Datasheet - AZM 200ST2-T-1P2P

Solenoid interlock / AZM 200



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

- Guard locking monitored
- thermoplastic enclosure
- Electronic contact-free, coded system
- Connector M12, 8-pole
- 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 ± 5 mm vertically and ± 3 mm horizontally
- Intelligent diagnosis
- Manual release

Ordering details

Product type description	AZM 200ST2-T-1P2P
Article number	101192161
EAN code	4030661351797
eCl@ss	27-27-26-03

Approval

Approval	TÜV cULus USA/CAN

Classification

interlocking function:	
Standards	EN ISO 13849-1, IEC 61508, IEC 60947-5-3
PL	bis e
Control category	bis 4
PFH	4.0 x 10^{-9}/h
PFD value	1.0 x 10^{-4}
SIL	bis 3
Mission time	20 Years
Classification	PDF-M

Global Properties

Product name	AZM 200
Standards	EN 60947-5-1, IEC 61508, EN ISO 13849-1, EN ISO 13849-1
Compliance with the Directives (Y/N) CE	Yes
Suitable for safety functions (Y/N)	Yes
Protection rating	II
Series-wiring	up to 31 components
Length of the sensor chain	max. 200 m
Active principle	inductive
Duty cycle	100 %
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic
Housing coating	None
Weight	550 g
Guard locking monitored (Y/N)	Yes
Actuator monitored (Y/N)	No
Idle assignable pushbutton and LED (Y/N)	No
Reaction time	≤ 60 ms
Duration of risk	> 120 ms
Time to readiness	4000 ms
Recommended actuator	AZ/AZM 200-B1

Mechanical data

Design of electrical connection	Connector M12, 8-pole
Mechanical life	≥ 1.000.000 operations
restistance to shock	30 g / 11 ms
Resistance to vibration	10 ... 55 Hz, Amplitude 1 mm
Emergency unlocking device (Y/N)	No
Manual release (Y/N)	Yes
Emergency release (Y/N)	No
Latching force	30 N
Clamping force F_{max}	2000 N
Max. Actuating speed	≤ 0,2 m/s

Ambient conditions

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

Electrical data

Number of auxiliary contacts	0 piece
Number of safety contacts	2 piece
Cross circuit/short circuit recognition possible (Y/N)	Yes
Power to unlock	Yes
Power to lock	No
Supply voltage U_B	
- Min. supply voltage	20.4 VDC
- Max. supply voltage	26.4 VDC
Switch frequency	1 Hz
Rated insulation voltage U_i	32 VDC
Operating current I_e	1.2 A
Utilisation category	DC-12, DC-13
No-load current I_0	0,6 A
Device insulation	≤ 2 A

Electrical data - Safety inputs

Safety inputs	X1 and X2
Rated operating voltage U_e	- 3 V ... 5 V (Low) 15 V ... 30 V (High)
Operating current I_e	> 2 mA / 24 V

Electrical data - Safety outputs

Safety outputs	Y1 and Y2
Fuse rating	short-circuit proof, p-type
Rated operating voltage	0 V ... 4 V under Supply voltage U_B
Residual current I_r	≤ 0,5 mA
Operating current I_e	0,25 A
Utilisation category	DC-12, DC-13

Electrical data - Diagnostic output

Serial diagnostics (Y/N)	No
Fuse rating	p-type, short-circuit proof
Operating current I_e	0,05 A
Utilisation category	DC-12, DC-13
Wiring capacitance for serial diagnostics	-
diagnostic signals	guard door closed
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

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

LED switching conditions display

LED switching conditions display (Y/N)	Yes
LED switching conditions display	
- Supply voltage U_B	green LED

- switching condition	yellow LED
- Error functional defect	red LED

ATEX

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

Dimensions

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

Pin assignment

1	A1 Supply voltage U_B
2	X1 Safety input 1
3	A2 GND
4	Y1 Safety output 1
5	OUT Diagnostic output
6	X2 Safety input 2
7	Y2 Safety output 2
8	IN Solenoid control

notice

As lons 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

Included in delivery	AZM 200 Triangular key

Actuators must be ordered separately.

Indication legend

see drawing: Wiring example

With the represented power-to-unlock principle, the solenoid is energised to enable the opening.
With the alternative power-to-lock principle (not represented), the solenoid must be energised to keep the device in closed condition.

Ordering code

AZM 200**(1)(2)**-T-**(3)(4)**

(1)	
without	Guard locking monitored
B	Actuator monitored
(2)	
SK	Screw connection
CC	Spring pulley connection
ST1	connector M23 x 1, (8+1-pole)

ST2	connector M12 x 1, 8-pole
(3)	
1P2P	1 Diagnostic output and 2 Safety outputs, p-type
1P2PW	gleich - 1P2P, combined diagnostic signal: guard door closed and interlocking device locked
SD2P	serial diagnostic output and 2 Safety outputs, p-type
(4)	
without	Power to unlock
A	Power to lock

Documents

Operating instructions and Declaration of conformity (pl) 363 kB, 11.02.2015
Code: mrl_azm200t_pl

Operating instructions and Declaration of conformity (jp) 416 kB, 20.02.2013
Code: mrl_azm200t_jp

Operating instructions and Declaration of conformity (es) 345 kB, 13.02.2015
Code: mrl_azm200t_es

Operating instructions and Declaration of conformity (en) 343 kB, 14.04.2015
Code: mrl_azm200t_en

Operating instructions and Declaration of conformity (pt) 346 kB, 26.06.2012
Code: mrl_azm200t_pt

Operating instructions and Declaration of conformity (fr) 346 kB, 13.02.2015
Code: mrl_azm200t_fr

Operating instructions and Declaration of conformity (it) 342 kB, 13.02.2015
Code: mrl_azm200t_it

Operating instructions and Declaration of conformity (de) 349 kB, 14.04.2015
Code: mrl_azm200t_de

Operating instructions and Declaration of conformity (nl) 341 kB, 24.03.2015
Code: mrl_azm200t_nl

Operating instructions and Declaration of conformity (da) 312 kB, 22.08.2013
Code: mrl_azm200t_da

Operating instructions and Declaration of conformity (sv) 340 kB, 19.03.2012
Code: mrl_azm200t_sv

Wiring example (99) 21 kB, 12.01.2009
Code: kazm2l26

Diagnosis tables (en) 136 kB, 12.01.2009
Code: b_tabp02

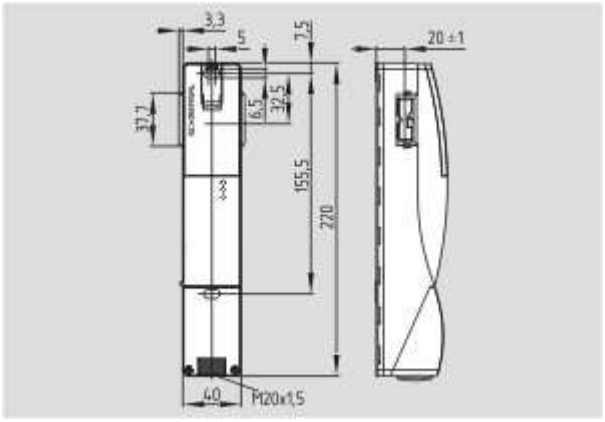
Diagnosis tables (de) 135 kB, 12.01.2009
Code: b_tabp01

TÜV certification (de, en) 599 kB, 25.03.2015

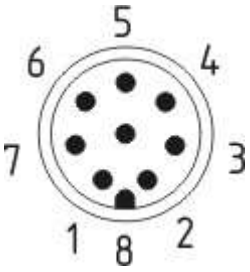
Code: z_azmp04

Gost certification (ru) 1 MB, 21.06.2007
Code: q_azmp01

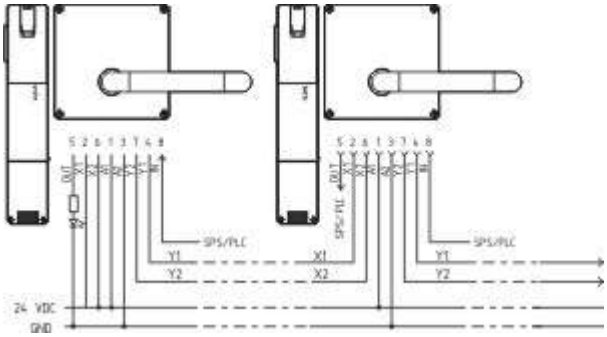
Images



Dimensional drawing (miscellaneous)



Contact arrangement



Wiring example

System components

Actuator



101183465 - AZ/AZM 200-B1-LT

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

101183466 - AZ/AZM 200-B1-LTP0



• Actuators with return spring
• Actuator for sliding guards
• Tolerates up to max. 5 mm overtravel



101183469 - AZ/AZM 200-B1-RT

• Actuators with return spring
• Actuator for sliding guards
• Tolerates up to max. 5 mm overtravel



101183470 - AZ/AZM 200-B1-RTP0

• Actuators with return spring
• Actuator for sliding guards
• Tolerates up to max. 5 mm overtravel



101178681 - AZ/AZM 200-B30-LTAG1

• Actuator for hinged guards
• With door detection sensor T
• Easy and intuitive operation
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101178668 - AZ/AZM 200-B30-LTAG1P1

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101186150 - AZ/AZM 200-B30-LTAG1P20

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101192102 - AZ/AZM 200-B30-LTAG1P25

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator

• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101181137 - AZ/AZM 200-B30-LTAG2

• Actuator for hinged guards
• With door detection sensor T
• Easy and intuitive operation
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101181141 - AZ/AZM 200-B30-LTAG2P1

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• With door detection sensor T
• Easy and intuitive operation
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101189020 - AZ/AZM 200-B30-LTAG2P20

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101192106 - AZ/AZM 200-B30-LTAG2P25

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101178680 - AZ/AZM 200-B30-RTAG1

• Actuator for hinged guards
• With door detection sensor T
• Easy and intuitive operation
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available

101178738 - AZ/AZM 200-B30-RTAG1P1

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation



• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101186144 - AZ/AZM 200-B30-RTAG1P20

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101192103 - AZ/AZM 200-B30-RTAG1P25

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101181139 - AZ/AZM 200-B30-RTAG2

• Actuator for hinged guards
• With door detection sensor T
• Easy and intuitive operation
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101181143 - AZ/AZM 200-B30-RTAG2P1

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available



101191659 - AZ/AZM 200-B30-RTAG2P20

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening

• Various handles available



101192104 - AZ/AZM 200-B30-RTAG2P25

• One-hand emergency exit,
even in de-energised condition
• Actuator for hinged guards
• Easy and intuitive operation
• With door detection sensor T
• No risk of injury from protruding actuator
• No supplementary door handles required
• Does not protrude into the door opening
• Various handles available

Connector

A-K8M12

• Pre-wired cable
• 8-pole