

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

Solenoid interlock / AZM 161



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

- 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
- 4 cable entries M 16 x 1.5

### Ordering details

Product type description	AZM 161SK-12/12RKA-024
Article number	1166285
EAN code	4030661213972

### 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	460 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	9.5 mm
Clamping force F <sub>max</sub>	2000 N
Max. Actuating speed	2 m/s
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	No
Power to lock	Yes
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>	10 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
Explosion protected category for dusts	None

## Miscellaneous data

Applications



sliding safety guard,



removable guard,



hinged safety guard

## Dimensions

Dimensions of the sensor

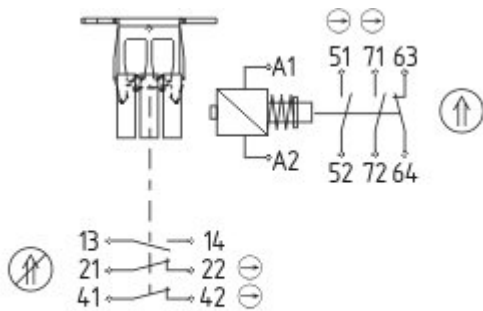
- Width of sensor	130 mm
- Height of sensor	90 mm
- Length of sensor	30 mm

## 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

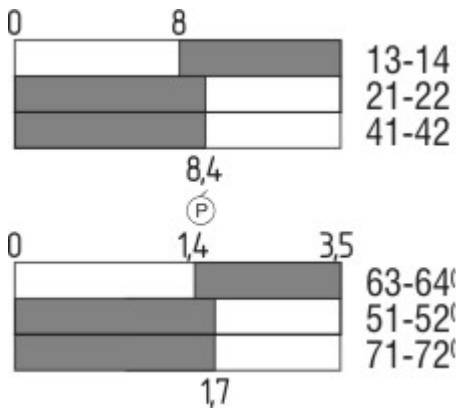
active

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-12/12RKA-024**G**

**...G** Protected against incorrect polarity and voltage spikes.  
limited terminating space 0,75 mm<sup>2</sup>

### 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) 858 kB, 16.12.2009

[http://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/JP/mrl\\_azm161\\_jp.pdf](http://www.schmersal.net/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://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/FR/mrl\\_azm161\\_fr.pdf](http://www.schmersal.net/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://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/ES/mrl\\_azm161\\_es.pdf](http://www.schmersal.net/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

[http://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/bedien/AZM\\_161\\_12\\_12/EN/mrl\\_azm161\\_en.pdf](http://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/bedien/AZM_161_12_12/EN/mrl_azm161_en.pdf)

**Operating instructions and Declaration of conformity** (de) 762 kB, 16.12.2009

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

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

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

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

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

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

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

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

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

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

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

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

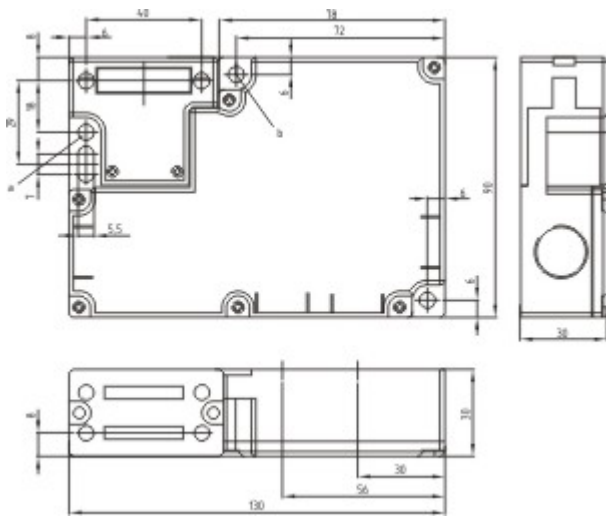
[http://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/zertifikat/q\\_371p03.pdf](http://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/zertifikat/q_371p03.pdf)

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

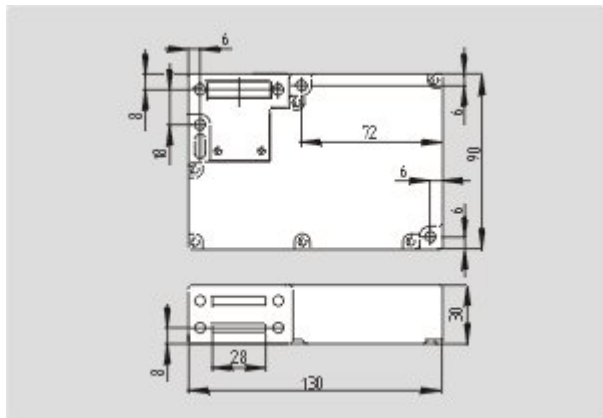
[http://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/sonder/s\\_161p01.pdf](http://www.schmersal.net/Bilddata/Azm/Pdf/Azm161/sonder/s_161p01.pdf)

## Images

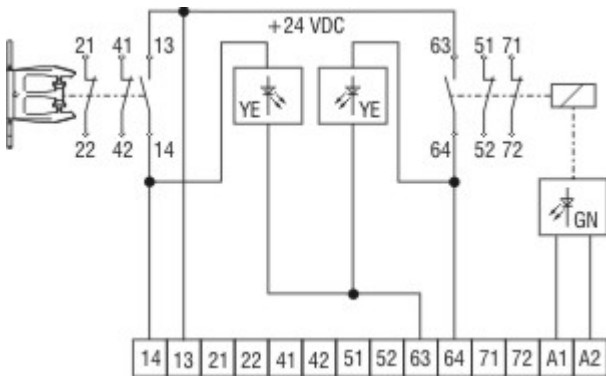
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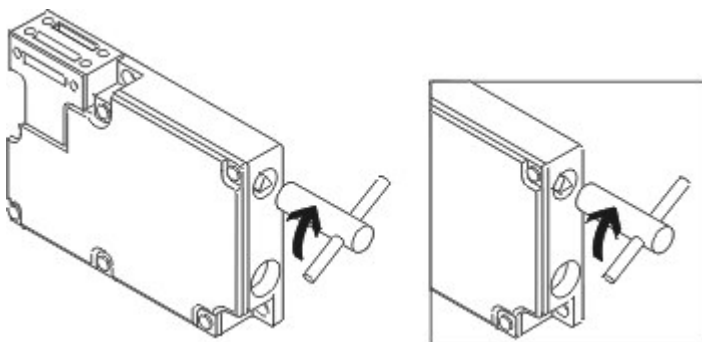
Dimensional drawing (basic component)



Dimensional drawing (basic component)



Diagram



Operating principle

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**Actuator**

**1145117 - AZM 161-B1**



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**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**



**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



### **Door-handle system**

**AZM 161-STS30**

- Latching handle
- Suitable for all types of guard

