

## Datasheet - AZM 161 BZ ST1-AS RAP

AS interface safety at work / Safety switchgear / Solenoid interlock / AZM 161 AS



- Solenoid interlock
- Thermoplastic enclosure
- High holding force 2000
- 130 mm x 90 mm x 30 mm
- Interlock with protection against incorrect locking.
- Double-insulated
- Long life
- Integrated AS-Interface
- Solenoid supply 24 VDC (Aux)
- Combined monitoring of actuator and solenoid interlock
- Manual release

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

### Ordering details

Product type description	AZM 161 BZ ST1-AS RAP
Article number	101209116
EAN Code	4030661411880
eCl@ss	27-27-26-03

### Approval

Approval



### Classification

Standards	EN ISO 13849-1, IEC 61508
PL	up c
Control category	1
PFH	1.14 x 10 <sup>-6</sup> / h
- notice	up to max. 100.000 switching cycles/year
SIL	up 1
Mission time	20 Years


If a fault exclusion for hazardous damage of the 1-channel mechanics is authorized and an adequate protection against tampering is ensured, suitable for use up to:

Standards	EN ISO 13849-1, IEC 61508
PL	up d
Control category	3
PFH value	1.01 x 10 <sup>-7</sup> / h

- notice	up to max. 100.000 switching cycles/year
SIL	up 2
Mission time	20 Years

## Global Properties

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Permanent light	AZM 161 AS
Standards	EN 50295, EN 60947-5-1, IEC 61508, EN ISO 13849-1
Compliance with the Directives (Y/N) 	Yes
Number of actuating directions	3
Active principle	electromechanical
Duty cycle ED	Magnet 100 %
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
Housing coating	None
Weight	450
Guard locking monitored (Y/N)	Yes
Actuator monitored (Y/N)	Yes
Response time	< 100


## Mechanical data

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Actuating play in direction of actuation	5.5
Design of electrical connection	connector plug M12, 4-pole
connector	bottom
Mechanical life	> 1.000.000 operations
restistance to shock	30 g / 11 ms
Resistance to vibration	10 HZ ... 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 F	2000 N
Max. Actuating speed	2
Actuating frequency	max. 1000 / h

## 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	IP67 to IEC/EN 60529
Protection rating	II 
Air clearances and creepage distances To IEC/EN 60664-1	
- Rated impulse withstand voltage U <sub>imp</sub>	0,8 kV
- Rated insulation voltage U <sub>i</sub>	32 VDC
- Overvoltage category	III
- Degree of pollution	3

## Electrical data

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Power to unlock	No
Power to lock	Yes

## Electrical data - AS interface

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AS-i Supply voltage	26.5 ... 31.6 VDC, Protection against polarity reversal
AS-i operating current	max. 100 mA
AS-i Device insulation	internally short-circuit proof
AS-i Specification	
- version	V 2.1
- Profile	S-7.B.F.E
- IO-Code	0x7
- ID-Code	0xB
- ID-Code1	0xF
- ID-Code2	0xE
AS-i Inputs	
- Channel 1	Data bits DI 0/DI 1= dynamic code transmission
- Channel 2	Data bits DI 2/DI 3= dynamic code transmission
AS-i Outputs	
- DO 0	Solenoid control
- DO 1	not used
- DO 2	not used
- DO 3	not used
AS-i Parameter bits	
- P0	Actuator detected
- P1	Solenoid interlock locked
- P2	magnet voltage in tolerance range
- P3	error message - locking/unlocking of the solenoid interlock blocked
AS-i input module address	0
- Default on address 0, programmable via the AS-Interface Master or Hand-held programming device	

## Electrical data - Auxiliary voltage (Aux)

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Supply voltage $U_B$	24 VDC (-15 % / +10 %) stabilised PELV
Operating current	≤ 500
Device insulation	≤ 4 A (if used in accordance with UL 508)

## LED switching conditions display

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LED switching conditions display (Y/N)	Yes
AS-i LED switching conditions display	
(1) yellow LED	Channel 2 / AS-i SaW Bit 2,3
(2) green/red LED (AS-i duo LED)	Supply voltage / Communication error / slave address = 0 or periphery error
(3) yellow LED	Channel 1 / AS-i SaW Bit 0,1

## ATEX

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

## Miscellaneous data

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## Applications



sliding safety guard,



removable guard,



hinged safety guard

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## Dimensions

### Dimensions of the sensor

- Width of sensor	130
- Height of sensor	90
- Length of sensor	30

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## Pin assignment

1	AS-i +
2	Aux - (P)
3	AS-i -
4	Aux + (P)

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## notice

Interlocks with power to lock principle may only be used in special cases after a thorough evaluation of the accident risk, since the guarding device can immediately be opened on failure of the electrical power supply or when the main switch is opened.

### Manual release

- For maintenance, installation, etc.
- For manual release using M5 triangular key, available as accessory

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## Included in delivery

Actuators must be ordered separately.

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## Ordering code

AZM 161 (1) (2)-AS (3)(4)(5)(6)

(1)	
Z	Guard locking monitored
B	Actuator monitored
BZ	
(2)	
ST1	Connector bottom
ST2	Connector right
(3)	
without	Latching force 5 N
R	Latching force 30 N
(4)	
without	Power to unlock
A	Power to lock
(5)	
without	Solenoid supply aus AS interface
P	Solenoid supply aus 24 VDC (Aux)

(6)

without

N

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Manual release

Emergency release

Emergency exit

## Documents

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**Operating instructions and Declaration of conformity (en)** 412 kB, 25.01.2019

Code: mrl\_azm161as\_en

**Operating instructions and Declaration of conformity (it)** 429 kB, 16.01.2018

Code: mrl\_azm161as\_it

**Operating instructions and Declaration of conformity (es)** 454 kB, 16.01.2018

Code: mrl\_azm161as\_es

**Operating instructions and Declaration of conformity (pl)** 431 kB, 02.05.2018

Code: mrl\_azm161as\_pl

**Operating instructions and Declaration of conformity (de)** 388 kB, 25.01.2019

Code: mrl\_azm161as\_de

**Operating instructions and Declaration of conformity (pt)** 419 kB, 16.01.2018

Code: mrl\_azm161as\_pt

**Operating instructions and Declaration of conformity (fr)** 398 kB, 01.02.2018

Code: mrl\_azm161as\_fr

**Operating instructions and Declaration of conformity (cn)** 496 kB, 10.08.2017

Code: mrl\_azm161as\_cn

**Operating instructions and Declaration of conformity (jp)** 712 kB, 14.11.2011

Code: mrl\_azm161as\_jp

**Operating instructions and Declaration of conformity (nl)** 433 kB, 12.07.2018

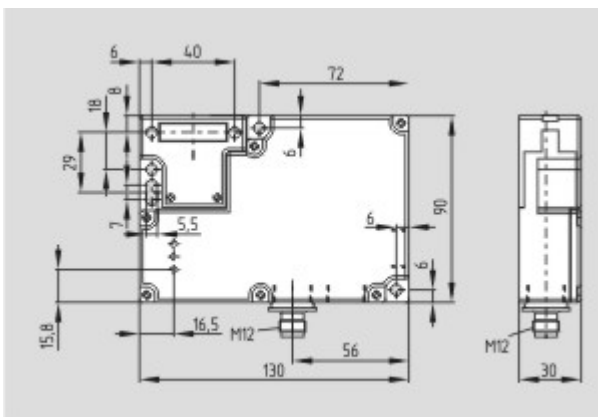
Code: mrl\_azm161as\_nl

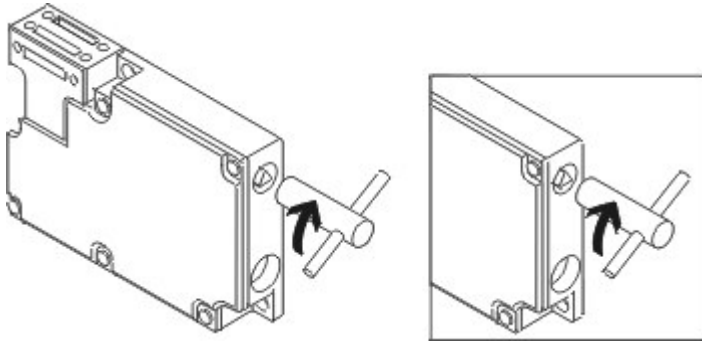
**BG-test certificate (de, en)** 286 kB, 01.06.2010

Code: z\_161p01

## Images

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Operating principle

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## System components

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### Actuator



101145117 - AZM 161-B1

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101144416 - AZM 161-B1E

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101171859 - AZM 161-B1ES

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101175431 - AZM 161-B1F

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101171125 - AZM 161-B1S

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101173089 - AZM 161-B1-2053 WITH BALL LATCH



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**101164100 - AZM 161-B1-1747 WITH MAGNETIC LATCH**



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**101178199 - AZM 161-B1-2024**



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**101176642 - AZM 161-B1-2177 WITH CENTERING GUIDE**



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**101174113 - AZM 161-B6-2177 WITH CENTERING GUIDE**

- For very small actuating radii



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**101170375 - AZM 161-B6S**



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**101144420 - AZM 161-B6**

- For very small actuating radii



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## Door-handle system

### AZM 161-ST30

- Latching handle
- Suitable for all types of guard
- suitable in combination with EX-AZM 161
- Max. 110 °C



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## Accessories



### 101100887 - TRIANGULAR KEY TK-M5

- For manual release using M5 triangular key, available as accessory
- For maintenance, installation, etc.

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

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