB, 19.04.2013
Code: mrl_azm300_fr

**Operating instructions and Declaration of conformity** (pt) 376 kB, 09.04.2013
Code: mrl_azm300_pt

**Operating instructions and Declaration of conformity** (pl) 389 kB, 19.08.2013
Code: mrl_azm300_pl

**Brochure** (es) 2 MB, 03.05.2013
Code: b_azm300p01_es

**Brochure** (jp) 1 MB, 13.03.2013
Code: b_azm300p01_jp

**Brochure** (pt) 1 MB, 03.05.2013
Code: b_azm300p01_pt

**Brochure** (it) 1 MB, 03.05.2013
Code: b_azm300p01_it

**Brochure** (fr) 2 MB, 03.05.2013
Code: b_azm300p01_fr

**Brochure** (br) 2 MB, 03.05.2013
Code: b_azm300p01_br

**Brochure** (br) 2 MB, 08.03.2013
Code: b_azm300p01_br

**Brochure** (nl) 1 MB, 03.05.2013
Code: b_azm300p01_nl

**Brochure** (en) 3 MB, 03.05.2013
Code: b_azm300p01_en

**Brochure** (de) 764 kB, 03.05.2013
Code: b_azm300p01_de

**Brochure** (pl) 2 MB, 03.05.2013
Code: b_azm300p01_pl

**TÜV certification** (de, en) 227 kB, 10.12.2013
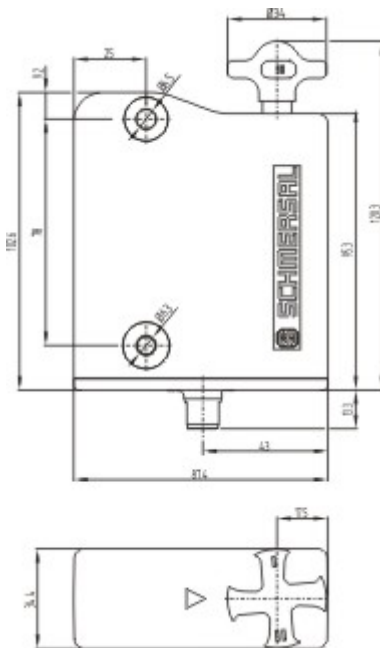Code: z_azmp05

**ECOLAB certification** (en) 94 kB, 08.04.2013
Code: q_azmp03

**ECOLAB certification** (de) 93 kB, 08.04.2013
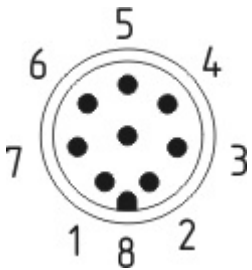Code: q_azmp02

## Images



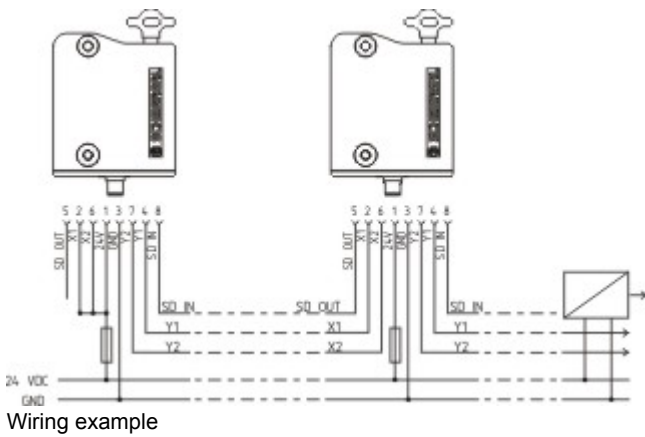Dimensional drawing (basic component)
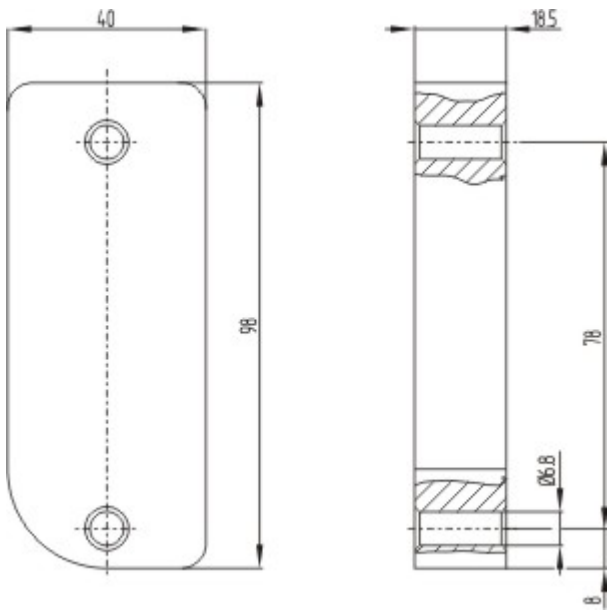
Dimensional drawing (miscellaneous)



Contact arrangement



Wiring example

## System components

### Actuator

**101218025 - AZ/AZM300-B1**

• 3 different directions of actuation

### Accessories

**103002891 - MS-AZ/AZM300-B1-1**

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**103003172 - MP-AZ/AZM300-1**



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| Image |
|-------|
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