



## AZM40B-I1-ST-1P2P

- Compact, flat design
- 119,5 mm x 40 mm x 20 mm
- High holding force 2000
- Latching force 40 N
- RFID-technology for needs-based protection against tampering
- Individually coded version with coding level "High" according to ISO 14119
- Only one version for hinged and sliding doors
- Actuator can approach interlock continuously within a 180 degree angle.
- Symmetrical mounting, can be bolted on either side

## Data

### Ordering data

Product type description	AZM40B-I1-ST-1P2P
Article number (order number)	103034194
EAN (European Article Number)	4030661535197
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 cULus FCC IC ANATEL
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## General data

Standards	EN ISO 13849-1 EN ISO 14119 EN IEC 60947-5-3 EN IEC 61508
Coding	Individual coding
Coding level according to EN ISO 14119	High
Working principle	RFID
Frequency band RFID	125 kHz
Transmitter output RFID, maximum	-6 dB/m
Housing material	Light alloy die cast and plastic (glass-fibre reinforced thermoplastic)
Reaction time, maximum	100 ms
Duration of risk, maximum	200 ms
Reaction time, switching off safety outputs via safety inputs, maximum	1.5 ms
Gross weight	300 g

## General data - Features

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 safety contacts	2

## Safety classification

Standards	EN ISO 13849-1 EN IEC 61508
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## Safety classification - Interlocking function

Performance Level, up to	e
Category	4
PFH value	$1.10 \times 10^{-9}$ /h
PFD value	$8.90 \times 10^{-5}$
Safety Integrity Level (SIL), suitable for applications in	3
Mission time	20 Year(s)

## Mechanical data

Interlocking principle	bistable
Mechanical life, locking cycles	1,000,000 Operations
Mechanical life, actuator cycles	500,000 Operations
Note (Mechanical life)	from device version V2 (V1 = 200.000 actuator cycles)
Holding force $F_{Zh}$ in accordance with EN ISO 14119	2,000 N
Holding force $F_{max}$ , maximum	2,600 N
Latching force	40 N
Note (Latch force)	+/- 25%
Actuating speed, maximum	0.5 m/s
Mounting	mounting holes countersink
Type of the fixing screws	2x M5
Tightening torque of the fixing screws, minimum	4 Nm
Tightening torque of the fixing screws, maximum	6 Nm
Note	Observe the maximum tightening torque of the fixing screws used.

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

Assured switching distance "ON" $S_{ao}$	1 mm
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Assured switching distance "OFF"  $S_{ar}$  8 mm

### Mechanical data - Connection technique

Length of sensor chain, maximum	30 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	119.5 mm
Width of sensor	40 mm
Height of sensor	20 mm

### Ambient conditions

Degree of protection	IP66 IP67 IP69
Ambient temperature	-20 ... +55 °C
Storage and transport temperature	-40 ... +85 °C
Relative humidity, maximum	93 %
Note (Relative humidity)	non-condensing non-icing
Resistance to vibrations	10 ... 55 Hz, amplitude 1 mm
Resistance to shock	30 g / 11 ms
Protection class	III
Permissible installation altitude 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
Overtoltage 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 magnet at switching moment, peak	600 mA / 100 ms
Rated operating voltage	24 VDC
Operating current	1,200 mA
Required rated short-circuit current	100 A
External wire and device fuse rating	2 A gG
Time to readiness, maximum	4,000 ms
Switching frequency, maximum	0.25 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) 15 V ... 30 V (High)
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 C2 C3
Current consumption at 24V, minimum	10 mA
Current consumption at 24V, maximum	15 mA

## Electrical data - Safety digital inputs

Designation, Safety inputs	X1 and X2
Switching thresholds	-3 V ... 5 V (Low) 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 C2 C3

## Electrical data - Safety digital outputs

Designation, Safety outputs	Y1 and Y2
Rated operating current (safety outputs)	250 mA
Design of control elements	short-circuit proof, p-type
Voltage drop $U_d$ , maximum	2 V
Leakage current $I_r$ , 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 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 Error / functional defect: LED red Supply voltage UB: LED green
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## 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

## Accessory

Recommendation (actuator)	AZM40-B1
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## Ordering code

Product type description:  
AZM40(1)-(2)-ST-1P2P-(3)

(1)

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**Z** Guard locking monitoring

**B** Actuator monitoring

(2)

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without

Standard coding

I1

Individual coding

I2

Individual coding, re-teaching enabled

(3)

without

Counterbores for countersunk screws (standard)

PH

Flat enclosure for protruding screws

## Pictures

### Product picture (catalogue individual photo)



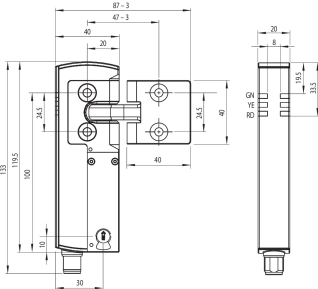
ID: kaz40f23

| 1.1 MB | .jpg | 352.778 x 866.422 mm - 1000 x 2456 px - 72 dpi

| 128.5 kB | .png | 74.083 x 181.681 mm - 210 x 515 px - 72 dpi

| 28.9 kB | .jpg | 50.447 x 123.472 mm - 143 x 350 px - 72 dpi

### Dimensional drawing basic component

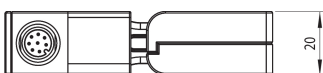


ID: kaz40g01

| 6.2 kB | .png | 74.083 x 74.083 mm - 210 x 210 px - 72 dpi

| 126.7 kB | .jpg | 352.778 x 352.778 mm - 1000 x 1000 px - 72 dpi

### Dimensional drawing basic component

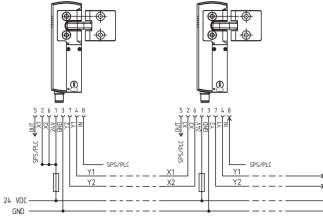


ID: kaz40g03

| 51.4 kB | .jpg | 352.778 x 160.514 mm - 1000 x 455 px - 72 dpi

### Wiring example



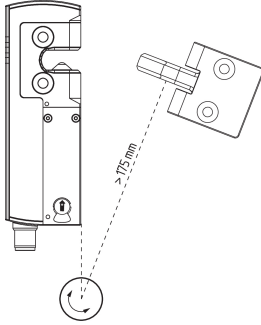


ID: kaz40l01

| 5.2 kB | .png | 74.083 x 49.389 mm - 210 x 140 px - 72 dpi

| 111.1 kB | .jpg | 352.778 x 235.303 mm - 1000 x 667 px - 72 dpi

## Sample application general



ID: kaz40a30

| 7.2 kB | .png | 73.731 x 91.722 mm - 209 x 260 px - 72 dpi

| 145.6 kB | .jpg | 352.425 x 437.797 mm - 999 x 1241 px - 72 dpi

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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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