

## Datasheet - AZM 161SK-12/12RK-024



Solenoid interlock / AZM 161



- thermoplastic enclosure
- Double-insulated
- Interlock with protection against incorrect locking.
- 130 mm x 90 mm x 30 mm
- 6 Contacts
- Long life
- Large wiring compartment
- Manual release
- cable entries 4 M 16 x 1.5

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

### Ordering details

Product type description	AZM 161SK-12/12RK-024
Article number	1164207
EAN code	4030661205144

### Approval

Approval	BG USA/CAN CCC
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### Classification

Standards	EN ISO 13849-1
B <sub>10d</sub> Opener (NC)	2.000.000
Mission time notice	20 Years
	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{zyklus}}$

### Global Properties

Product name	AZM 161
Standards	EN 60947-5-1, BG-GS-ET-19
Compliance with the Directives (Y/N)	Yes
Number of actuating directions	3 piece

Active principle	electromechanical
Duty cycle	Magnet 100 %
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
- Material of the contacts	Silver
Housing coating	None
Weight	500 g

## Mechanical data

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Actuating play in direction of actuation	5.5 mm
Design of electrical connection	Screw connection
Cable section	
- Min. Cable section	1 x 0,75 mm <sup>2</sup>
- Max. Cable section	1 x 1.5 mm <sup>2</sup>
Mechanical life	> 1.000.000 operations
Emergency unlocking device (Y/N)	No
Manual release (Y/N)	Yes
Emergency release (Y/N)	No
Latching force	30 N
Positive break force	20 N
positive break travel	10 mm
Clamping force F <sub>max</sub>	2000 N
Max. Actuating speed	2 m/s
Actuating frequency	max. 1000 / h
notice	All indications about the cable section are including the conductor ferrules.

## Ambient conditions

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Ambient temperature	
- Min. environmental temperature	- 25°C
- Max. environmental temperature	+ 60°C
Protection class	IP67 to IEC/EN 60529

## Electrical data

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Design of control element	Normally open contact (NO), Opener (NC)
Switching principle	Creep circuit element
Number of auxiliary contacts	2 piece
Number of safety contacts	4 piece
Power to unlock	Yes
Power to lock	No
Rated control voltage U <sub>s</sub>	24 VAC/DC
Power consumption	max. 10 W
Rated impulse withstand voltage U <sub>imp</sub>	4 kV
Rated insulation voltage U <sub>i</sub>	250 V
Thermal test current I <sub>the</sub>	6 A
Utilisation category	AC-15: 230 V / 4 A, DC-13: 24 V / 2,5 A
Max. fuse rating	6 A gG D-fuse To DIN EN 60269-1

## ATEX

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Explosion protection categories for gases	None
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## Miscellaneous data

### Applications



sliding safety guard,



removable guard,



hinged safety guard

## Dimensions

### Dimensions of the sensor

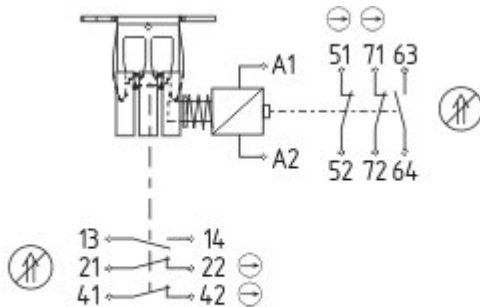
- Width of sensor	130 mm
- Height of sensor	90 mm
- Length of sensor	30 mm

## notice

### Manual release

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

## Diagram

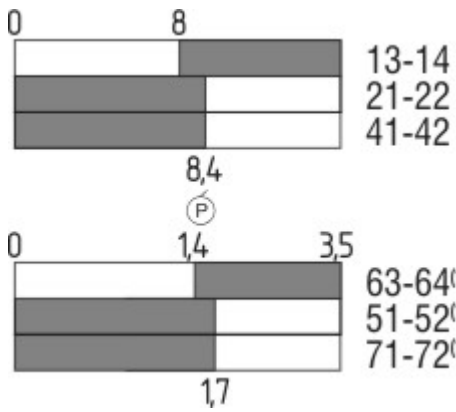


13	14	21	22	41	42	51	52	63	64	71	72	A1	A2
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### Note Diagram

- positive break NC contact
- active
- no active
- Normally-open contact
- Normally-closed contact

## Switch travel diagram



#### Notes Switch travel diagram

-  Contact closed
-  Contact open
-  Setting range
-  Break point
-  Positive opening sequence/- angle
- VS** adjustable range of NO contact
- VÖ** adjustable range of NC contact
- N** after travel

#### Ordering suffix

The applicable ordering suffix is added at the end of the part number of the safety switch.

Order example: AZM 161SK-12/12RK-024**G**

<b>...G</b>	Protected against incorrect polarity and voltage spikes. limited terminating space 0,75 mm <sup>2</sup> <b>Diagram</b> 14 guard open 13 +24 VDC 63 0 VDC 64 unlocked
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#### Ordering code

AZM 161 (1)-(2)(3)K(4)-(5)-(6)(7)

(1)

- SK** Screw connection
- CC** Cage clamps
- ST** male connector M12, 8- and 4-poles (*Only for Us: 24 VAC/DC*)

(2)

- 12/12** 2 Normally open contact (NO) / 4 Opener (NC)
- 12/11** 2 Normally open contact (NO) / 3 Opener (NC) (*Plug-in connection*)
- 11/12** 2 Normally open contact (NO) / 3 Opener (NC) (*Plug-in connection*)

(3)

- without* Latching force 5 N
- R** Latching force 30 N

(4)

- without* Power to unlock
- A** Power to lock

(5)

*without* Manual release lateral  
**ED** Manual release cover-side  
**EU** Manual release rear  
**T** Emergency exit lateral  
**TD** Emergency exit cover-side  
**TU** Emergency exit rear  
**N** Emergency release

(6)

**024** Us: 24 VAC/DC

**110/230** Us: 110/230 VAC

(7)

**G** with LED (*Only for Us: 24 VAC/DC*)

## Documents

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**Operating instructions and Declaration of conformity** (jp) 1 MB, 24.11.2010

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/JP/mrl\\_azm161\\_jp.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM_161_12_12/JP/mrl_azm161_jp.pdf)

**Operating instructions and Declaration of conformity** (fr) 752 kB, 16.12.2009

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/FR/mrl\\_azm161\\_fr.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM_161_12_12/FR/mrl_azm161_fr.pdf)

**Operating instructions and Declaration of conformity** (es) 711 kB, 16.12.2009

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/ES/mrl\\_azm161\\_es.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM_161_12_12/ES/mrl_azm161_es.pdf)

**Operating instructions and Declaration of conformity** (en) 751 kB, 16.12.2009

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**Operating instructions and Declaration of conformity** (nl) 659 kB, 16.12.2009

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/NL/mrl\\_azm161\\_nl.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM_161_12_12/NL/mrl_azm161_nl.pdf)

**Operating instructions and Declaration of conformity** (de) 421 kB, 17.02.2011

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/DE/mrl\\_azm161\\_de.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM_161_12_12/DE/mrl_azm161_de.pdf)

**Operating instructions and Declaration of conformity** (it) 706 kB, 16.12.2009

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/IT/mrl\\_azm161\\_it.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/bedien/AZM_161_12_12/IT/mrl_azm161_it.pdf)

**BG-test certificate** (de) 219 kB, 09.02.2010

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/baumuste/z\\_m16p01.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/baumuste/z_m16p01.pdf)

**BG-test certificate** (en) 219 kB, 09.02.2010

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/baumuste/z\\_m16p02.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/baumuste/z_m16p02.pdf)

**CCC certification** (en) 747 kB, 12.12.2006

[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/zertifikat/q\\_371p02.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/zertifikat/q_371p02.pdf)

**CCC certification** (cn) 725 kB, 12.12.2006

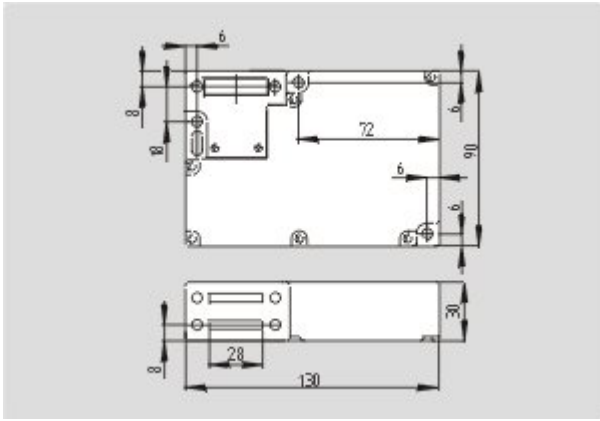
[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/zertifikat/q\\_371p03.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/zertifikat/q_371p03.pdf)

**notice** (de, en) 88 kB, 27.09.2007

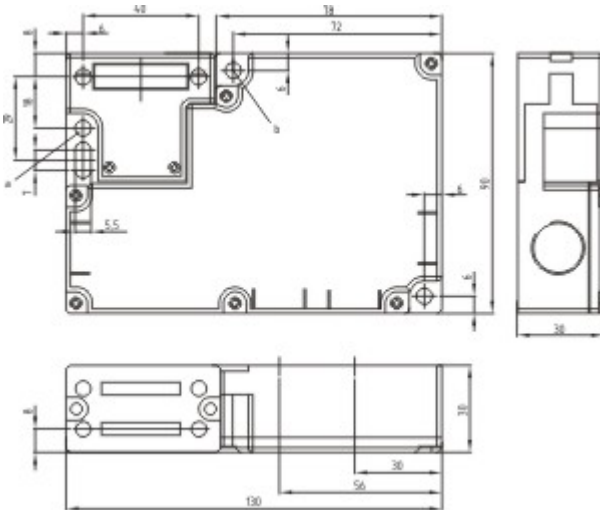
[http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/sonder/s\\_161p01.pdf](http://127.0.0.1/Bilddata/Azm/Pdf/Azm161/sonder/s_161p01.pdf)

## Images

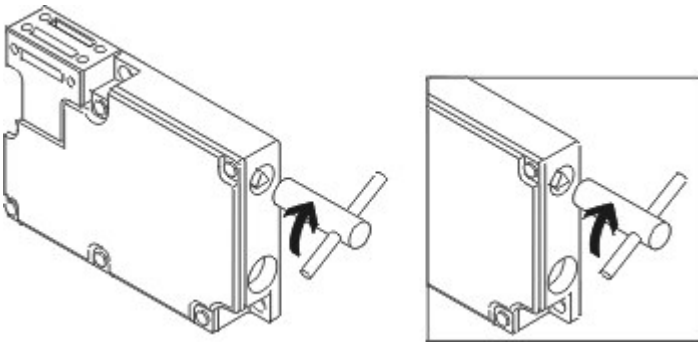
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Dimensional drawing (basic component)



Dimensional drawing (basic component)



Operating principle

## System components

### Actuator

1145117 - AZM 161-B1



1144416 - AZM 161-B1E



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1171859 - AZM 161-B1ES



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1175431 - AZM 161-B1F



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1171125 - AZM 161-B1S



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1173089 - AZM 161-B1-2053 WITH BALL LATCH



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1164100 - AZM 161-B1-1747 WITH MAGNETIC LATCH



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1178199 - AZM 161-B1-2024



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1176642 - AZM 161-B1-2177 WITH CENTERING GUIDE





#### 1174113 - AZM 161-B6-2177 WITH CENTERING GUIDE

- For very small actuating radii



#### 1170375 - AZM 161-B6S



#### 1144420 - AZM 161-B6

- For very small actuating radii

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### Door-handle system



#### AZM 161-STS30

- Latching handle
- Suitable for all types of guard

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### Accessories



#### 1100887 - TRIANGULAR KEY M5

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



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