

## EX-AZM300B-ST-1P2P-A-CL-3GD

- Explosion protection for ATEX Zones 2 and 22
- RFID-technology for needs-based protection against tampering
- Thermoplastic enclosure
- Suitable for mounting to profile systems
- Suitable for hinged and sliding guards
- Series-wiring
- Manual release

## Data

### Ordering data

|                               |                             |
|-------------------------------|-----------------------------|
| Product type description      | EX-AZM300B-ST-1P2P-A-CL-3GD |
| Article number (order number) | 103012541                   |
| EAN (European Article Number) | 4030661483924               |
| eCl@ss number, version 12.0   | 27-27-26-03                 |
| eCl@ss number, version 11.0   | 27-27-26-03                 |
| eCl@ss number, version 9.0    | 27-27-26-03                 |
| ETIM number, version 7.0      | EC002593                    |
| ETIM number, version 6.0      | EC002593                    |

### Approvals - Standards

|              |     |
|--------------|-----|
| Certificates | TÜV |
|--------------|-----|

### Explosion protection

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| Explosion protection: regulations | EN IEC 60079-0<br>EN 60079-7<br>EN 60079-31 |
|-----------------------------------|---------------------------------------------|

|                                  |                                                  |
|----------------------------------|--------------------------------------------------|
| Explosion protection zones       | 2<br>22                                          |
| Explosion protection category    | 3G<br>3D                                         |
| Explosion protection designation | Ⓔ II 3G Ex ec IIB T5 Gc<br>Ex tc IIIB T95°C Dc X |

## General data

|                                                                        |                                                                    |
|------------------------------------------------------------------------|--------------------------------------------------------------------|
| Standards                                                              | EN ISO 13849-1<br>EN ISO 14119<br>EN IEC 60947-5-3<br>EN IEC 61508 |
| Coding                                                                 | Universal coding                                                   |
| Coding level according to EN ISO 14119                                 | Low                                                                |
| Working principle                                                      | RFID                                                               |
| Frequency band RFID                                                    | 125 kHz                                                            |
| Transmitter output RFID, maximum                                       | -6 dB/m                                                            |
| Housing material                                                       | Plastic, glass-fibre reinforced thermoplastic, self-extinguishing  |
| Duration of risk, maximum                                              | 200 ms                                                             |
| Reaction time, switching off safety outputs via actuator, maximum      | 100 ms                                                             |
| Reaction time, switching off safety outputs via safety inputs, maximum | 1.5 ms                                                             |
| Gross weight                                                           | 1,062 g                                                            |

## General data - Features

|                         |     |
|-------------------------|-----|
| Power to lock           | Yes |
| Actuator monitored      | Yes |
| Latching                | Yes |
| Manual release          | Yes |
| Short circuit detection | Yes |
| Cross-circuit detection | Yes |

|                                     |     |
|-------------------------------------|-----|
| Series-wiring                       | Yes |
| Safety functions                    | Yes |
| Integral system diagnostics, status | Yes |
| Number of actuating directions      | 1   |
| Number of fail-safe digital outputs | 2   |

### Safety classification

|           |                                |
|-----------|--------------------------------|
| Standards | EN ISO 13849-1<br>EN IEC 61508 |
|-----------|--------------------------------|

### Safety classification - Interlocking function

|                                                               |                           |
|---------------------------------------------------------------|---------------------------|
| Performance Level, up to                                      | e                         |
| Category                                                      | 4                         |
| PFH value                                                     | $5.20 \times 10^{-10} /h$ |
| PFD value                                                     | $4.50 \times 10^{-5}$     |
| Safety Integrity Level (SIL),<br>suitable for applications in | 3                         |
| Mission time                                                  | 20 Year(s)                |

### Mechanical data

|                                                                             |                                                                                                              |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Mechanical life, minimum                                                    | 1,000,000 Operations                                                                                         |
| Note (Mechanical life)                                                      | When using as door stop: $\geq 50.000$ operations (door mass $\leq 5$ kg and actuating speed $\leq 0.5$ m/s) |
| Angular misalignment between<br>solenoid interlock and actuator,<br>maximum | 2 °                                                                                                          |
| Energy impact (protective case),<br>maximum                                 | 7 J                                                                                                          |
| Note (Energy impact)                                                        | with stainless steel CL/CR protective enclosure                                                              |
| Holding force $F_{Zh}$ in accordance<br>with EN ISO 14119                   | 1,150 N                                                                                                      |
| Holding force $F_{max}$ , maximum                                           | 1,500 N                                                                                                      |

|                                                 |                         |
|-------------------------------------------------|-------------------------|
| Latching force, adjustable, position 1          | 25 N                    |
| Latching force, adjustable, position 2          | 50 N                    |
| Type of the fixing screws                       | 2x M6                   |
| Note (Type of the fixing screws)                | Property class min. 8.8 |
| Tightening torque of the fixing screws, maximum | 8 Nm                    |
| Material of the fixing screws                   | Stainless steel (V4A)   |

### Mechanical data - Switching distances according EN IEC 60947-5-3

|                                                  |       |
|--------------------------------------------------|-------|
| Switch distance, typical                         | 2 mm  |
| Assured switching distance "ON" S <sub>ao</sub>  | 1 mm  |
| Assured switching distance "OFF" S <sub>ar</sub> | 20 mm |

### Mechanical data - Connection technique

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| Length of sensor chain, maximum   | 200 m                                                                                                      |
| Note (length of the sensor chain) | Cable length and cross-section change the voltage drop depending on the output current                     |
| Note (series-wiring)              | Unlimited number of devices, observe external line fusing, max. 31 devices in case of serial diagnostic SD |
| Termination                       | Connector M12, 8-pole, A-coded                                                                             |

### Mechanical data - Dimensions

|                  |         |
|------------------|---------|
| Length of sensor | 178 mm  |
| Width of sensor  | 93 mm   |
| Height of sensor | 40.3 mm |

### Ambient conditions

|                      |                      |
|----------------------|----------------------|
| Degree of protection | IP66<br>IP67<br>IP69 |
|----------------------|----------------------|

|                                                               |                                  |
|---------------------------------------------------------------|----------------------------------|
| Ambient temperature                                           | +0 ... +50 °C                    |
| Storage and transport temperature                             | -10 ... +90 °C                   |
| Relative humidity, maximum                                    | 93 %                             |
| Note (Relative humidity)                                      | non-condensing<br>non-icing      |
| Resistance to vibrations                                      | 10 ... 150 Hz, amplitude 0.35 mm |
| Resistance to shock                                           | 30 g / 11 ms                     |
| Protection class                                              | III                              |
| Permissible installation altitude<br>above sea level, maximum | 2,000 m                          |

### Ambient conditions - Insulation values

|                                           |        |
|-------------------------------------------|--------|
| Rated insulation voltage $U_i$            | 32 VDC |
| Rated impulse withstand voltage $U_{imp}$ | 0.8 kV |
| Overvoltage category                      | III    |
| Degree of pollution                       | 3      |

### Electrical data

|                                                |                                                     |
|------------------------------------------------|-----------------------------------------------------|
| Operating voltage                              | 24 VDC -15 % / +10 % (stabilised PELV power supply) |
| No-load supply current $I_0$ , typical         | 100 mA                                              |
| Current consumption with magnet<br>ON, average | 200 mA                                              |
| Current consumption with magnet<br>ON, peak    | 350 mA / 200 ms                                     |
| Rated operating voltage                        | 24 VDC                                              |
| Required rated short-circuit<br>current        | 100 A                                               |
| External wire and device fuse<br>rating        | 2 A gG                                              |
| Time to readiness, maximum                     | 5,000 ms                                            |
| Switching frequency, maximum                   | 0.5 Hz                                              |
| Utilisation category DC-12                     | 24 VDC / 0.05 A                                     |
| Electrical fuse rating, maximum                | 2 A                                                 |

## Electrical data - Magnet control

|                                   |                                            |
|-----------------------------------|--------------------------------------------|
| Designation, Magnet control       | IN                                         |
| Switching thresholds              | -3 V ... 5 V (Low)<br>15 V ... 30 V (High) |
| Current consumption at 24 V       | 10 mA                                      |
| Magnet switch-on time             | 100 %                                      |
| Test pulse duration, maximum      | 5 ms                                       |
| Test pulse interval, minimum      | 40 ms                                      |
| Classification ZVEI CB24I, Sink   | C0                                         |
| Classification ZVEI CB24I, Source | C1<br>C2<br>C3                             |

## Electrical data - Safety digital inputs

|                                   |                                            |
|-----------------------------------|--------------------------------------------|
| Designation, Safety inputs        | X1 and X2                                  |
| Switching thresholds              | -3 V ... 5 V (Low)<br>15 V ... 30 V (High) |
| Current consumption at 24 V       | 5 mA                                       |
| Test pulse duration, maximum      | 1 ms                                       |
| Test pulse interval, minimum      | 100 ms                                     |
| Classification ZVEI CB24I, Sink   | C1                                         |
| Classification ZVEI CB24I, Source | C1<br>C2<br>C3                             |

## Electrical data - Safety digital outputs

|                                     |                             |
|-------------------------------------|-----------------------------|
| Designation, Safety outputs         | Y1 and Y2                   |
| Design of control elements          | short-circuit proof, p-type |
| Voltage drop $U_d$ , maximum        | 2 V                         |
| Leakage current $I_p$ , maximum     | 0.5 mA                      |
| Voltage, Utilisation category DC-12 | 24 VDC                      |
| Current, Utilisation category DC-12 | 0.25 A                      |

|                                     |          |
|-------------------------------------|----------|
| Voltage, Utilisation category DC-13 | 24 VDC   |
| Current, Utilisation category DC-13 | 0.25 A   |
| Test pulse interval, typical        | 1000 ms  |
| Test pulse duration, maximum        | 0.5 ms   |
| Classification ZVEI CB24I, Source   | C2       |
| Classification ZVEI CB24I, Sink     | C1<br>C2 |

## Electrical data - Diagnostic outputs

|                                     |                             |
|-------------------------------------|-----------------------------|
| Designation, Diagnostic outputs     | OUT                         |
| Design of control elements          | short-circuit proof, p-type |
| Voltage drop $U_d$ , maximum        | 2 V                         |
| Voltage, Utilisation category DC-12 | 24 VDC                      |
| Current, Utilisation category DC-12 | 0.05 A                      |
| Voltage, Utilisation category DC-13 | 24 VDC                      |
| Current, Utilisation category DC-13 | 0.05 A                      |

## Status indication

|                                         |                                                                                                      |
|-----------------------------------------|------------------------------------------------------------------------------------------------------|
| Note (LED switching conditions display) | Operating condition: LED green<br>Error / functional defect: LED red<br>Supply voltage UB: LED green |
|-----------------------------------------|------------------------------------------------------------------------------------------------------|

## 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

Scope of delivery                      Actuator must be ordered separately.

## Accessory

Recommendation (actuator)              EX-AZ/AZM300-B1

## Note

Note (General)

For doors that are flush with the door frame, the optional mounting plate MP-AZ/AZM300-1 can be used.

For glass and Makrolon doors, the optional mounting kit MS-AZ/AZM300-B1-1 can be used.

As long as the actuating unit remains inserted in 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:  
EX-AZM300(1)(2)-ST(3)(4)(5)

(1)

**Z**                      Guard locking monitored

**B**                      Actuator monitored

(2)

**without**                      Standard coding

**I1**                      Individual coding

**I2**                      Individual coding, multiple teaching

(3)

**1P2P**                      1 p-type diagnostic output and 2 p-type safety outputs

**SD2P**                      serial diagnostic output and 2 p-type safety outputs

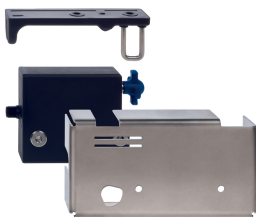
(4)

**without**                      Power to unlock

|     |                                             |
|-----|---------------------------------------------|
| A   | Power to lock                               |
| (5) |                                             |
| CL  | With protective enclosure, door hinge left  |
| CR  | With protective enclosure, door hinge right |

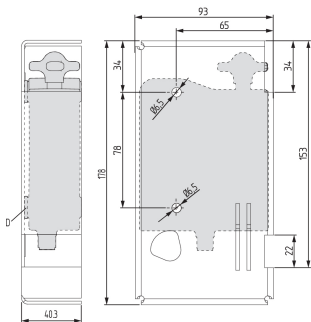
Pictures

Product picture (catalogue individual photo)



ID: kxaz3f01  
| 184.7 kB | .jpg | 352.778 x 291.042 mm - 1000 x 825 px - 72 dpi  
| 20.1 kB | .png | 74.083 x 61.031 mm - 210 x 173 px - 72 dpi

Dimensional drawing basic component



ID: kazm3gx2  
| 137.4 kB | .jpg | 352.778 x 370.769 mm - 1000 x 1051 px - 72 dpi  
| 16.1 kB | .png | 73.731 x 77.611 mm - 209 x 220 px - 72 dpi  
| 43.4 kB | .png | 47.583 x 50.038 mm - 562 x 591 px - 300 dpi