Datasheet - AZM 200 B SK-T-1P2PWA

Solenoid interlock / AZM 200

SCHMERSAL

• Actuator monitored
• thermoplastic enclosure
• Electronic contact-free, coded system
• 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

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

Ordering details

Product type description	AZM 200 B SK-T-1P2PWA
Article number	101195441
EAN code	4030661360782

Approval

Approval	TÜV
	USA/CAN

Classification

Standards	EN ISO 13849-1, IEC 61508, IEC 60947-5-3
PL	bis e
Control category	bis 4
PFH	4.0×10^{-9}/h
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) $C\,E$	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)	No
Actuator monitored (Y/N)	Yes
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	Screw connection
Cable section	
- Min. Cable section	0,25 mm²
- Max. Cable section	1.5 mm²
AWG-Number	30.1 - 14.7
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
notice	All indications about the cable section are including the conductor ferrules.

Ambient conditions

Ambient temperature	
- Min. environmental temperature	−25 °C
- Max. environmental temperature	+50 °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	No
Power to lock	Yes
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	≤ 4 A if used in accordance with UL 508

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 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

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

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)**-T-**(2)(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) 332 kB, 10.07.2013
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) 311 kB, 26.07.2013
Code: mrl_azm200t_es

Operating instructions and Declaration of conformity (en) 309 kB, 09.01.2013
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) 304 kB, 29.05.2013
Code: mrl_azm200t_fr

Operating instructions and Declaration of conformity (it) 306 kB, 20.02.2013
Code: mrl_azm200t_it

Operating instructions and Declaration of conformity (de) 314 kB, 09.01.2013
Code: mrl_azm200t_de

Operating instructions and Declaration of conformity (nl) 292 kB, 03.06.2013
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

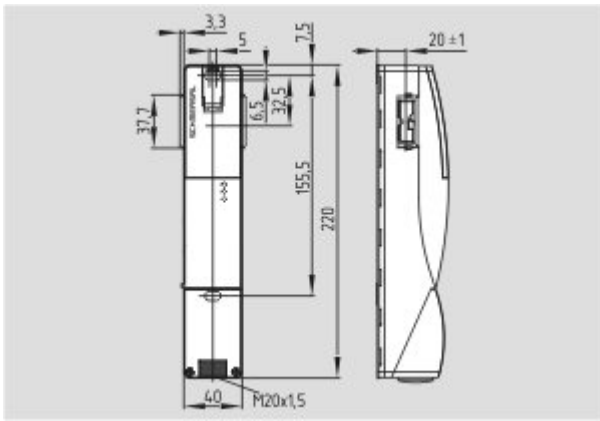**Diagnosis tables** (de) 135 kB, 12.01.2009
Code: b_tabp01

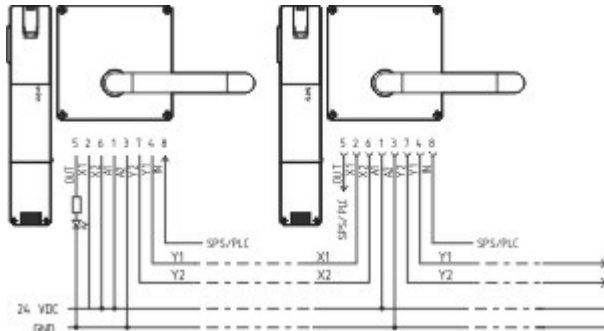**TÜV certification** (en, de) 914 kB, 10.08.2012
Code: z_azmp04

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

Images

Dimensional drawing (miscellaneous)

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
• 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

101186150 - AZ/AZM 200-B30-LTAG1P20

• 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

101192102 - AZ/AZM 200-B30-LTAG1P25

• 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

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
- 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

101192106 - AZ/AZM 200-B30-LTAG2P25

- 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

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
- 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

101186144 - AZ/AZM 200-B30-RTAG1P20

- 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

101192103 - AZ/AZM 200-B30-RTAG1P25

• 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

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
• 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

101191659 - AZ/AZM 200-B30-RTAG2P20

• 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

101192104 - AZ/AZM 200-B30-RTAG2P25

• 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

Image