



## AZM 200ST2-T-1P2PW

- Guard locking monitored
- Connector M12, 8-pole
- Thermoplastic enclosure
- Electronic contact-free, coded system
- Max. length of the sensor chain 200 m
- Self-monitoring series-wiring
- 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
- Manual release

## Data

### Ordering data

|                               |                    |
|-------------------------------|--------------------|
| Note (Delivery capacity)      | Phased-out product |
| EAN (European Article Number) | 4030661384016      |
| eCl@ss number, Version 9.0    | 27-27-26-03        |
| eCl@ss number, Version 11.0   | 27-27-26-03        |
| Available until               | 31.12.2020         |

### Approval - Standards

|              |                     |
|--------------|---------------------|
| Certificates | TÜV<br>cULus<br>EAC |
|--------------|---------------------|

### General data

|                            |                                             |
|----------------------------|---------------------------------------------|
| Standards                  | IEC 61508<br>EN 60947-5-1<br>EN ISO 13849-1 |
| Active principle           | inductive                                   |
| Enclosure material         | Glass-fibre, reinforced thermoplastic       |
| Gross weight               | 609.5 g                                     |
| Time to readiness, maximum | 4,000 ms                                    |
| Reaction time, maximum     | 60 ms                                       |
| Duration of risk, maximum  | 120 ms                                      |

### General data - Features

|                                     |     |
|-------------------------------------|-----|
| Power to unlock                     | Yes |
| Guard locking monitored             | Yes |
| Manual release                      | 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   |

### Safety appraisal

|              |                                              |
|--------------|----------------------------------------------|
| Standards    | EN ISO 13849-1<br>IEC 60947-5-3<br>IEC 61508 |
| Mission Time | 20 Year(s)                                   |

### Safety appraisal - Interlocking

|                          |   |
|--------------------------|---|
| Performance level, up to | e |
| Control category         | 4 |

|                                                               |                          |
|---------------------------------------------------------------|--------------------------|
| PFH-value                                                     | $4.00 \times 10^{-9}$ /h |
| PFD value                                                     | $1.00 \times 10^{-4}$    |
| Safety Integrity Level (SIL),<br>suitable for applications in | 3                        |
| Mission Time                                                  | 20 Year(s)               |

### Safety appraisal - Guard locking

|                                                               |                          |
|---------------------------------------------------------------|--------------------------|
| Performance level, up to                                      | d                        |
| Control category                                              | 2                        |
| PFH-value                                                     | $2.50 \times 10^{-9}$ /h |
| PFD value                                                     | $2.20 \times 10^{-4}$    |
| Safety Integrity Level (SIL),<br>suitable for applications in | 2                        |
| Mission Time                                                  | 20 Year(s)               |

### Mechanical data

|                                                        |                      |
|--------------------------------------------------------|----------------------|
| Mechanical life, minimum                               | 1,000,000 Operations |
| Clamping force in accordance<br>with ISO14119 $F_{zh}$ | 2,000 N              |
| Clamping force, maximum $F_{max}$                      | 2,600 N              |
| Latching force                                         | 30 N                 |
| Actuating speed, maximum                               | 0.2 m/s              |

### Mechanical data - Connection technique

|                    |                       |
|--------------------|-----------------------|
| Terminal Connector | Connector M12, 8-pole |
|--------------------|-----------------------|

### Mechanical data - Dimensions

|                  |       |
|------------------|-------|
| Length of sensor | 50 mm |
| Width of sensor  | 40 mm |

|                  |        |
|------------------|--------|
| Height of sensor | 220 mm |
|------------------|--------|

### Ambient conditions

|                                            |                              |
|--------------------------------------------|------------------------------|
| Degree of protection                       | IP67 to EN 60529             |
| Ambient temperature, minimum               | -25 °C                       |
| Ambient temperature, maximum               | +60 °C                       |
| Storage and transport temperature, minimum | -25 °C                       |
| Storage and transport temperature, maximum | +85 °C                       |
| Relative humidity, minimum                 | 30 %                         |
| Relative humidity, maximum                 | 95 %                         |
| Note (Relative humidity)                   | non-condensing               |
| Resistance to vibrations to EN 60068-2-6   | 10 ... 55 Hz, amplitude 1 mm |
| Resistance to shock                        | 30 g / 11 ms                 |
| Protection rating                          | II                           |

### 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            | 50 mA    |

Switching frequency, approx. 1 Hz

### Electrical data - Solenoid control

Switching thresholds -3 V ... 5 V (Low)  
15 V ... 30 V (High)

### Electrical data - Fail-safe digital inputs

Switching thresholds -3 V ... 5 V (Low)  
15 V ... 30 V (High)

### Electrical data - Fail-safe digital outputs

Rated operating current (safety outputs) 250 mA

Voltage drop  $U_d$ , maximum 4 V

Current leakage  $I_r$  0.5 mA

Voltage, Utilisation category DC13 24 VDC

Current, Utilisation category DC13 0.25 A

### Electrical data - Diagnostic output

Voltage drop  $U_d$ , maximum 4 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

### 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.<br>Triangular key for AZM 200 |
|----------------------|---------------------------------------------------------------------|

## Accessory

|                           |               |
|---------------------------|---------------|
| Recommendation (actuator) | AZ/AZM 200-B1 |
|---------------------------|---------------|

## Notes

|                |                                                                                                                                                                                                                    |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note (General) | 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. |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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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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