

## Datasheet - AZ 16-02ZVK



Safety switch with separate actuator / AZ 16



Preferred typ



- 3 cable entries M 16 x 1.5
- thermoplastic enclosure
- Double-insulated
- Large wiring compartment
- 52 mm x 90 mm x 30 mm
- Multiple coding
- Long life
- High level of contact reliability with low voltages and currents
- Slotted holes for adjustment, circular holes for location

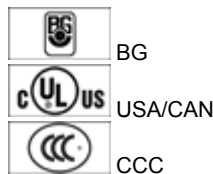
(Minor differences between the printed image and the original product may exist!)

### Ordering details

Product type description	AZ 16-02ZVK
Article number	1154699
EAN code	4030661173887

### Approval

Approval




### Classification

Standards	EN ISO 13849-1
B10d Opener (NC)	2.000.000
Mission time	20 Years
notice	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{cp} \times 3600 \text{ s/h}}{t_{cycle}}$

### Global Properties

Product name	AZ 16
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Standards	EN 60947-5-1, BG-GS-ET-15
Compliance with the Directives (Y/N) 	Yes
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
- Material of the contacts	Silver
Housing coating	None
Weight	115 g

### Mechanical data

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Design of electrical connection	Screw connection
Cable section	
- Min. Cable section	0,75 mm <sup>2</sup>
- Max. Cable section	2.5 mm <sup>2</sup>
Mechanical life	20.000.000 operations
higher Latching force (Y/N)	No
With ejection force (Y/N)	Yes
Positive break force	20 N
positive break travel	8 mm
Max. Actuating speed	0,2 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	-30 °C
- Max. environmental temperature	+80 °C
Protection class	IP67 to IEC/EN 60529

### Electrical data

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Design of control element	Opener (NC)
Switching principle	Creep circuit element
Number of auxiliary contacts	0 piece
Number of safety contacts	2 piece
Rated impulse withstand voltage U <sub>imp</sub>	6 kV
Rated insulation voltage U <sub>i</sub>	500 V
Thermal test current I <sub>the</sub>	10 A
Utilisation category	AC-15: 230 V / 4 A, DC-13: 24 V / 4 A
Max. fuse rating	6 A gG D-fuse

### ATEX

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

### Dimensions

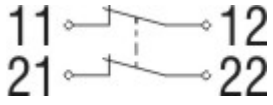
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Dimensions of the sensor	
- Width of sensor	52 mm
- Height of sensor	90 mm
- Length of sensor	30 mm






## Included in delivery

Actuators must be ordered separately.

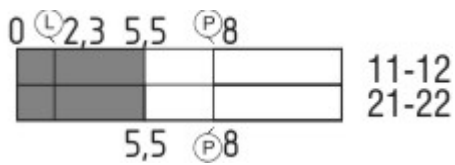
## Diagram








Note Diagram

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

## Switch travel diagram



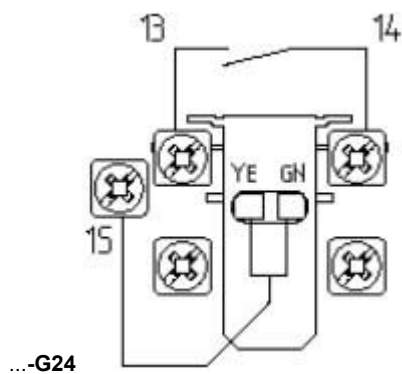
Notes Switch travel diagram

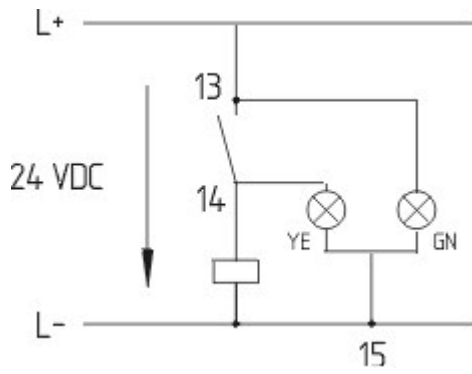
-  Contact closed
  -  Contact open
  -  Setting range
  -  Break point
  -  Positive opening sequence/- angle
- VS** adjustable range of NO contact  
**VÖ** adjustable range of NC contact  
**N** after travel

## Ordering suffix

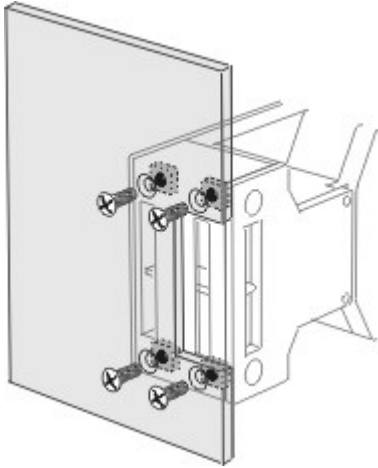
The applicable ordering suffix is added at the end of the part number of the safety switch.

Order example: AZ 16-02ZVK-**G24**





only available for version with one NO and one NC contact.  
Protected against incorrect polarity and voltage spikes.



Versions with M5 nuts  
For front mounting of safety switch, e.g. on sheet-steel covers  
Cannot be retrofitted

...- 1762

...-1637

0,3 µm gold-plated contacts

...- M20

cable entries M20

## Ordering code

AZ 16-(1)ZV(2)K-(3)-(4)-(5)

(1)

without 1 Normally open contact (NO) / 1 Opener (NC)

02 2 Opener (NC)

03 3 Opener (NC)

12 Normally open contact (NO) 1 / Opener (NC) 2

(2)

without Ejection force

R Latching force 30 N

(3)

G24 with LED (only available for version with one NO and one NC contact.)

(4)

without Cable entry M16

M20 Cable entry M20

ST Connector M12, 4-pole, bottom

STL Connector M12, 4-pole, left

STR Connector M12, 4-pole, right

(5)

2254 Latching force 5 N

1762 Front mounting

## Documents

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**Operating instructions and Declaration of conformity** (br) 436 kB, 26.05.2010

Code: mrl\_az15-16\_br

**Operating instructions and Declaration of conformity** (pt) 433 kB, 25.05.2010

Code: mrl\_az15-16\_pt

**Operating instructions and Declaration of conformity** (jp) 479 kB, 15.03.2011

Code: mrl\_az15-16\_jp

**Operating instructions and Declaration of conformity** (it) 330 kB, 27.11.2009

Code: mrl\_az15-16\_it

**Operating instructions and Declaration of conformity** (nl) 431 kB, 14.09.2010

Code: mrl\_az15-16\_nl

**Operating instructions and Declaration of conformity** (en) 516 kB, 26.05.2010

Code: mrl\_az15-16\_en

**Operating instructions and Declaration of conformity** (fr) 442 kB, 01.07.2010

Code: mrl\_az15-16\_fr

**Operating instructions and Declaration of conformity** (pt) 436 kB, 24.06.2010

Code: mrl\_az15-16\_pt

**Operating instructions and Declaration of conformity** (pl) 400 kB, 05.09.2011

Code: mrl\_az15-16\_pl

**Operating instructions and Declaration of conformity** (de) 695 kB, 24.02.2011

Code: mrl\_az15-16\_de

**Operating instructions and Declaration of conformity** (es) 405 kB, 25.03.2011

Code: mrl\_az15-16\_es

**BG-test certificate** (en) 197 kB, 01.06.2010

Code: z\_z15p02

**BG-test certificate** (de) 198 kB, 01.06.2010

Code: z\_z15p01

**CCC certification** (cn) 1 MB, 19.05.2011

Code: q\_175p03

**CCC certification** (en) 1 MB, 19.05.2011

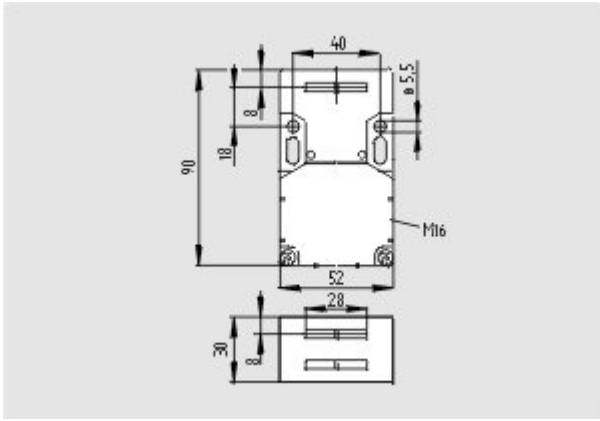
Code: q\_175p02

**Gost certification** (ru) 2 MB, 07.07.2011

Code: q\_az1p01

## Images

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Dimensional drawing (basic component)

## System components

### Actuator

**1083036 - AZ 15/16-B1**



**1092711 - AZ 15/16-B1-1747**



- For play-free interlocking of light guards
- Suitable for retrofitting

**1093553 - AZ 15/16-B1-1747**



- For play-free interlocking of light guards
- The magnetic latch can be easily fitted in any actuating plane
- Suitable for retrofitting

**1108276 - AZ 15/16-B1-2024**



**1108278 - AZ 15/16-B1-2024 WITH SLOT SEALING PLUG**



- For protection against the ingress of course dirt

**1111079 - AZ 15/16-B1-2053**

- For interlocking of light to medium-weight guards



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**1111081 - AZ 15/16-B1-2053 WITH BALL LATCH**

- For interlocking of light to medium-weight guards



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**1126793 - AZ 15/16-B1-2177**

- For interlocking of light, unguided guards



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**1126794 - AZ 15/16-B1-2177 WITH CENTERING GUIDE**

- For interlocking of light, unguided guards



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**1137408 - AZ 15/16-B1-2245**

- Damps vibration on guard device



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**1095558 - AZ 15/16-B2**

- For very small actuating radii in line with the plane of the actuator



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**1096091 - AZ 15/16-B2-1747**

- For very small actuating radii in line with the plane of the actuator
- Suitable for retrofitting
- For play-free interlocking of light guards



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**1096089 - AZ 15/16-B2-1747 WITH MAGNETIC LATCH**

- For very small actuating radii in line with the plane of the actuator
- Suitable for retrofitting
- For play-free interlocking of light guards
- The magnetic latch can be easily fitted in any actuating plane





**1095550 - AZ 15/16-B3**

- For very small actuating radii at 90° to the plane of the actuator



**1096090 - AZ 15/16-B3-1747 WITH MAGNETIC LATCH**

- For very small actuating radii at 90° to the plane of the actuator
- Suitable for retrofitting
- For play-free interlocking of light guards
- The magnetic latch can be easily fitted in any actuating plane



**1096092 - AZ 15/16-B3-1747**

- For very small actuating radii at 90° to the plane of the actuator
- Suitable for retrofitting
- For play-free interlocking of light guards



**1137434 - AZ 15/16-B6**

- For very small actuating radii in line with or at 90° to the plane of the actuator

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**Door-handle system**

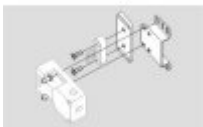


**AZ 16-ST30**

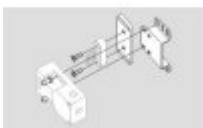
- Latching handle
- Suitable for all types of guard

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**Accessories**



**1149214 - Mounting set MS AZ 15/16 R/P**



**1150373 - Mounting set MS AZ 15/16 P**

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**1089116 - Slot sealing plugs AZ 15/16-1476**

- For protection against the ingress of coarse dirt





- To cover unused actuator slots
- Simple clip-in fitting



#### **1115025 - Ball latch 2053-2**

- Additional ball latch for stable latching of light to medium-weight guards
- For separate mounting on the guard



#### **1110500 - SZ 16/335**

- To prevent inadvertent closing, e.g. during maintenance
- For complex plant
- Prevents actuation of the switch
- Up to 6 padlocks can be fitted
- The lockout tag can be mounted on a chain near to the safety switch

### **Mounting accessories**



#### **1135338 - TAMPERPROOF SCREWS M 5 x 12**

- To mount the actuator
- Higher protection against tampering with interlock
- Protects against unauthorised removal of actuator
- Various lengths available



#### **1135339 - TAMPERPROOF SCREWS M 5 x 16**

- To mount the actuator
- Higher protection against tampering with interlock
- Protects against unauthorised removal of actuator
- Various lengths available



#### **1135340 - TAMPERPROOF SCREWS M 5 x 20**

- To mount the actuator
- Higher protection against tampering with interlock
- Protects against unauthorised removal of actuator
- Various lengths available