

Datasheet - Z3K 235-11Z



Position switch / 235 Metal enclosure - DIN EN 50047 with Actuator / 235 Angle roller lever
3K

Preferred typ



- Metal enclosure
- Wide range of alternative actuators
- Good resistance to oil and petroleum spirit
- 30 mm x 63,5 mm x 30 mm
- Snap action with constant contact pressure up to switching point
- slim design
- Actuator heads can be repositioned by 4 x 90°
- Mounting details to EN 50047
- 1 Cable entry M 20 x 1.5
- Actuation from bottom parallel to the switch, therefore only suitable for small housings.

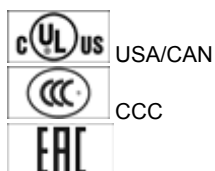
(Minor differences between the printed image and the original product may exist!)

Ordering details

| | |
|--------------------------|---------------|
| Product type description | Z3K 235-11Z |
| Article number | 101165850 |
| EAN code | 4030661212326 |
| eCl@ss | 27-27-26-01 |

Approval

Approval




Classification

| | |
|------------------------------|-------------|
| Standards | ISO 13849-1 |
| B _{10d} Opener (NC) | 20.000.000 |
| Mission time notice | 20 Years |

$$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$$

$$n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$$

Global Properties

| | |
|--|---|
| Product name | Z 235 Winkelhebel 3K |
| 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 |
| Weight | 150 g |


Mechanical data

| | |
|---|---|
| Design of electrical connection | Screw connection |
| Cable section | |
| - Min. Cable section | 0,75 mm ² |
| - Max. Cable section | 2.5 mm ² |
| 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 | Angle roller lever |
| Actuating force | min. 9 N |
| Bounce duration | < 3 ms |
| Switchover time | > 5.5 ms |
| Positive break force | 19 N |
| Actuating speed with actuating angle 30° to switch axis | |
| - Min. Actuating speed | 27 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 | Normally open contact (NO), Opener (NC) |
| Switching principle | Snap switch element |
| - positive break NC contact  | |
| Number of auxiliary contacts | 1 piece |
| Number of safety contacts | 1 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 / 1 A |
| Required rated short-circuit current | 1000 A |
| Max. fuse rating | 6 A gG D-fuse |

ATEX

Explosion protection categories for gases
Explosion protected category for dusts

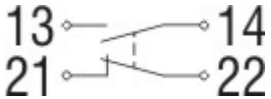
None
None

Dimensions

Dimensions of the sensor

| | |
|--------------------|---------|
| - Width of sensor | 35 mm |
| - Height of sensor | 93.5 mm |
| - Length of sensor | 30 mm |

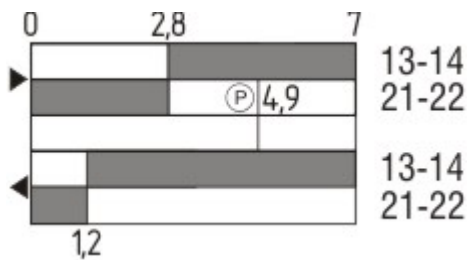
Diagram



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

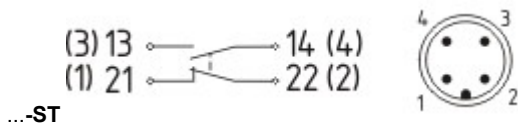
The applicable ordering suffix is added at the end of the part number of the safety switch.

Order example: Z3K 235-11Z-**1637**

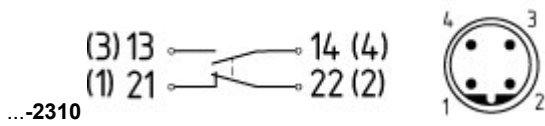
...-**1637** 0,3 µm gold-plated contacts

...-**NPT** Cable entry NPT 1/2"

M12 connector with A-coding



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



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

...-2574

\$missingName\$

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

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

| | |
|----------------|--|
| NPT | cable entry NPT 1/2" |
| ST | M12 connector with A-coding (<i>Caution! The versions with connector may only be used in PELV circuits to EN 60204-1.</i>) |
| ST-2310 | M12 connector with B-coding (<i>Caution! The versions with connector may only be used in PELV circuits to EN 60204-1.</i>) |
| (7) | |
| 2574 | |
| (8) | |
| 2138 | Roller lever 7H for Position switches with safety function |
| (9) | |
| 1637 | gold-plated contacts |

Documents

Operating instructions and Declaration of conformity (da) 304 kB, 21.08.2013

Code: mrl_ZT235_236_da

Operating instructions and Declaration of conformity (de) 302 kB, 09.03.2016

Code: mrl_ZT235_236_de

Operating instructions and Declaration of conformity (en) 334 kB, 09.03.2016

Code: mrl_ZT235_236_en

Operating instructions and Declaration of conformity (pl) 358 kB, 16.04.2014

Code: mrl_ZT235_236_pl

Operating instructions and Declaration of conformity (pt) 323 kB, 15.07.2014

Code: mrl_ZT235_236_pt

Operating instructions and Declaration of conformity (es) 318 kB, 13.04.2016

Code: mrl_ZT235_236_es

Operating instructions and Declaration of conformity (it) 300 kB, 16.04.2014

Code: mrl_ZT235_236_it

Operating instructions and Declaration of conformity (fr) 321 kB, 16.04.2014

Code: mrl_ZT235_236_fr

Operating instructions and Declaration of conformity (jp) 574 kB, 16.04.2014

Code: mrl_ZT235_236_jp

Operating instructions and Declaration of conformity (nl) 318 kB, 16.04.2014

Code: mrl_ZT235_236_nl

CCC certification (cn) 782 kB, 28.06.2016

Code: q_235p02

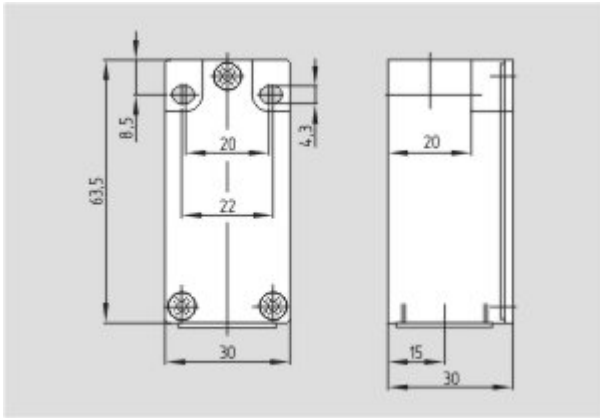
CCC certification (en) 803 kB, 28.06.2016

Code: q_235p01

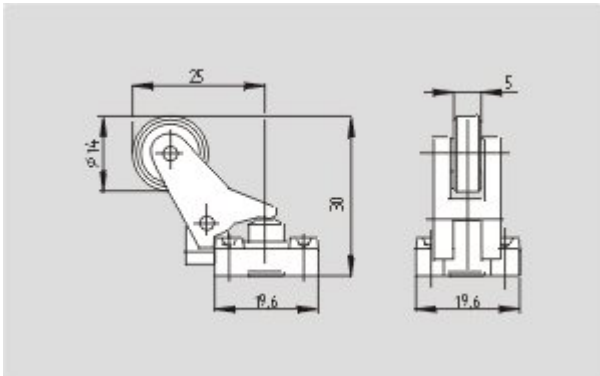
EAC certification (ru) 844 kB, 05.10.2015

Code: q_6037p17_ru

Images



Dimensional drawing (basic component)



Dimensional drawing (actuator)

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

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