# DATASHEET




## AZM 170-11ZRK-ST-2197 24VAC/DC

- Manual release from side
- Connector M12, 4-pole
- Thermoplastic enclosure
- Double-insulated
- Compact design
- Interlock with protection against incorrect locking.
- Long life
- High holding force

## Data

### Ordering data

| | |
|---|---|
| Product type description | AZM 170-11ZRK-ST-2197 24VAC/DC |
| Article number (order number) | 101141425 |
| EAN (European Article Number) | 4030661121918 |
| 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 | IFA<br>cULus<br>CCC |

### General data

| | |
|---|---|
| Standards | EN ISO 13849-1<br>EN ISO 14119<br>EN IEC 60947-5-1 |
| Coding level according to EN ISO 14119 | Low |
| Working principle | electromechanical |
| Housing material | Plastic, glass-fibre reinforced thermoplastic, self-extinguishing |
| Gross weight | 295 g |

## General data - Features

| | |
|---|---|
| Power to unlock | Yes |
| Manual release | Yes |
| Number of actuating directions | 2 |
| Number of auxiliary contacts | 1 |
| Number of safety contacts | 1 |

### Safety classification

| | |
|---|---|
| Standards | EN ISO 13849-1 |
| Performance Level, up to | c |
| Category | 1 |
| $B_{10D}$ Normally-closed contact (NC) | 2,000,000 Operations |
| Note | Electrical life on request. |
| $B_{10D}$ Normally-open contact (NO) | 1,000,000 Operations |
| Note | at 10% $I_e$ and ohmic load |
| Mission time | 20 Year(s) |

## Safety classification - Safety outputs

| | |
|---|---|
| Note ($B_{10D}$ Normally open contact (NO)) | at 10% $I_e$ and ohmic load |

### Safety classification - Fault exclusion

| | |
|---|---|
| Please note: | Can be used when fault exclusion for dangerous damage to the 1-channel mechanism is permissible and sufficient protection against manipulation is guaranteed. |
| Performance Level, up to | d |
| Category | 3 |
| Note | for 2-channel use and with suitable logic unit. |
| Mission time | 20 Year(s) |

## Mechanical data

| | |
|---|---|
| Mechanical life, minimum | 1,000,000 Operations |
| Holding force $F_{Zh}$ in accordance with EN ISO 14119 | 1,000 N |
| Holding force $F_{max}$, maximum | 1,300 N |
| Latching force | 30 N |
| Positive break travel | 11 mm |
| Positive break force per NC contact, minimum | 8.5 N |
| Positive break force, minimum | 8.5 N |
| Actuating speed, maximum | 2 m/s |
| Mounting | Screws |
| Type of the fixing screws | 2x M5 |
| Tightening torque of the fastening screws for the housing cover, minimum | 0.7 Nm |
| Tightening torque of the fastening screws for the housing cover, maximum | 1 Nm |
| Note | Torx T10 |

## Mechanical data - Connection technique

| | |
|---|---|
| Connector position | Centre |
| Termination | Connector plug M12, 4-pole, (A-coding)<br>IDC method of termination |
| Cable section, minimum | 0.75 mm² |
| Cable section, maximum | 1 mm² |

| | |
|---|---|
| Allowed type of cable | flexible |

## Mechanical data - Dimensions

| | |
|---|---|
| Length of sensor | 30 mm |
| Width of sensor | 108 mm |
| Height of sensor | 75.5 mm |

## Ambient conditions

| | |
|---|---|
| Degree of protection | IP67 |
| Ambient temperature | -25 ... +60 °C |
| Storage and transport temperature | -25 ... +85 °C |
| Note (Relative humidity) | non-condensing<br>non-icing |
| Protection class | II |
| Permissible installation altitude above sea level, maximum | 2,000 m |

## Ambient conditions - Insulation values

| | |
|---|---|
| Rated insulation voltage $U_i$ | 60 V |
| Rated impulse withstand voltage $U_{imp}$ | 0.8 kV |
| Overvoltage category | III |
| Degree of pollution | 3 |

## Electrical data

| | |
|---|---|
| Thermal test current | 4 A<br>6 A |
| Rated control voltage | 24 VAC/DC |
| Required rated short-circuit current | 1,000 A |
| Electrical power consumption, maximum | 12 W |
| Switching element | 1 NO contact, 1 NC contacts |

| | |
|---|---|
| Note (Switching element) | Change-over contact with double break, type Zb or 2 NC contacts, with galvanically separated contact bridges |
| Switching principle | slow action, positive break NC contact |
| Maximum switching frequency | 1,000 /h |
| Material of the contacts, electrical | Silver |

## Electrical data - Magnet control

| | |
|---|---|
| Magnet switch-on time | 100 % |
| Test pulse duration, maximum | 5 ms |
| Test pulse interval, minimum | 50 ms |

## Electrical data - Safety contacts

| | |
|---|---|
| Voltage, Utilisation category AC-15 | 230 VAC |
| Current, Utilisation category AC-15 | 4 A |
| Voltage, Utilisation category DC-13 | 24 VDC |
| Current, Utilisation category DC-13 | 4 A |
| Note, Utilisation category DC-13 | Connector 4-pole |

## Electrical data - Auxiliary contacts

| | |
|---|---|
| Voltage, Utilisation category AC-15 | 230 VAC |
| Current, Utilisation category AC-15 | 4 A |
| Voltage, Utilisation category DC-13 | 24 VDC |
| Current, Utilisation category DC-13 | 4 A |
| Note, Utilisation category DC-13 | Connector 4-pin |

## Other data

| | |
|---|---|
| Note (applications) | sliding safety guard<br>removable guard<br>hinged safety guard |

## Scope of delivery

| | |
|---|---|
| Scope of delivery | Actuator must be ordered separately.<br>Slot sealing plugs |

## Note

| | |
|---|---|
| Note (General) | This type termination (IDC) method enables simple connetion of flexible conductors without the need for the use of conductor ferrules |
| Note (Manual release) | right<br>For manual release using M5 triangular key, available as accessory<br>Additional manual release on side<br>For manual release using triangular key M3 (included in delivery) |

## Ordering code

Product type description:
AZM 170(1)-(2)Z(3)K(4)-(5)-(6)-(7)-(8)

(1)

| | |
|---|---|
| **without** | Cut clamps |
| **SK** | Screw connection |

(2)

| | |
|---|---|
| **11** | 1 NO contact/1 NC contact |
| **02** | 2 NC contact |

(3)

| | |
|---|---|
| **without** | Latching force 5 N |
| **R** | Latching force 30 N |

(4)

| | |
|---|---|
| **without** | Power to unlock |
| **A** | Power to lock |

(5)

| | |
|---|---|
| **without** | Cable entry M20 |

| | |
|---|---|
| **ST** | 2 connector, M12, 4-pin |
| **ST-2431** | As well as ST; individual solenoid monitoring |
| **ST8** | Connector M12 8-pole |

(6)

| | |
|---|---|
| **24VAC/DC** | Us 24 VAC/DC |
| **110VAC** | Us 110 VAC |
| **230VAC** | Us 230 VAC |

(7)

| | |
|---|---|
| **1637** | Gold-plated contacts |

(8)

| | |
|---|---|
| **without** | Manual release |
| **2197** | Manual release from side (Standard in case of conector and power to unlock versions) |

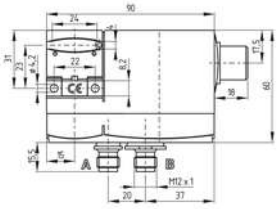
## Pictures

### Product picture (catalogue individual photo)



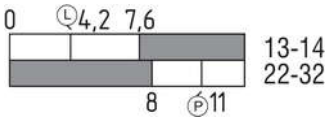

ID: kazm1f05
| 385.7 kB | .jpg | 292.806 x 226.131 mm - 830 x 641 px - 72 dpi
| 34.1 kB | .png | 74.083 x 57.15 mm - 210 x 162 px - 72 dpi
| 55.1 kB | .jpg | 123.472 x 95.25 mm - 350 x 270 px - 72 dpi

### Dimensional drawing basic component



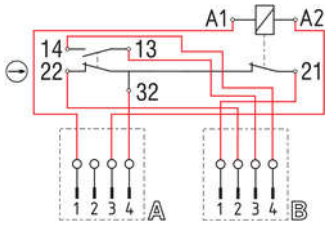

ID: 1azm1g04
| 44.0 kB | .cdr |
| 9.1 kB | .png | 74.083 x 51.506 mm - 210 x 146 px - 72 dpi
| 117.4 kB | .jpg | 352.778 x 245.181 mm - 1000 x 695 px - 72 dpi

### Switch travel diagram



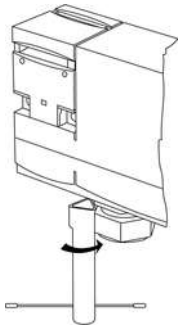

ID: kazm1s02
| 19.7 kB | .cdr |
| 2.0 kB | .png | 74.083 x 25.753 mm - 210 x 73 px - 72 dpi
| 50.1 kB | .jpg | 352.778 x 123.119 mm - 1000 x 349 px - 72 dpi

## Diagram



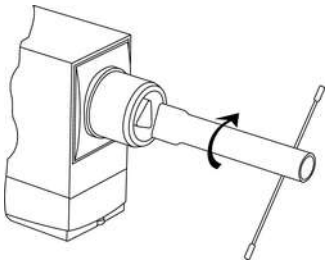

ID: kazm1k13
| 46.2 kB | .cdr |
| 125.5 kB | .jpg | 352.778 x 238.831 mm - 1000 x 677 px - 72 dpi
| 5.3 kB | .png | 74.083 x 50.094 mm - 210 x 142 px - 72 dpi

## Operating principle



ID: kazm1a70
| 213.5 kB | .jpg | 352.778 x 656.519 mm - 1000 x 1861 px - 72 dpi
| 6.5 kB | .png | 74.083 x 137.583 mm - 210 x 390 px - 72 dpi

## Operating principle



ID: kazm1a71
| 113.1 kB | .jpg | 352.778 x 280.811 mm - 1000 x 796 px - 72 dpi
| 4.6 kB | .png | 74.083 x 58.914 mm - 210 x 167 px - 72 dpi