

Datasheet - AZ 200ST2-T-SD2P

Safety switch with separate actuator / AZ 200



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

- **NOTICE: Available until 2020.12.31 (substitute: AZ201)**
- Thermoplastic enclosure
- serial diagnostic output
- Max. length of the sensor chain 200 m
- Connector M12, 8-pole
- 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

Ordering details

Product type description	AZ 200ST2-T-SD2P
Article number	AZ 200ST2-T-SD2P
EAN Code	
eCl@ss	27-27-26-02

Approval


Approval



Classification

Standards	EN ISO 13849-1, IEC 61508
PL	e
Control category	4
PFH	$4.0 \times 10^{-9}/h$
SIL	3
Mission time TM	20 Years
Classification	PDF-M

Global Properties

Permanent light	AZ 200
Standards	IEC 60947-5-3, IEC 61508, EN ISO 13849-1, EN ISO 13849-1
Compliance with the Directives (Y/N) 	Yes
Suitable for safety functions (Y/N)	Yes
Series-wiring	up to 31 components
Length of the sensor chain	max. 200 m
Active principle	Non-contact
Duty cycle ED	100 %
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic
Housing coating	None
Weight	
Actuator monitored (Y/N)	Yes
Idle assignable pushbutton and LED (Y/N)	No
Reaction time	≤ 60
Duration of risk	> 120
Time to readiness	4000
Recommended actuator	AZ/AZM 200-B1

Mechanical data

Design of electrical connection	Connector M12, 8-pole
Mechanical life	≥ 1.000.000 operations
Switch distance S_n	6.5 mm
Ensured switch distance ON S_{ao}	4 mm
Ensured switch distance OFF S_{ar}	30 mm
hysteresis	max. 1.5
Repeat accuracy R_R	< 0,5 mm
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)	No
Emergency release (Y/N)	No
Latching force	30
Max. Actuating speed	≤ 0,2

Ambient conditions

Ambient temperature	
- Min. environmental temperature	-25
- Max. environmental temperature	+70
Storage and transport temperature	
- Min. Storage and transport temperature	-25
- Max. Storage and transport temperature	+85
Relative humidity	30... 95
- non-condensing	
Protection class	IP67 to IEC/EN 60529
Protection rating	II
Air clearances and creepage distances T_o 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
Number of safety contacts	2
Cross circuit/short circuit recognition possible (Y/N)	Yes
Switch frequency	1
Rated insulation voltage U_i	32 VDC
Rated operating voltage U_e	
- Min. Rated operating voltage	20.4 VDC
- Max. Rated operating voltage	26.4 VDC
Operating current I_e	0,7 A
Utilisation category	DC-13
No-load current I_0	0,1 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
Design of control output	p-type
Rated operating voltage	0 V ... 4 V under U_e
Residual current I_r	$\leq 0,5$ mA
Operating current I_e	0,25 A
Utilisation category	DC-13: 24 V / 0,25 A

Electrical data - Diagnostic output

Serial diagnostics (Y/N)	Yes
Fuse rating	short-circuit proof
Design of control output	p-type
Operating current I_e	0,05 A
Utilisation category	DC-13: 24 V / 0,05 A
Wiring capacitance for serial diagnostics	max. 50 nF
diagnostic signals	to SD-interface
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!

LED switching conditions display

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

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

Dimensions

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

Pin assignment

1	A1 Supply voltage U _B
2	X1 Safety input 1
3	A2 GND
4	Y1 Safety output 1
5	OUT serial diagnostic output
6	X2 Safety input 2
7	Y2 Safety output 2
8	IN serial diagnostic input

Included in delivery

Actuators must be ordered separately.

Ordering code

AZ 200(1)-T-(2)

(1)

SK	Screw connection
CC	Spring pulley connection
ST1	connector M23 x 1, 8+1-pole
ST2	connector M12 x 1, 8-pole

(2)

1P2P	1 Diagnostic output and 2 Safety outputs, p-type
SD2P	serial diagnostic output and 2 Safety outputs, p-type

Documents

Operating instructions and Declaration of conformity (nl) 313 kB, 01.08.2018

Code: mrl_az200t_nl

Operating instructions and Declaration of conformity (it) 313 kB, 09.01.2018

Code: mrl_az200t_it

Operating instructions and Declaration of conformity (en) 312 kB, 29.11.2017

Code: mrl_az200t_en

Operating instructions and Declaration of conformity (cs) 293 kB, 27.02.2012

Code: mrl_az200t_cs

Operating instructions and Declaration of conformity (cn) 359 kB, 01.06.2017

Code: mrl_az200t_cn

Operating instructions and Declaration of conformity (jp) 1 MB, 17.11.2010

Code: mrl_az200t_jp

Operating instructions and Declaration of conformity (de) 271 kB, 29.11.2017

Code: mrl_az200t_de

Operating instructions and Declaration of conformity (es) 328 kB, 16.01.2018

Code: mrl_az200t_es

Operating instructions and Declaration of conformity (fr) 315 kB, 01.02.2018

Code: mrl_az200t_fr

Operating instructions and Declaration of conformity (da) 292 kB, 26.01.2012

Code: mrl_az200t_da

Operating instructions and Declaration of conformity (pt) 319 kB, 22.01.2018

Code: mrl_az200t_pt

Operating instructions and Declaration of conformity (pl) 336 kB, 23.05.2018

Code: mrl_az200t_pl

Operating instructions and Declaration of conformity (sv) 289 kB, 19.03.2012

Code: mrl_az200t_sv

Brochure (de) 6 MB, 15.02.2018

Code: b_css_brosch09_de

Brochure (en) 6 MB, 15.02.2018

Code: b_css_brosch09_en

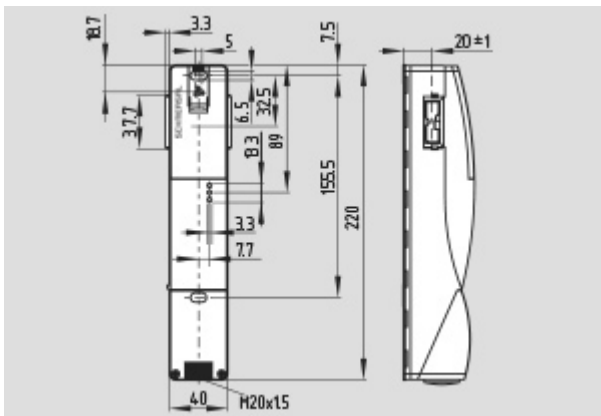
TÜV certification (de, en) 848 kB, 09.08.2017

Code: z_azmp04

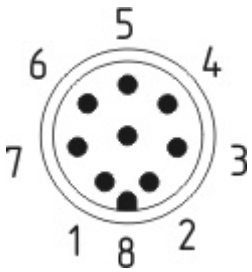
EAC certification (ru) 844 kB, 05.10.2015

Code: q_6037p17_ru

Images



Dimensional drawing (miscellaneous)



Contact arrangement

System components

Actuator



101183470 - AZ/AZM 200-B1-RTP0

- 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



101183466 - AZ/AZM 200-B1-LTP0

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



101183465 - AZ/AZM 200-B1-LT

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



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
- Greater mechanical stability

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
- Greater mechanical stability

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
- Greater mechanical stability

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
- Greater mechanical stability

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
- Greater mechanical stability

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
- Greater mechanical stability

101191659 - AZ/AZM 200-B30-RTAG2P20

- One-hand emergency exit, even in de-energised condition
- Actuator for hinged guards



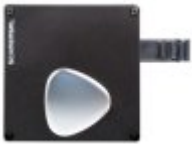
- With door detection sensor T
 - Easy and intuitive operation
 - No risk of injury from protruding actuator
 - No supplementary door handles required
 - Does not protrude into the door opening
 - Various handles available
- Greater mechanical stability

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
- Greater mechanical stability

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
- Greater mechanical stability

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
- Greater mechanical stability

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
- Greater mechanical stability

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
- Greater mechanical stability



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
- Greater mechanical stability



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
- Greater mechanical stability



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
- Greater mechanical stability



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
- Greater mechanical stability

Connector

A-K8M12

- Pre-wired cable



• 8-pole

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

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