

## Datasheet - AZ 16-02ZVRK-ST

Safety switch with separate actuator / AZ 16



Preferred typ



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

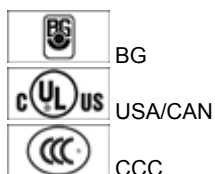
- thermoplastic enclosure
- Double-insulated
- Large wiring compartment
- 52 mm x 90 mm x 30 mm
- Multiple coding
- Long life
- High level of contact reliability with low voltages and currents
- Slotted holes for adjustment, circular holes for location
- 2 cable entries M 16 x 1.5
- Connector M12, 4-pole

### Ordering details

Product type description	AZ 16-02ZVRK-ST
Article number	101143125
EAN code	4030661127224

### Approval

Approval




### Classification

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

### 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

Connector M12

Mechanical life

> 1.000.000 operations

higher Latching force (Y/N)

Yes

Latching force

30 N

With ejection force (Y/N)

No

Positive break force

20 N

positive break travel

8 mm

Actuating speed

max. 2 m/s

### 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  $U_{imp}$

6 kV

Rated insulation voltage  $U_i$

500 V

Thermal test current  $I_{the}$

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

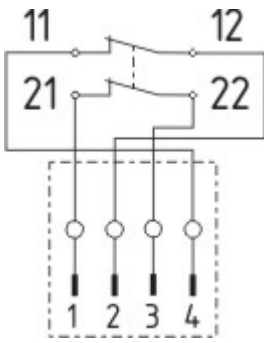
30 mm

### Included in delivery






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Actuators must be ordered separately.

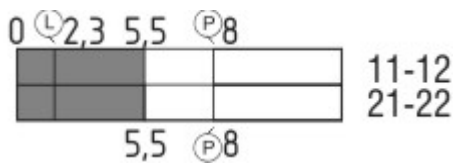
## Diagram








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 16-02ZVRK-ST-**2254**

...-2254	Latching force 5 N
...L	Plug-in connection M12 left
...R	Plug-in connection M12 right
...-M20	cable entries M20

## Ordering code

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

(1)

without

02

03

12

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

2 Opener (NC)

3 Opener (NC)

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

(2)

without

R

Ejection force

Latching force 30 N

(3)

G24

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

(4)

without

M20

ST

STL

STR

Cable entry M16

Cable entry M20

Connector M12, 4-pole, bottom

Connector M12, 4-pole, left

Connector M12, 4-pole, right

(5)

2254

1762

1637

Latching force 5 N

Front mounting

gold-plated contacts

## 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) 268 kB, 21.08.2013

Code: mrl\_az15-16\_pt

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

Code: mrl\_az15-16\_pt

**Operating instructions and Declaration of conformity** (de) 248 kB, 28.05.2013

Code: mrl\_az15-16\_de

**Operating instructions and Declaration of conformity** (fr) 268 kB, 29.07.2013

Code: mrl\_az15-16\_fr

**Operating instructions and Declaration of conformity** (jp) 374 kB, 10.07.2013

Code: mrl\_az15-16\_jp

**Operating instructions and Declaration of conformity** (cs) 400 kB, 11.10.2011

Code: mrl\_az15-16\_cs

**Operating instructions and Declaration of conformity** (es) 266 kB, 30.07.2013

Code: mrl\_az15-16\_es

**Operating instructions and Declaration of conformity** (pl) 298 kB, 02.07.2013

Code: mrl\_az15-16\_pl

**Operating instructions and Declaration of conformity** (sv) 462 kB, 25.10.2011

Code: mrl\_az15-16\_sv

**Operating instructions and Declaration of conformity (da)** 398 kB, 17.11.2011

Code: mrl\_az15-16\_da

**Operating instructions and Declaration of conformity (en)** 260 kB, 28.05.2013

Code: mrl\_az15-16\_en

**Operating instructions and Declaration of conformity (ro)** 400 kB, 18.11.2011

Code: mrl\_az15-16\_ro

**Operating instructions and Declaration of conformity (nl)** 266 kB, 02.07.2013

Code: mrl\_az15-16\_nl

**Operating instructions and Declaration of conformity (it)** 261 kB, 02.07.2013

Code: mrl\_az15-16\_it

**Mounting and wiring instructions (de, en, fr, it, es, jp)** 181 kB, 12.06.2007

Code: m\_mazp01

**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 (en)** 1 MB, 19.05.2011

Code: q\_175p02

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

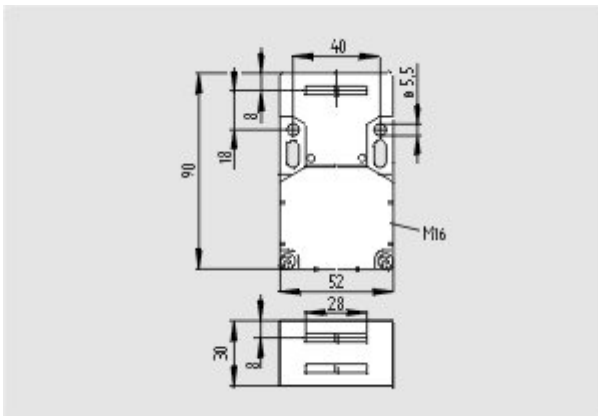
Code: q\_175p03

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

Code: q\_az1p01

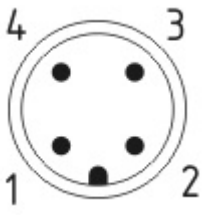
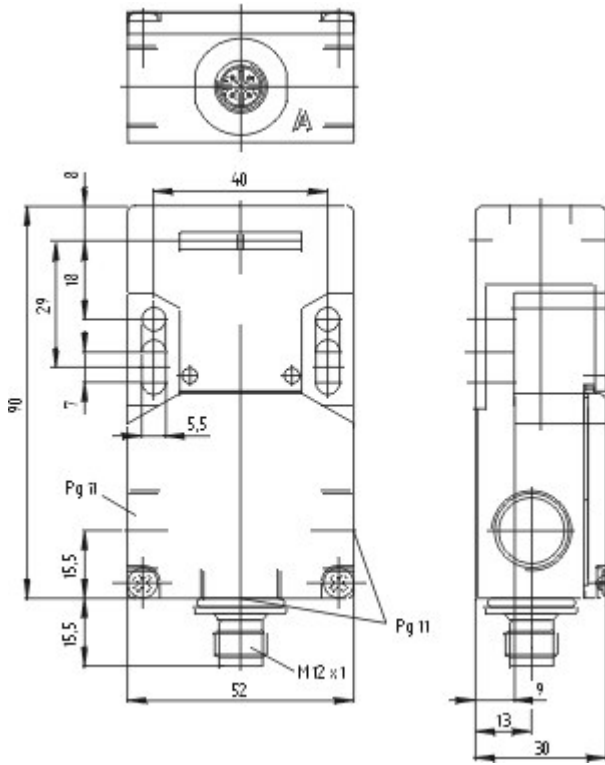
## Images

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Dimensional drawing (basic component)

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Contact arrangement

**System components**

**Actuator**

**101083036 - AZ 15/16-B1**



**101092711 - AZ 15/16-B1-1747**

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



**101093553 - 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





**101108276 - AZ 15/16-B1-2024**



**101108278 - AZ 15/16-B1-2024 WITH SLOT SEALING PLUG**

- For protection against the ingress of course dirt



**101111079 - AZ 15/16-B1-2053**

- For interlocking of light to medium-weight guards



**101111081 - AZ 15/16-B1-2053 WITH BALL LATCH**

- For interlocking of light to medium-weight guards



**101126793 - AZ 15/16-B1-2177**

- For interlocking of light, unguided guards



**101126794 - AZ 15/16-B1-2177 WITH CENTERING GUIDE**

- For interlocking of light, unguided guards



**101137408 - AZ 15/16-B1-2245**

- Damps vibration on guard device

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**101095558 - AZ 15/16-B2**

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



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**101096091 - 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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**101096089 - 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



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**101095550 - AZ 15/16-B3**

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



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**101096090 - 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



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**101096092 - 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



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**101137434 - 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**

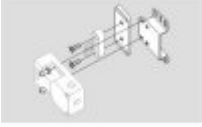
- Latching handle
- Suitable for all types of guard



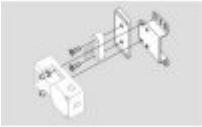


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## Accessories



**101149214 - Mounting set MS AZ 15/16 R/P**



**101150373 - Mounting set MS AZ 15/16 P**



**101089116 - Slot sealing plugs AZ 15/16-1476**

- For protection against the ingress of course dirt
- To cover unused actuator slots
- Simple clip-in fitting



**101115025 - Ball latch 2053-2**

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



**101110500 - 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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## Connector



**A-K4M12**

- Pre-wired cable
- 4-pole

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**S-K4M12**

- Connector without cable
- 4-pole



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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



### **101135339 - 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



### **101135340 - 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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