

## Datasheet - AZ 16ZVK

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

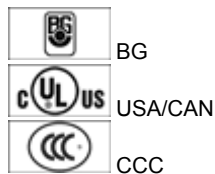
(Minor differences between the printed image and the original product may exist!)

### Ordering details

Product type description	AZ 16ZVK
Article number	1152887
EAN code	4030661166773

### 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	120 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	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



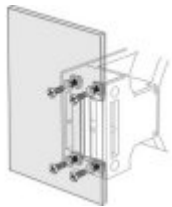
Notes Switch travel diagram

-  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 16ZVK- **1762**



...- **1762**

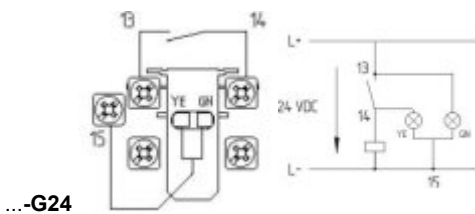
Versions with M5 nuts  
For front mounting of safety switch, e.g. on sheet-steel covers  
Cannot be retrofitted

...-**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.

...G24

## 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

**Operating instructions and Declaration of conformity** (de) 427 kB, 21.01.2010

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

**Operating instructions and Declaration of conformity** (pt) 445 kB, 02.03.2010

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

**Operating instructions and Declaration of conformity** (es) 349 kB, 27.11.2009

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

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

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

**Operating instructions and Declaration of conformity** (nl) 344 kB, 27.11.2009

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

**Operating instructions and Declaration of conformity** (en) 435 kB, 21.01.2010

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

**Operating instructions and Declaration of conformity** (jp) 526 kB, 27.11.2009

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

**Operating instructions and Declaration of conformity (fr)** 430 kB, 27.11.2009

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

**BG-test certificate (en)** 1 MB, 07.03.2007

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

**BG-test certificate (de)** 2 MB, 07.03.2007

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

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

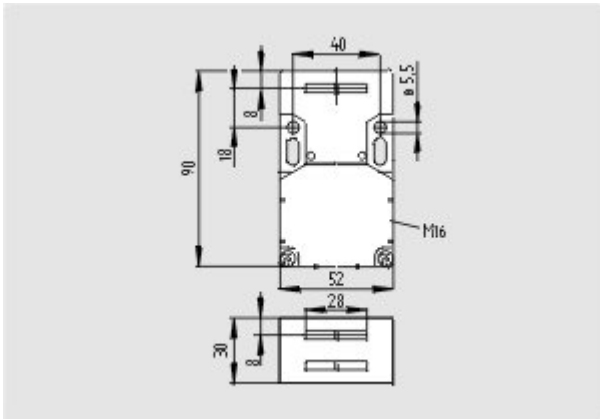
[http://www.schmersal.net/Bilddata/AZ/Pdf/Az15\\_16/zertifikat/q\\_175p03.pdf](http://www.schmersal.net/Bilddata/AZ/Pdf/Az15_16/zertifikat/q_175p03.pdf)

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

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

## Images

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Dimensional drawing (basic component)

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## System components

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### 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

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



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

- For protection against the ingress of course dirt



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**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





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

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



**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



**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-STS30**

- Latching handle
- Suitable for all types of guard

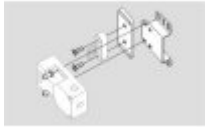


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## Accessories



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



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



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

- For protection against the ingress of course 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

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## 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



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#### **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

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

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