

## Datasheet - AZM201B-SK-T-1P2PW

Solenoid interlock / AZM201



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

- Thermoplastic enclosure
- RFID-technology for needs-based protection against tampering
- Max. length of the sensor chain 200 m
- Self-monitoring series-wiring of 31 sensors
- 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
- Suitable for hinged and sliding guards
- Intelligent diagnosis
- Manual release
- Power to unlock
- Actuator monitored

### Ordering details

Product type description	AZM201B-SK-T-1P2PW
Article number	103013910
EAN Code	4030661493336
eCl@ss	27-27-26-03

### Approval

Approval



### Classification

#### Interlocking function:


Standards	EN ISO 13849-1, IEC 61508, IEC 62061
PL	e
Control category	4
PFH value	$1.9 \times 10^{-9}$ / h
PFD value	$1.6 \times 10^{-4}$
SIL	Suitable for SIL 3 applications
Mission time	20 Years

#### Guard locking function:

Standards	-
PL	-
Control category	-
PFH value	-
PFD value	-
SIL	-
Mission time	-

## Global Properties

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Permanent light	AZM201
Standards	IEC 60947-5-1, IEC 60947-5-3, ISO 14119, ISO 13849-1, IEC 61508, IEC 62061
Compliance with the Directives (Y/N) 	Yes
Suitable for safety functions (Y/N)	Yes
Protection rating	III
Series-wiring	up to 31 components
Length of the sensor chain	200 m
Active principle	RFID
Duty cycle	100
Coding levels according to ISO 14119	low
Coding	Universal coding
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic
Housing coating	None
Weight	590
Guard locking monitored (Y/N)	No
Actuator monitored (Y/N)	Yes
Idle assignable pushbutton and LED (Y/N)	No
Response time	
Actuator	≤ 100
Duration of risk	< 200
Time to readiness	< 4000
Recommended actuator	AZ/AZM201-B1, AZ/AZM201-B30
- Actuator	≤ 100 ms
- Inputs	≤ 0,5 ms

## Mechanical data

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Design of electrical connection	Screw connection
Cable section	
- Min. Cable section	0,25 mm <sup>2</sup>
- Max. Cable section	1.5 mm <sup>2</sup>
AWG-Number	23 - 15
Mechanical life	≥ 1.000.000 operations
notice	All indications about the cable section are including the conductor ferrules.
resistance to shock	30 / 11
Resistance to vibration	10 ... 150 HZ, Amplitude 0,35 mm
Emergency unlocking device (Y/N)	No
Manual release (Y/N)	Yes
Emergency release (Y/N)	No
Latching force	30
Clamping force	2000
Max. Actuating speed	≤ 0,2

## Ambient conditions

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Ambient temperature	
- Min. environmental temperature	-25
- Max. environmental temperature	+60
Storage and transport temperature	
- Min. Storage and transport temperature	-25
- Max. Storage and transport temperature	+85
Relative humidity	30... 95
- non-condensing	
Protection class	IP66, IP67 to IEC 60529
Air clearances and creepage distances To IEC/EN 60664-1	
- Rated impulse withstand voltage	0,8
- Overvoltage category	III
- Degree of pollution	3

## Electrical data

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Number of auxiliary contacts	0
Number of safety contacts	2
Cross circuit/short circuit recognition possible (Y/N)	Yes
Power to unlock	Yes
Power to lock	No
Supply voltage	
- Min. supply voltage	20.4 V DC
- Max. supply voltage	26.4 V DC
Switch frequency	1
Rated insulation voltage	32 V DC
Operating current	1.2 A
Utilisation category	DC-13
No-load current	0,6 A
Device insulation	≤ 4 A if used in accordance with UL 508

## Electrical data - Safety inputs

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Safety inputs	X1 and X2
Rated operating voltage	-3 ... 5 (Low) 15 ... 30 (High)
Operating current	typically 2 at 24

## Electrical data - Safety outputs

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Safety outputs	Y1 and Y2
Fuse rating	short-circuit proof, p-type
Rated operating voltage	0 ... 4 under
Residual current	≤ 0,5
Operating current	max. each 0,25 A
Utilisation category	DC-13

## Electrical data - Diagnostic output

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Serial diagnostics (Y/N)	No
Fuse rating	p-type, short-circuit proof
Operating current	0.05 A

Utilisation category	DC-13: 24 V / 0,05 A
Wiring capacitance for serial diagnostics	-
diagnostic signals	guard door closed and interlocking device locked
Operating principle of the diagnostic output	The short-circuit proof diagnostic output OUT can be used for central visualisation or control tasks, e.g. in a PLC.
notice	The diagnostic output is not a safety-relevant output!

## Electrical data - Solenoid control IN

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Rated operating voltage $U_e$	-3 V ... 5 V (Low) 15 V ... 30 V (High)
Operating current $I_e$	typically 10 mA at 24 V, dynamically 20 mA
Control command	-

## LED switching conditions display

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LED switching conditions display (Y/N)	Yes
LED switching conditions display	
- Supply voltage	green LED
- switching condition	yellow LED
- Error functional defect	red LED

## ATEX

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

## Dimensions

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Dimensions of the sensor	
- Width of sensor	40 mm
- Height of sensor	220
- Length of sensor	50

## notice

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As long as the actuating unit remains inserted in the solenoid interlock, the unlocked safety guard can be relocked. The safety outputs then will be enabled again; opening the safety guard therefore is not required.

## Included in delivery

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Included in delivery	AZM201 Triangular key
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Actuators must be ordered separately.

## Ordering code

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AZM201(1)-(2)-(3)-T-(4)-(5)

(1)

Z

B

(2)

*without*

Included in standard version Coding

I1	Individual coding
I2	Individual coding,
(3)	
SK	Screw terminals
CC	Cage clamps
ST2	connector plug M12, 8-pole
(4)	
1P2PW	1 Diagnostic output, p-type and 2 Safety outputs, p-type (combined diagnostic signal: guard door closed and interlocking device locked)
SD2P	serial diagnostic output and 2 Safety outputs, p-type
(5)	
<i>without</i>	Power to unlock
A	Power to lock

## Documents

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**Operating instructions and Declaration of conformity** (pl) 480 kB, 26.11.2018

Code: mrl\_azm201\_pl

**Operating instructions and Declaration of conformity** (nl) 451 kB, 23.10.2018

Code: mrl\_azm201\_nl

**Operating instructions and Declaration of conformity** (de) 391 kB, 10.08.2018

Code: mrl\_azm201\_de

**Operating instructions and Declaration of conformity** (es) 459 kB, 23.08.2018

Code: mrl\_azm201\_es

**Operating instructions and Declaration of conformity** (fr) 423 kB, 03.05.2018

Code: mrl\_azm201\_fr

**Operating instructions and Declaration of conformity** (en) 458 kB, 10.08.2018

Code: mrl\_azm201\_en

**Operating instructions and Declaration of conformity** (it) 417 kB, 19.06.2018

Code: mrl\_azm201\_it

**Operating instructions and Declaration of conformity** (jp) 528 kB, 12.10.2017

Code: mrl\_azm201\_jp

**Operating instructions and Declaration of conformity** (pt) 461 kB, 15.08.2018

Code: mrl\_azm201\_pt

**Operating instructions and Declaration of conformity** (cn) 624 kB, 23.11.2018

Code: mrl\_azm201\_cn

**Wiring example** (99) 21 kB, 12.01.2009

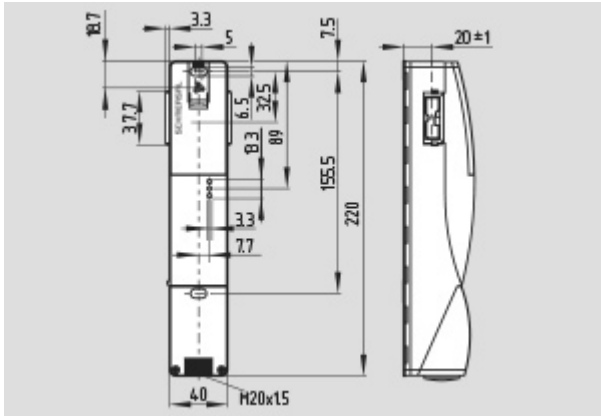
Code: kazm2l26

**Brochure** (de) 6 MB, 15.02.2018

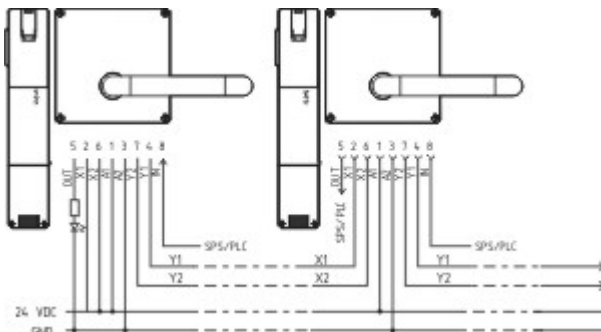
Code: b\_css\_brosch09\_de

**Brochure** (en) 6 MB, 15.02.2018

## Images



Dimensional drawing (miscellaneous)



Wiring example

## System components

### Actuator



#### 103013499 - AZ/AZM201-B30-RTAG1P1-SZ

- Actuator for hinged guards
- Easy and intuitive operation
- No risk of injury from protruding actuator
- No supplementary door handles required
- Does not protrude into the door opening
- for right hinged doors
- with handle and Emergency exit handle
- with integrated lockout tag



#### 103013497 - AZ/AZM201-B30-RTAG1P1

- Actuator for hinged guards
- Easy and intuitive operation
- No risk of injury from protruding actuator
- No supplementary door handles required
- Does not protrude into the door opening
- for right hinged doors
- with handle and Emergency exit handle



#### 103013502 - AZ/AZM201-B30-RTAG1

- Actuator for hinged guards
- Easy and intuitive operation
- No risk of injury from protruding actuator
- No supplementary door handles required
- Does not protrude into the door opening
- for right hinged doors
- with handle



#### 103013500 - AZ/AZM201-B30-LTAG1P1-SZ

- Actuator for hinged guards
- Easy and intuitive operation
- No risk of injury from protruding actuator
- No supplementary door handles required
- Does not protrude into the door opening
- for left hinged doors
- with handle and Emergency exit handle
- with integrated lockout tag



#### 103013498 - AZ/AZM201-B30-LTAG1P1

- Actuator for hinged guards
- Easy and intuitive operation
- No risk of injury from protruding actuator
- No supplementary door handles required
- Does not protrude into the door opening
- for left hinged doors
- with handle and Emergency exit handle



#### 103013501 - AZ/AZM201-B30-LTAG1

- Actuator for hinged guards
- Easy and intuitive operation
- No risk of injury from protruding actuator
- No supplementary door handles required
- Does not protrude into the door opening
- for left hinged doors
- with handle



#### 103013495 - AZ/AZM201-B1-RTP0

- Actuators with return spring
- Actuator for sliding guards
- Tolerates up to max. 5 mm overtravel
- for right hinged doors
- with Emergency exit



#### 103013494 - AZ/AZM201-B1-RT

- Actuators with return spring
- Actuator for sliding guards
- Tolerates up to max. 5 mm overtravel
- for right hinged doors



#### 103013496 - AZ/AZM201-B1-LTP0

- Actuators with return spring
- Actuator for sliding guards
- Tolerates up to max. 5 mm overtravel
- for left hinged doors
- with Emergency exit



#### **103013493 - AZ/AZM201-B1-LT**

- Actuators with return spring
- Actuator for sliding guards
- Tolerates up to max. 5 mm overtravel
- for left hinged doors

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The data and values have been checked thoroughly. Technical modifications and errors excepted.

Generiert am 13.02.2019 - 14:50:32h Kasbase 3.3.0.F.64I