

## Datasheet - AZ 16ZVRK

Safety switch with separate actuator / AZ 16



- 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
- 3 cable entries M 16 x 1.5
- LED version available

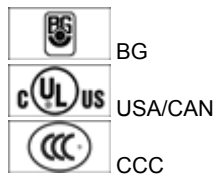
(Minor differences between the printed image and the original product may exist!)

### Ordering details

Product type description	AZ 16ZVRK
Article number	1152094
EAN code	4030661164700

### Approval

Approval




### Classification

Standards	EN ISO 13849-1
B <sub>10d</sub> Opener (NC)	2.000.000
B <sub>10d</sub> Normally open contact (NO)	1.000.000
- notice	at 10% I <sub>e</sub> and ohmic load
Mission time	20 Years
notice	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{zyklus}}$

### Global Properties

Product name	AZ 16
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)	Yes
Latching force	30 N
With ejection force (Y/N)	No
Positive break force	10 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	Normally open contact (NO), Opener (NC)
Switching principle	Creep circuit element
Number of auxiliary contacts	1 piece
Number of safety contacts	1 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.

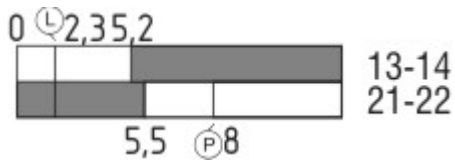
## Diagram



Note Diagram

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

## Switch travel diagram



Notes Switch travel diagram

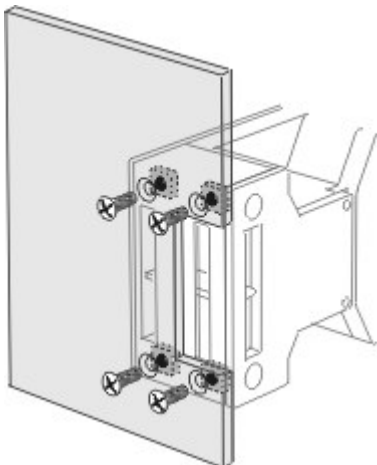
- Contact closed
  - Contact open
  - Setting range
  - Break point
  - Positive opening sequence/- angle
- VS** adjustable range of NO contact  
**VÖ** adjustable range of NC contact  
**N** after travel

## Ordering suffix

The applicable ordering suffix is added at the end of the part number of the safety switch.  
Order example: AZ 16ZVRK-2254

...-2254

Latching force 5 N



...- 1762

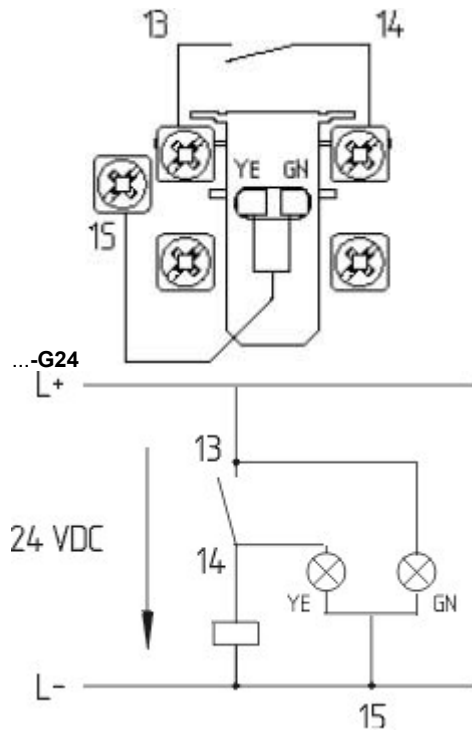
Versions with M5 nuts  
For front mounting of safety switch, e.g. on sheet-steel covers  
Cannot be retrofitted

...-1637

0,3 µm gold-plated contacts

...- M20

cable entries M20



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

## 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

1637 gold-plated contacts

## Documents

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**Operating instructions and Declaration of conformity** (de) 396 kB, 18.02.2011

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/DE/mrl\\_az15-16\\_de.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/DE/mrl_az15-16_de.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/EN/mrl\\_az15-16\\_en.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/EN/mrl_az15-16_en.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/FR/mrl\\_az15-16\\_fr.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/FR/mrl_az15-16_fr.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/pt/mrl\\_az15-16\\_pt.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/pt/mrl_az15-16_pt.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/ES/mrl\\_az15-16\\_es.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/ES/mrl_az15-16_es.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/AZ\\_15\\_16\\_ACE/br/mrl\\_az15-16\\_br.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/AZ_15_16_ACE/br/mrl_az15-16_br.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/AZ\\_15\\_16\\_ACE/pt/mrl\\_az15-16\\_pt.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/AZ_15_16_ACE/pt/mrl_az15-16_pt.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/JP/mrl\\_az15-16\\_jp.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/JP/mrl_az15-16_jp.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/IT/mrl\\_az15-16\\_it.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/IT/mrl_az15-16_it.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/bedien/NL/mrl\\_az15-16\\_nl.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/bedien/NL/mrl_az15-16_nl.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/baumuste/z\\_z15p02.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/baumuste/z_z15p02.pdf)

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

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/baumuste/z\\_z15p01.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/baumuste/z_z15p01.pdf)

**CCC certification** (cn) 730 kB, 12.12.2006

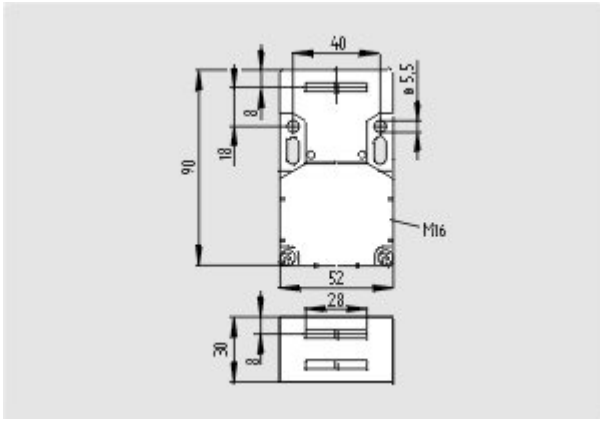
[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/zertifikat/q\\_175p03.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/zertifikat/q_175p03.pdf)

**Gost certification** (ru) 1 MB, 21.06.2007

[http://127.0.0.1/Bilddata/AZ/Pdf/Az15\\_16/zertifikat/q\\_az1p01.pdf](http://127.0.0.1/Bilddata/AZ/Pdf/Az15_16/zertifikat/q_az1p01.pdf)

## 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**

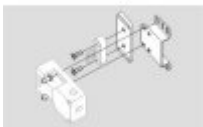


**AZ 16-ST30**

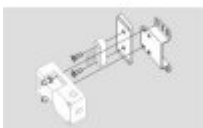
- Latching handle
- Suitable for all types of guard

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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