

## Datasheet - AZM300Z-I2-ST-1P2P-A

Solenoid interlock / AZM300



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

- Suitable for mounting to profile systems
- Thermoplastic enclosure
- 
- 3 different directions of actuation
- Compact design
- 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

### Ordering details

|                          |                      |
|--------------------------|----------------------|
| Product type description | AZM300Z-I2-ST-1P2P-A |
| Article number           | 103001454            |
| EAN code                 |                      |
| eCl@ss                   | 27-27-26-03          |

### Approval


Approval



### 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)  | 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   |  |
| Coding   | Individual coding, multiple teaching                   |
| Guard locking monitored (Y/N)  | Yes  |
| Actuator monitored (Y/N)   | No   |
| Idle assignable pushbutton and LED (Y/N)   | No   |
| Reaction time  | < 120 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;<br>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<br>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 notice                               | 2 A<br>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 $U_e$ | $-3\text{ V} \dots 5\text{ V}$ ( Low)<br>$15\text{ V} \dots 30\text{ V}$ ( High) |
| Switching thresholds          | $-3\text{ V} \dots 5\text{ V}$ ( Low)<br>$15\text{ V} \dots 30\text{ V}$ ( 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 $I_r$   | $\leq 0,5\text{ mA}$                   |
| Operating current $I_e$  | 0,25 A                                 |
| Utilisation category     | DC-12, DC-13<br>$< 0,5$<br>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

---

|                         |  |
|-------------------------|--|
| Switching thresholds    | -3 V ... 5 V (Low)<br>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 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.

## Included in delivery

---

Actuators must be ordered separately.

## Ordering code

---

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

(1)

|  |   |
|--|---|
| <b>Z</b>                                 | Guard locking monitored   |
| <b>B</b>                                 | Actuator monitored  |
| <b>(2)</b><br><i>without</i>             | Included in standard version coding   |
| <b>I1</b>                                | Individual coding   |
| <b>I2</b>                                | Individual coding, multiple teaching  |
| <b>(3)</b><br><b>1P2P</b><br><b>SD2P</b> | 1 Diagnostic output, p-type and 2 Safety outputs, p-type<br>serial diagnostic output and 2 Safety outputs, p-type |
| <b>(4)</b><br><i>without</i>             | Power to unlock   |
| <b>A</b>                                 | Power to lock   |
| <b>(5)</b><br><i>without</i>             | Manual release  |
| <b>T</b>                                 | Emergency unlocking device  |
| <b>N</b>                                 | Emergency release   |

## Documents

---

**Operating instructions and Declaration of conformity (it)** 1 MB, 27.02.2015

Code: mrl\_azm300\_it

**Operating instructions and Declaration of conformity (sv)** 1 MB, 27.02.2015

Code: mrl\_azm300\_sv

**Operating instructions and Declaration of conformity (en)** 1 MB, 09.01.2015

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)** 1 MB, 27.02.2015

Code: mrl\_azm300\_es

**Operating instructions and Declaration of conformity (de)** 1 MB, 09.01.2015

Code: mrl\_azm300\_de

**Operating instructions and Declaration of conformity (fr)** 1 MB, 03.12.2014

Code: mrl\_azm300\_fr

**Operating instructions and Declaration of conformity (cs)** 1 MB, 24.11.2014

Code: mrl\_azm300\_cs

**Operating instructions and Declaration of conformity (nl)** 1 MB, 16.10.2014

Code: mrl\_azm300\_nl

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

Code: mrl\_azm300\_pt

**Operating instructions and Declaration of conformity (pl)** 1 MB, 27.02.2015

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, 08.03.2013

Code: b\_azm300p01\_br

**Brochure** (br) 2 MB, 03.05.2013

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

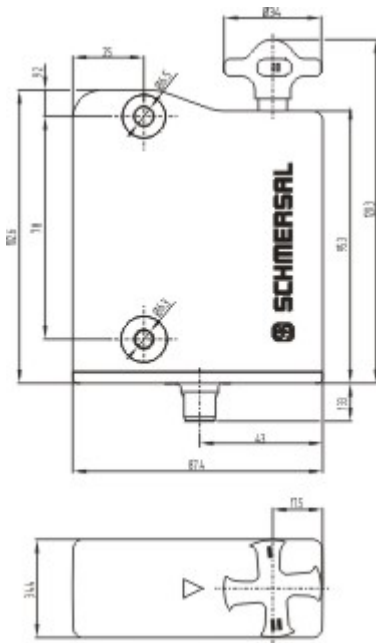
Code: q\_azmp03

**ECOLAB certification** (de) 93 kB, 08.04.2013

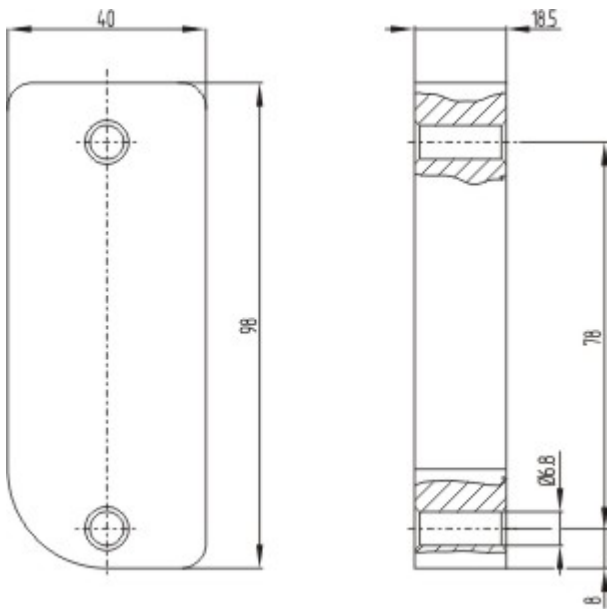
Code: q\_azmp02

## Images

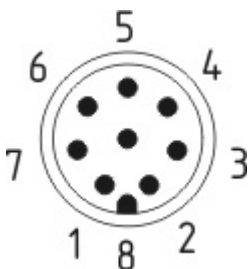
---



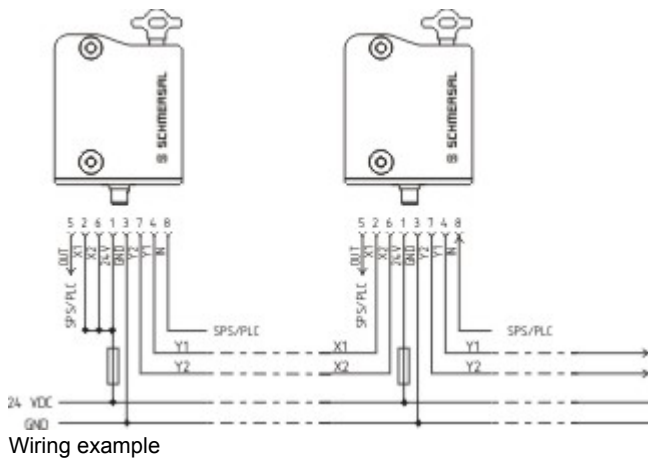
Dimensional drawing (basic component)



Dimensional drawing (miscellaneous)



Contact arrangement



## System components

### Actuator



**101218025 - AZ/AZM300-B1**

- 3 different directions of actuation

### Accessories



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



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

K.A. Schmersal GmbH & Co. KG, Möddinghofe 30, D-42279 Wuppertal

The data and values have been checked thoroughly. Technical modifications and errors excepted.

Generiert am 08.04.2015 - 16:07:38h Kasbase 3.1.2.F.64I