

## Datasheet - TK4 236-11z



Position switch / 236 thermoplastic enclosure - DIN EN 50047 with Actuator / 236 Angle roller lever K4



- thermoplastic enclosure
- Good resistance to oil and petroleum spirit
- Wide range of alternative actuators
- 30 mm x 58,5 mm x 30 mm
- 1 Cable entry M 20 x 1.5
- Double-insulated
- Mounting details to EN 50047
- Actuator heads can be repositioned by 4 x 90°

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

### Ordering details

Product type description	TK4 236-11Z
Article number	1168167
EAN code	4030661221137

### Approval

Approval



USA/CAN

CCC

### Classification

Standards	EN ISO 13849-1
B <sub>10d</sub> Opener (NC)	20 million operations
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	T 236 Winkelhebel K4
Standards	EN 60947-5-1 BG-GS-ET-15

Compliance with the Directives (Y/N) 	Yes
Suitable for safety functions (Y/N)	Yes
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
- Material of the contacts	Silver
Housing coating	None
Housing construction form	Norm construction design
Weight	65 g

## Mechanical data

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Design of actuating element	Angle roller lever
Design of electrical connection	Screw connection
Cable section	
- Min. Cable section	1.5 mm <sup>2</sup>
- Max. Cable section	2.5 mm <sup>2</sup>
Mechanical life	20.000.000 operations
Switching frequency	max. 5000/h
Actuating force	min. 6 N
Bounce duration	in accordance with actuating speed
Switchover time	in accordance with actuating speed
Positive break force	16 N
Actuating speed with actuating angle 30° to switch axis	
- Min. Actuating speed	336 mm/min
- Max. Actuating speed	1 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

## Electrical data

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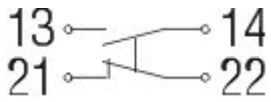
Design of control element	Normally open contact (NO), Opener (NC)
Switching principle	Creep circuit element
- positive break NC contact 	
Number of auxiliary contacts	1 piece
Number of safety contacts	1 piece
Rated impulse withstand voltage $U_{imp}$	6 kV
Rated insulation voltage $U_i$	500 V
Thermal test current $I_{the}$	10 A
Utilisation category	AC-15: 230 V / 4 A, DC-13: 24 V / 1 A
Max. fuse rating	6 A gG D-fuse

## Dimensions

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Dimensions of the sensor	
- Width of sensor	32 mm
- Height of sensor	107 mm
- Length of sensor	30 mm

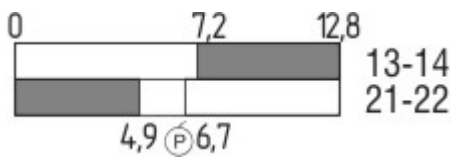
## Diagram



### Note Diagram

- positive break NC contact
- active
- no active
- Normally-open contact
- Normally-closed contact

## Switch travel diagram



### Notes Switch travel diagram

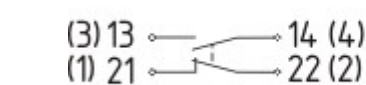
- Contact closed
- Contact open
- Setting range
- Break point
- Positive opening sequence/- angle
- VS** adjustable range of NO contact
- VÖ** adjustable range of NC contact
- N** after travel

## Ordering suffix

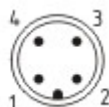
The applicable ordering suffix is added at the end of the part number of the safety switch.

Order example: TK4 236-11z-**1637**

...-1637	0,3 µm gold-plated contacts
...- ID	IDC method of termination
...-NPT	Cable entry NPT 1/2"
...-1297	Enclosure with transverse slotted holes



...-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

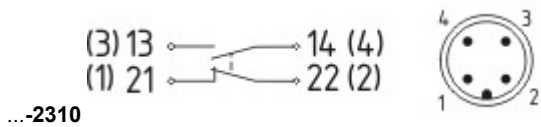
Caution! The versions with connector may only be used in PELV circuits to EN 60204-1.

M12 connector with B-coding

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.

## Ordering code

(1)(2) 2(3)6-(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

(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  
**2310** M12 connector with B-coding

(7)

**1297** Enclosure with transverse slotted holes

(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 (pt)** 395 kB, 15.04.2010  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/bedien/zt235/PT/mrl\\_ZT235\\_236\\_pt.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/bedien/zt235/PT/mrl_ZT235_236_pt.pdf)

**Operating instructions and Declaration of conformity (jp)** 1 MB, 17.11.2010  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/bedien/zt235/JP/mrl\\_ZT235\\_236\\_jp.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/bedien/zt235/JP/mrl_ZT235_236_jp.pdf)

**Operating instructions and Declaration of conformity (nl)** 383 kB, 27.11.2009  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/bedien/zt235/NL/mrl\\_ZT235\\_236\\_nl.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/bedien/zt235/NL/mrl_ZT235_236_nl.pdf)

**Operating instructions and Declaration of conformity (de)** 644 kB, 06.04.2010  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/bedien/zt235/DE/mrl\\_ZT235\\_236\\_de.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/bedien/zt235/DE/mrl_ZT235_236_de.pdf)

**Operating instructions and Declaration of conformity (en)** 535 kB, 01.03.2010  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/bedien/zt235/EN/mrl\\_ZT235\\_236\\_en.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/bedien/zt235/EN/mrl_ZT235_236_en.pdf)

**Operating instructions and Declaration of conformity (es)** 392 kB, 15.04.2010  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/bedien/zt235/ES/mrl\\_ZT235\\_236\\_es.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/bedien/zt235/ES/mrl_ZT235_236_es.pdf)

**Operating instructions and Declaration of conformity (fr)** 400 kB, 15.04.2010  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/bedien/zt235/FR/mrl\\_ZT235\\_236\\_fr.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/bedien/zt235/FR/mrl_ZT235_236_fr.pdf)

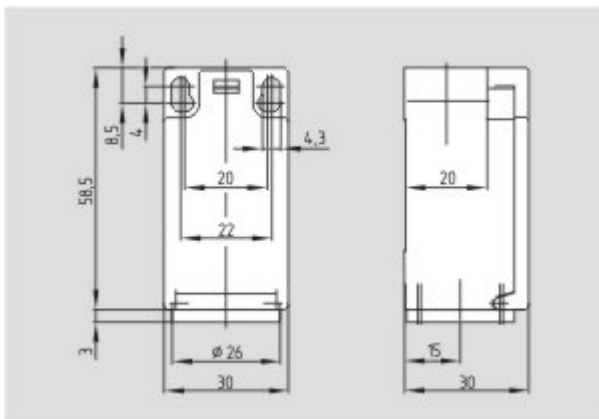
**Operating instructions and Declaration of conformity (it)** 377 kB, 15.04.2010  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/bedien/zt235/IT/mrl\\_ZT235\\_236\\_it.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/bedien/zt235/IT/mrl_ZT235_236_it.pdf)

**CCC certification (cn)** 605 kB, 12.12.2006  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/zertifikat/q\\_347p03.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/zertifikat/q_347p03.pdf)

**CCC certification (en)** 584 kB, 12.12.2006  
[http://127.0.0.1/Bilddata/Si\\_f1/Pdf/Zt235/zertifikat/q\\_347p02.pdf](http://127.0.0.1/Bilddata/Si_f1/Pdf/Zt235/zertifikat/q_347p02.pdf)

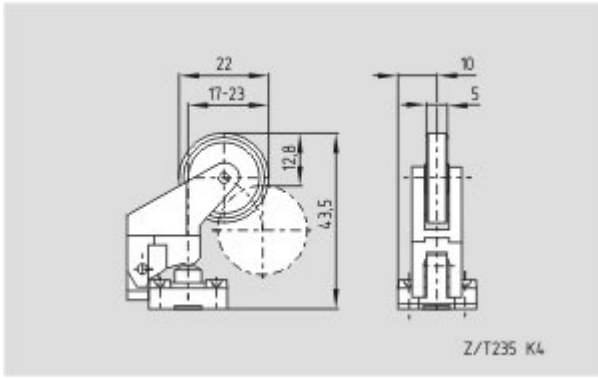
## Images

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Dimensional drawing (basic component)

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Dimensional drawing (actuator)

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K.A. Schmersal GmbH, Möddinghofe 30, D-42279 Wuppertal  
The data and values have been checked thoroughly. Technical modifications and errors excepted.  
Generiert am 21.04.2011 - 17:16:48h Kasbase 1.4.7 DBI

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[GLZ324](#) [PS21R-NT11N7-YK0](#) [D4A-1106N](#) [D4A1201N](#) [D4A-3E02N](#)