

## Datasheet - Z4R 255-02z



Position switch / Metal enclosure 255 - EN 50047 with Actuator / 255 Roller plunger with central mounting 4r



- Metal enclosure
- Wide range of alternative actuators
- Good resistance to oil and petroleum spirit
- 63 mm x 63,5 mm x 30 mm
- Snap action with constant contact pressure up to switching point
- 3 cable entries M 20 x 1.5
- Actuator heads can be repositioned by 4 x 90°
- Mounting details to EN 50047

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

### Ordering details

|                          |               |
|--------------------------|---------------|
| Product type description | Z4R 255-02Z   |
| Article number           | 101174988     |
| EAN Code                 | 4030661338125 |
| eCl@ss                   | 27-27-26-01   |

### Approval


Approval



### Classification

|                                   |   |
|-----------------------------------|---|
| Standards                         | ISO 13849-1   |
| B10d Normally-closed contact (NC) | 20.000.000  |
| Mission time notice               | 20 Years  |
|                                   | $MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$                              |
|                                   | $n_{op} = \frac{d_{op} \times h_{cp} \times 3600 \text{ s/h}}{t_{cycle}}$ |

### Global Properties

|  |   |
|--|---|
| Permanent light  | Z 255 Rollendruckbolzen mit Zentralbefestigung 4R |
| Standards  | IEC 60947-5-1, ISO 13849-1, BG-GS-ET-15           |
| Compliance with the Directives (Y/N)  | Yes   |
| Suitable for safety functions (Y/N)  | Yes   |
| Materials  |   |
| - Material of the housings   | Zink  |
| - Material of the contacts   | Silver  |
| Housing coating  | painted   |
| Housing construction form  | Norm construction design                          |


## Mechanical data

|   |   |
|---|---|
| Design of electrical connection                         | Screw connection  |
| Cable section   |   |
| - Min. Cable section                                    | 0,75  |
| - Max. Cable section                                    | 2.5   |
| Mechanical life   | 20.000.000 operations   |
| Switching frequency                                     | max. 5000 /h  |
| notice  | All indications about the cable section are including the conductor ferrules. |
| Design of actuating element                             | Roller plunger  |
| Actuating force   | min. 9 N  |
| Bounce duration   | < 3   |
| Switchover time   | > 5.5   |
| Positive break force                                    | 19 N  |
| Actuating speed with actuating angle 30° to switch axis |   |
| - Min. Actuating speed                                  | 20 mm/min   |
| - Max. Actuating speed                                  | 1 m/s   |

## Ambient conditions

|                                  |        |
|----------------------------------|--------|
| Ambient temperature              |        |
| - Min. environmental temperature | -30 °C |
| - Max. environmental temperature | +80 °C |
| Protection class                 | IP67   |

## Electrical data

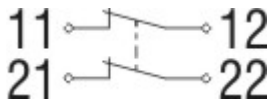
|   |  |
|---|--|
| Design of control element   | Opener (NC)                              |
| Switching principle   | Snap switch element                      |
| positive break NC contact  |  |
| Number of auxiliary contacts  | 0  |
| Number of safety contacts   | 2  |
| Rated impulse withstand voltage $U_{imp}$   | 6 kV                                     |
| Rated insulation voltage $U_i$  | 500 V                                    |
| Thermal test current $I_{the}$  | 10 A                                     |
| Utilisation category  | AC-15: 230 V / 4 A,<br>DC-13: 24 V / 1 A |
| Required rated short-circuit current  | 1000 A                                   |
| Max. fuse rating  | 6 A gG D-fuse                            |

## Dimensions

Dimensions of the sensor

|                    |          |
|--------------------|----------|
| - Width of sensor  | 63 mm    |
| - Height of sensor | 103.5 mm |
| - Length of sensor | 30 mm    |

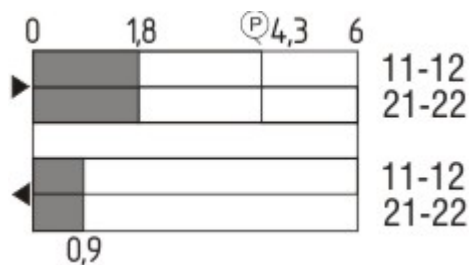
## Diagram



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

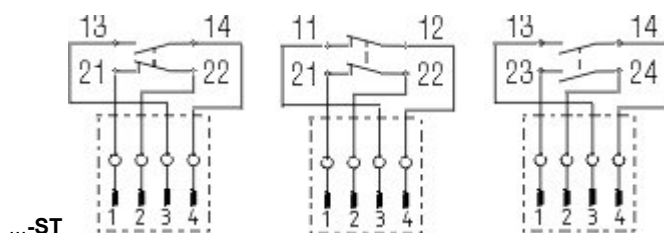
## Ordering suffix

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

Order example: Z4R 255-02z-**1637**

...-**1637**

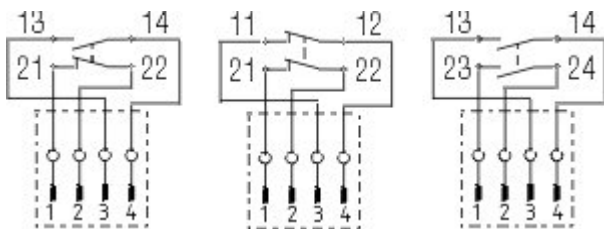
0,3 µm gold-plated contacts



...-**ST**

M12 connector with A-coding  
 Rated impulse withstand voltage  $U_{imp}$ : 0,8 kV  
 Rated insulation voltage  $U_i$ : 50 V  
 Operating current  $I_e$ : AC-15: 50 V / 4 A  
 Caution! The versions with connector may only be used in PELV circuits to EN 60204-1.

M12 connector with B-coding



...-2310

...-NPT

...-1297

Rated impulse withstand voltage  $U_{imp}$ : 0,8 kV

Rated insulation voltage  $U_i$ : 50 V

Operating current  $I_e$ : AC-15: 50 V / 4 A

Caution! The versions with connector may only be used in PELV circuits to EN 60204-1.

Cable entry NPT 1/2"

Enclosure with transverse slotted holes

## Ordering code

(1)(2) 2(3)5-(4)Z(5)-(6)-(7)-(8)-(9)

(1)

Z

T

(2)

S

R

4S

4R

1R

K

3K

4K

K4

1H

7H

10H

12H

14H

AF

(3)

3

5

(4)

02

11

20

(5)

H

UE

(6)

without

ID

NPT

ST

ST-2310

Snap action

Slow action

Plunger S

Roller plunger R

Plunger 4S

Roller plunger 4R

Offset roller lever 1R

Offset roller lever K

Angle roller lever 3K

Angle roller lever 4K

Angle roller lever K4

Roller lever 1H

Roller lever 7H

Rod lever 10H

Roller lever 12H

Roller lever 14H

Spring rod lever AF

slim design

large design

2 Opener (NC)

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

2 Normally open contact (NO), (Switch with 2 NO contacts are not for security tasks)

Slow action with staggered contacts

Slow action with overlapping contacts

Cable entry M20

IDC method of termination

cable entry NPT 1/2"

M12 connector with A-coding (Caution! The versions with connector may only be used in PELV circuits to EN 60204-1.)

M12 connector with B-coding (Caution! The versions with connector may

only be used in PELV circuits to EN 60204-1.)

(7)

2574

(8)

2138

Roller lever 7H for Position switches with safety function

(9)

1637

gold-plated contacts

## Documents

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**Operating instructions and Declaration of conformity (en)** 160 kB, 15.06.2018

Code: mrlk\_zt235\_236\_en

**Operating instructions and Declaration of conformity (es)** 161 kB, 21.06.2018

Code: mrlk\_ZT235\_236\_es

**Operating instructions and Declaration of conformity (de)** 160 kB, 15.06.2018

Code: mrlk\_ZT235\_236\_de

**Operating instructions and Declaration of conformity (pl)** 198 kB, 27.06.2018

Code: mrlk\_ZT235\_236\_pl

**Operating instructions and Declaration of conformity (nl)** 162 kB, 15.06.2018

Code: mrlk\_ZT235\_236\_nl

**Operating instructions and Declaration of conformity (pt)** 163 kB, 27.06.2018

Code: mrlk\_ZT235\_236\_pt

**Operating instructions and Declaration of conformity (it)** 162 kB, 15.06.2018

Code: mrlk\_ZT235\_236\_it

**Operating instructions and Declaration of conformity (fr)** 164 kB, 15.06.2018

Code: mrlk\_ZT235\_236\_fr

**Operating instructions and Declaration of conformity (cs)** 194 kB, 25.01.2019

Code: mrlk\_ZT235\_236\_cs

**Declaration of conformity (es)** 91 kB, 18.06.2018

Code: KAS\_konfi\_nsr\_zt2xx-3xx\_es

**Declaration of conformity (pl)** 130 kB, 18.06.2018

Code: KAS\_konfi\_nsr\_zt2xx-3xx\_pl

**Declaration of conformity (it)** 89 kB, 18.06.2018

Code: KAS\_konfi\_nsr\_zt2xx-3xx\_it

**Declaration of conformity (pt)** 90 kB, 18.06.2018

Code: KAS\_konfi\_nsr\_zt2xx-3xx\_pt

**Declaration of conformity (fr)** 89 kB, 18.06.2018

Code: KAS\_konfi\_nsr\_zt2xx-3xx\_fr

**Declaration of conformity (de)** 581 kB, 07.06.2018

Code: KAS\_konfi\_nsr\_zt2xx-3xx\_de

**Declaration of conformity** (en) 579 kB, 07.06.2018

Code: KAS\_konfi\_nsr\_zt2xx-3xx\_en

**Declaration of conformity** (nl) 89 kB, 18.06.2018

Code: KAS\_konfi\_nsr\_zt2xx-3xx\_nl

**CCC certification** (cn) 4 MB, 11.04.2018

Code: q\_235p02

**CCC certification** (en) 4 MB, 27.10.2017

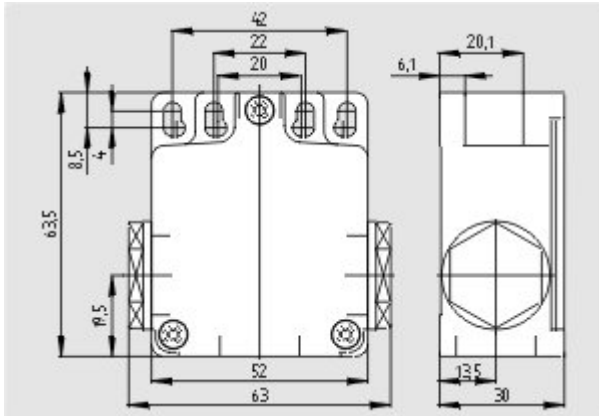
Code: q\_235p01

**EAC certification** (ru) 844 kB, 05.10.2015

Code: q\_6037p17\_ru

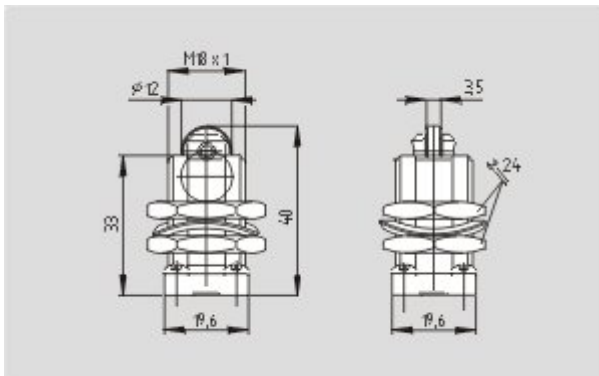
## Images

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Dimensional drawing (basic component)

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Dimensional drawing (actuator)

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

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