

## Datasheet - AZM 170-11ZRI-B5 24 VAC/DC

Solenoid interlock / AZM 170i / AZM 170i-B5



- Double-insulated
- Individual coding
- Coding level "High" according to ISO 14119
- 90 mm x 84 mm x 30 mm
- Compact design
- Interlock with protection against incorrect locking.
- Long life
- High holding force
- 1 Cable entry M 20 x 1.5
- Particularly suitable for hinged guards ( front mounting)
- IDC method of termination
- Manual release

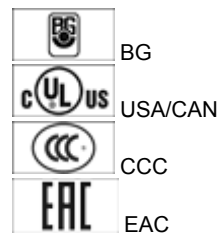
(Minor differences between the printed image and the original product may exist!)

### Ordering details

|                          |                            |
|--------------------------|----------------------------|
| Product type description | AZM 170-11ZRI-B5 24 VAC/DC |
| Article number           | 101140801                  |
| EAN Code                 | 4030661119892              |
| eCl@ss                   | 27-27-26-03                |

### Approval

Approval



### Classification

|                                   |                |
|-----------------------------------|----------------|
| Standards                         | EN ISO 13849-1 |
| B10d Normally-closed contact (NC) | 2.000.000      |
| Mission time notice               | 20 Years       |

$$MTTF_d = \frac{B_{rod}}{0,1 \times n_{op}}$$

$$n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$$

## Global Properties

---

|  |   |
|--|---|
| Permanent light  | AZM 170I  |
| Standards  | EN 60947-5-1, BG-GS-ET-19   |
| Compliance with the Directives (Y/N)  | Yes   |
| Number of actuating directions   | 2   |
| Active principle   | electromechanical   |
| - Individual coding  |   |
| - Coding level "High" according to ISO 14119   |   |
| Duty cycle ED  | Magnet 100 %  |
| Materials  |   |
| - Material of the housings   | Plastic, glass-fibre reinforced thermoplastic, self-extinguishing |
| - Material of the actuator   | Stainless steel   |
| - Material of the contacts   | Silver  |
| Housing coating  | None  |
| Weight   | 295   |

## Mechanical data

---

|                                  |                           |
|----------------------------------|---------------------------|
| Design of electrical connection  | IDC method of termination |
| Cable section                    |                           |
| - Min. Cable section             | 1 x 0,75                  |
| - Max. Cable section             | 1 x 1.0, flexible         |
| Mechanical life                  | > 1.000.000 operations    |
| Emergency unlocking device (Y/N) | No                        |
| - bottom                         |                           |
| Manual release (Y/N)             | Yes                       |
| Emergency release (Y/N)          | No                        |
| Latching force                   | 30                        |
| Positive break force             | 8.5                       |
| positive break travel            | 11 mm                     |
| Clamping force F                 | 1000 N                    |
| Max. Actuating speed             | 2 m/s                     |
| Minimum actuating radius         | 140 mm                    |

## Ambient conditions

---

|                                  |                      |
|----------------------------------|----------------------|
| Ambient temperature              |                      |
| - Min. environmental temperature | -25 °C               |
| - Max. environmental temperature | +60 °C               |
| Protection class                 | IP67 to IEC/EN 60529 |

## Electrical data

---

|                              |   |
|------------------------------|---|
| Design of control element    | Normally open contact (NO), Opener (NC) |
| Switching principle          | Creep circuit element                   |
| Number of auxiliary contacts | 1                                       |
| Number of safety contacts    | 1                                       |
| Power to unlock              | Yes                                     |
| Power to lock                | No                                      |

|   |                    |
|---|--------------------|
| Rated control voltage $U_s$               | 24 VAC/DC          |
| Power consumption                         | max. 10 W          |
| Power consumption                         | max. 10 W          |
| Rated impulse withstand voltage $U_{imp}$ | 4 kV               |
| Rated insulation voltage $U_i$            | 250 V              |
| Thermal test current $I_{the}$            | 10 A               |
| Utilisation category                      | AC-15: 230 V / 4 A |
| Max. fuse rating                          | 6 A gG D-fuse      |

## ATEX

---

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

## Miscellaneous data

---

Applications



sliding safety guard,



removable guard,



hinged safety guard

## Dimensions

---

Dimensions of the sensor

|                    |       |
|--------------------|-------|
| - Width of sensor  | 90    |
| - Height of sensor | 84    |
| - Length of sensor | 30 mm |

## notice

---

On hinged guards, minimum actuating radius at 90° to the plane of the actuator 140 mm  
 minimum actuating radius on hinged guards in line with the plane of the actuator 200 mm

**The actuator is not available separately.**

The axis of the hinge should be 13 mm above the top edge of the safety switch and in the same plane

Manual release

- For manual release using M5 triangular key, available as accessory

This type termination (IDC) method enables simple connection of flexible conductors without the need for the use of conductor ferrules

## Included in delivery

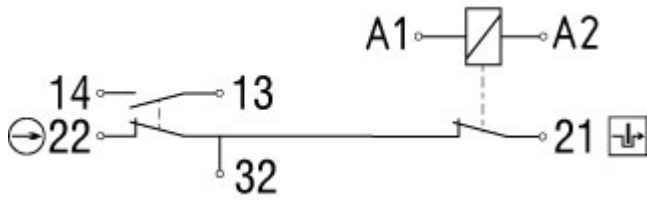
---

Included in delivery

- Individually coded actuator
- tamperproof screws
- Slot sealing plugs

## Diagram

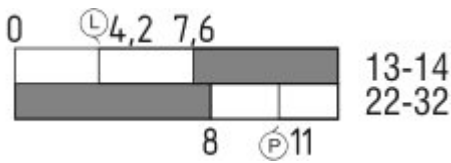
---



Note Diagram

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

Switch travel diagram



Notes Switch travel diagram

- Contact closed
- Contact open
- Setting range
- Break point
- Positive opening sequence/- angle
- VS** adjustable range of NO contact
- VÖ** adjustable range of NC contact
- N** after travel

Ordering suffix

The applicable ordering suffix is added at the end of the part number of the safety switch.  
 Order example: AZM 170-11ZRI-B5 24 VAC/DC-1637

....-1637 0,3 µm gold-plated contacts

Ordering code

AZM 170(1)-(2)Z(3)I(4)-(5)-(6)-(7) (8)

- (1) without IDC method of termination
- SK Screw connection
- (2) 11 1 Normally open contact (NO) / 1 Opener (NC)
- 02 2 Opener (NC)
- (3) without Latching force 5 N
- R Latching force 30 N
- I Individual coding
- (4)

|                 |   |
|-----------------|---|
| <i>without</i>  | Power to unlock   |
| <b>A</b>        | Power to lock   |
| <b>(5)</b>      |   |
| <i>without</i>  | cable gland   |
| <b>ST</b>       | Connector M12 x 1   |
| <b>(6)</b>      |   |
| <b>B1</b>       | with Actuator B1  |
| <b>B5</b>       | with Actuator B5  |
| <b>B6L</b>      | with Actuator B6L   |
| <b>B6R</b>      | with Actuator B6R   |
| <b>(7)</b>      |   |
| <i>without</i>  | Manual release  |
| <b>2197</b>     | Manual release from side (Power to unlock)  |
| <b>1637</b>     | gold-plated contacts  |
| <b>(8)</b>      |   |
| <b>24VAC/DC</b> | U <sub>s</sub> 24 VAC/DC  |
| <b>110VAC</b>   | U <sub>s</sub> 110 VAC  |
| <b>230VAC</b>   | U <sub>s</sub> 230 VAC  |
|                 | <b>AZM 170ST and AZM 170SK</b>  |
|                 | <b>AZM 170ST-(1)Z(2)I(3)-(4)-(5)-(6) 24 VAC/DC</b>  |
|                 | <b>AZM 170SK-(1)Z(2)I(3)-(4)-(5)-(6) 24 VAC/DC</b>  |
| <b>(1)</b>      |   |
| <b>11/11</b>    | 1 Normally open contact (NO), 1 Opener (NC) / 1 Normally open contact (NO), 1 Opener (NC) |
| <b>11/02</b>    | 1 Normally open contact (NO), 1 Opener (NC) / 2 Opener (NC)                               |
| <b>12/00</b>    | 1 Normally open contact (NO), 2 Opener (NC) / -   |
| <b>12/11</b>    | 1 Normally open contact (NO), 2 Opener (NC) / 1 Normally open contact (NO), 1 Opener (NC) |
| <b>12/02</b>    | 1 Normally open contact (NO), 2 Opener (NC) / 2 Opener (NC)                               |
| <b>02/01</b>    | 2 Opener (NC), - / 1 Opener (NC), -   |
| <b>02/10</b>    | 2 Opener (NC), - / 1 Normally open contact (NO), -  |
| <b>(2)</b>      |   |
| <i>without</i>  | Latching force 5 N  |
| <b>R</b>        | Latching force 30 N   |
| <b>(3)</b>      |   |
| <i>without</i>  | Power to unlock   |
| <b>A</b>        | Power to lock   |
| <b>(4)</b>      |   |
| <b>B1</b>       | with Actuator B1  |
| <b>B5</b>       | with Actuator B5  |
| <b>B6L</b>      | with Actuator B6L   |
| <b>B6R</b>      | with Actuator B6R   |
| <b>(5)</b>      |   |
| <b>1637</b>     | gold-plated contacts  |
| <b>(6)</b>      |   |
| <b>2197</b>     | Manual release for Power to unlock  |

## Documents

Operating instructions and Declaration of conformity (fr) 886 kB, 18.11.2016

Code: mrl\_azm170i\_fr

**Operating instructions and Declaration of conformity (it)** 863 kB, 21.11.2016

Code: mrl\_azm170i\_it

**Operating instructions and Declaration of conformity (es)** 881 kB, 21.10.2016

Code: mrl\_azm170i\_es

**Operating instructions and Declaration of conformity (nl)** 865 kB, 18.11.2016

Code: mrl\_azm170i\_nl

**Operating instructions and Declaration of conformity (da)** 867 kB, 17.11.2016

Code: mrl\_azm170i\_da

**Operating instructions and Declaration of conformity (de)** 941 kB, 11.10.2016

Code: mrl\_azm170i\_de

**Operating instructions and Declaration of conformity (pt)** 870 kB, 21.11.2016

Code: mrl\_azm170i\_pt

**Operating instructions and Declaration of conformity (pl)** 906 kB, 21.11.2016

Code: mrl\_azm170i\_pl

**Operating instructions and Declaration of conformity (jp)** 1 MB, 20.04.2016

Code: mrl\_azm170i\_jp

**Operating instructions and Declaration of conformity (en)** 957 kB, 11.10.2016

Code: mrl\_azm170i\_en

**BG-test certificate (en)** 260 kB, 09.12.2015

Code: z\_m17p02

**BG-test certificate (de)** 257 kB, 09.12.2015

Code: z\_m17p01

**CCC certification (en)** 5 MB, 26.10.2018

Code: q\_371p02

**CCC certification (cn)** 5 MB, 26.10.2018

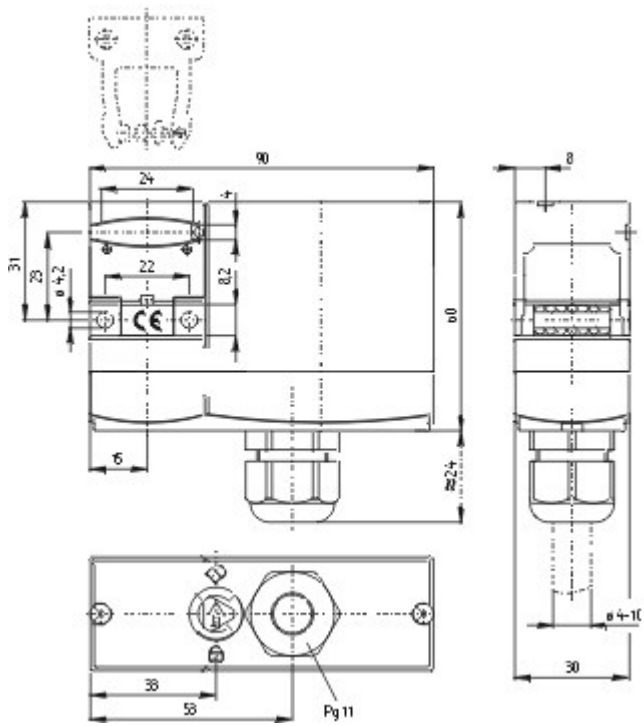
Code: q\_371p03

**EAC certification (ru)** 809 kB, 05.10.2015

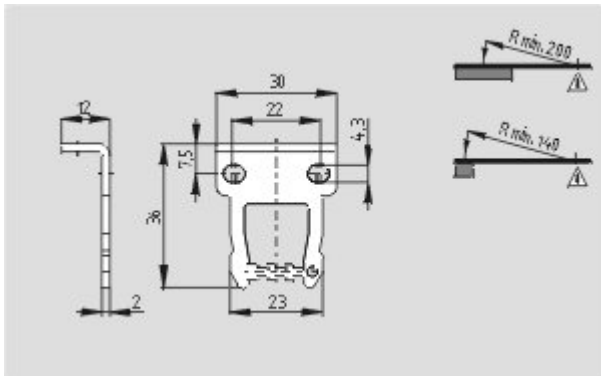
Code: q\_6040p17\_ru

## Images

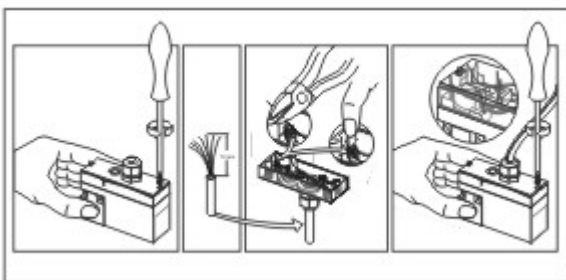
---



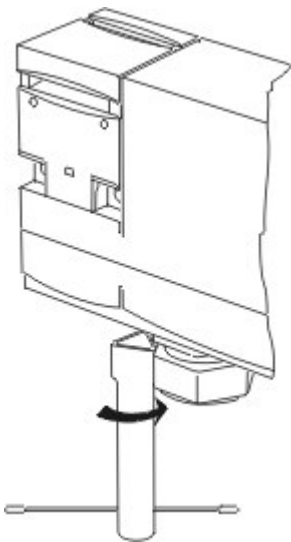
Dimensional drawing (basic component)



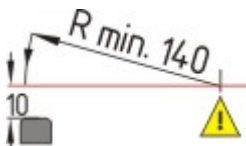
Dimensional drawing (actuator)



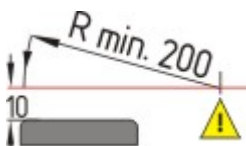
Assembly example



Detail photo



Actuating radius



Actuating radius

## System components

### Accessories



#### 101208493 - AZM 170-B CENTERING GUIDE

- for AZ 17 and AZM 170



#### 101100887 - TRIANGULAR KEY TK-M5

- For manual release using M5 triangular key, available as accessory
- For maintenance, installation, etc.