22.05.2017
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Datasheet - Z3K 235-11Z

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

☒ Preferred typ



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

- 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.

Ordering details

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

Approval

Approval	cULus USA/CAN CCC EAC

Classification

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

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) CE	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 mm²
- Max. Cable section	2.5 mm²
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

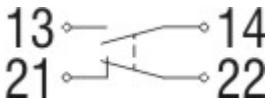
ATEX

Explosion protection categories for gases	None
Explosion protected category for dusts	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

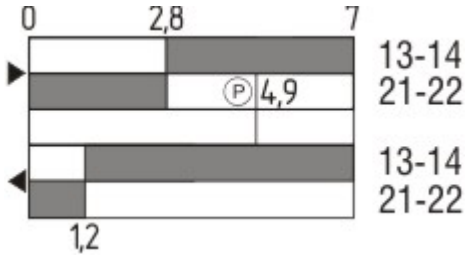
active

no active

Normally-open contact

Normally-closed contact

Switch travel diagram



Notes Switch travel diagram

Contact closed

Contact open

Setting range

Break point

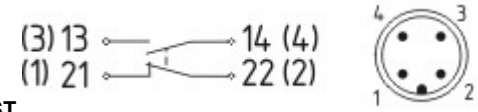
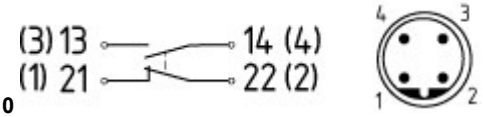
Positive opening sequence/- angle

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

...**-ST**		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.
...**-2310**		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	Snap action
T	Slow action

(2)

S	Plunger S
R	Roller plunger R
4S	Plunger 4S
4R	Roller plunger 4R
1R	Offset roller lever 1R
K	Offset roller lever K
3K	Angle roller lever 3K
4K	Angle roller lever 4K
K4	Angle roller lever K4
1H	Roller lever 1H
7H	Roller lever 7H
10H	Rod lever 10H
12H	Roller lever 12H
14H	Roller lever 14H
AF	Spring rod lever AF

(3)

3	slim design
5	large design

(4)

02	2 Opener (NC)
11	1 Normally open contact (NO) / 1 Opener (NC)
20	2 Normally open contact (NO), *(Switch with 2 NO contacts are not for security tasks)*

(5)

H	Slow action with staggered contacts
UE	Slow action with overlapping contacts

(6)

without	Cable entry M20
ID	IDC method of termination

NPT	cable entry NPT 1/2"
ST	M12 connector with A-coding *(Caution! The versions with connector may only be used in PELV circuits to EN 60204-1.)*
ST-2310	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

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) 354 kB, 25.07.2016
Code: mrl_ZT235_236_pl

Operating instructions and Declaration of conformity (pt) 321 kB, 25.07.2016
Code: mrl_ZT235_236_pt

Operating instructions and Declaration of conformity (es) 318 kB, 22.11.2016
Code: mrl_ZT235_236_es

Operating instructions and Declaration of conformity (br) 323 kB, 01.03.2017
Code: mrl_ZT235_236_br

Operating instructions and Declaration of conformity (it) 314 kB, 25.07.2016
Code: mrl_ZT235_236_it

Operating instructions and Declaration of conformity (fr) 320 kB, 25.07.2016
Code: mrl_ZT235_236_fr

Operating instructions and Declaration of conformity (jp) 574 kB, 16.04.2014
Code: mrl_ZT235_236_jp

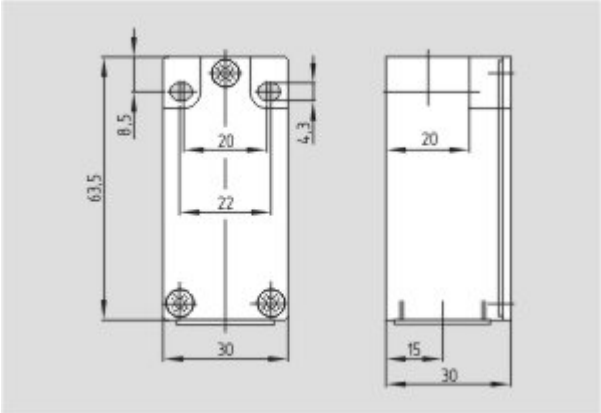
Operating instructions and Declaration of conformity (nl) 318 kB, 16.04.2014
Code: mrl_ZT235_236_nl

CCC certification (cn) 782 kB, 28.06.2016
Code: q_235p02

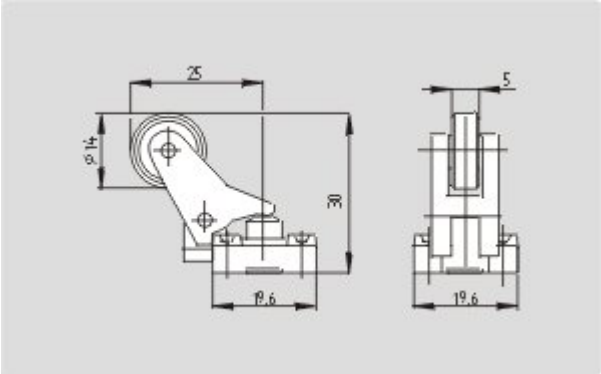
CCC certification (en) 803 kB, 28.06.2016
Code: q_235p01

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 throroughly. Technical modifications and errors excepted.
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