

## 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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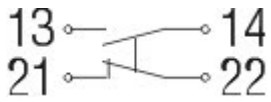
Design of control element	Normally open contact (NO), Opener (NC)
Switching principle	Creep circuit element
- positive break NC contact 	
Number of auxiliary contacts	1 piece
Number of safety contacts	1 piece
Rated impulse withstand voltage U <sub>imp</sub>	6 kV
Rated insulation voltage U <sub>i</sub>	500 V
Thermal test current I <sub>the</sub>	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

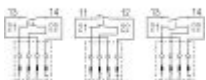
The applicable ordering suffix is added at the end of the part number of the safety switch.

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

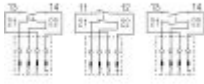
...-**1637** 0,3 µm gold-plated contacts

...- **ID** IDC method of termination

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



...-**ST** M12 connector with A-coding



...- 2310

M12 connector with B-coding

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...-1297

Enclosure with transverse slotted holes

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## Ordering code

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**(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)**

## Documents

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**Operating instructions and Declaration of conformity** (de) 644 kB, 06.04.2010

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/bedien/DE/mrl\\_ZT235\\_236\\_de.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/bedien/DE/mrl_ZT235_236_de.pdf)

**Operating instructions and Declaration of conformity** (pt) 451 kB, 01.03.2010

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/bedien/PT/mrl\\_ZT235\\_236\\_pt.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/bedien/PT/mrl_ZT235_236_pt.pdf)

**Operating instructions and Declaration of conformity** (nl) 383 kB, 27.11.2009

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/bedien/NL/mrl\\_ZT235\\_236\\_nl.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/bedien/NL/mrl_ZT235_236_nl.pdf)

**Operating instructions and Declaration of conformity** (en) 535 kB, 01.03.2010

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/bedien/EN/mrl\\_ZT235\\_236\\_en.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/bedien/EN/mrl_ZT235_236_en.pdf)

**Operating instructions and Declaration of conformity** (es) 391 kB, 27.11.2009

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/bedien/ES/mrl\\_ZT235\\_236\\_es.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/bedien/ES/mrl_ZT235_236_es.pdf)

**Operating instructions and Declaration of conformity** (fr) 399 kB, 27.11.2009

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/bedien/FR/mrl\\_ZT235\\_236\\_fr.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/bedien/FR/mrl_ZT235_236_fr.pdf)

**Operating instructions and Declaration of conformity** (it) 375 kB, 27.11.2009

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/bedien/IT/mrl\\_ZT235\\_236\\_it.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/bedien/IT/mrl_ZT235_236_it.pdf)

**Operating instructions and Declaration of conformity** (jp) 562 kB, 27.11.2009

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/bedien/JP/mrl\\_ZT235\\_236\\_jp.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/bedien/JP/mrl_ZT235_236_jp.pdf)

**CCC certification** (en) 584 kB, 12.12.2006

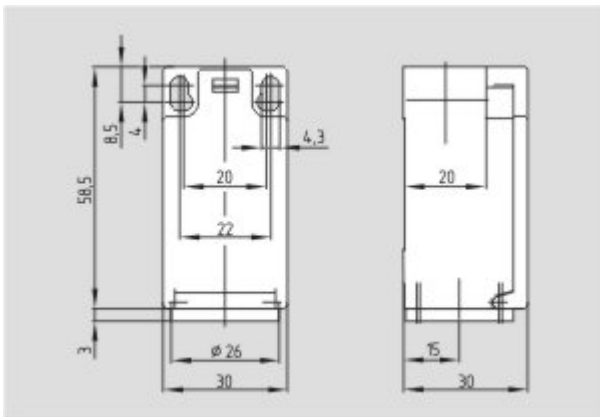
[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/zertifikat/q\\_347p02.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/zertifikat/q_347p02.pdf)

**CCC certification** (cn) 605 kB, 12.12.2006

[http://www.schmersal.net/Bilddata/Si\\_f1/Pdf/Zt235/zertifikat/q\\_347p03.pdf](http://www.schmersal.net/Bilddata/Si_f1/Pdf/Zt235/zertifikat/q_347p03.pdf)

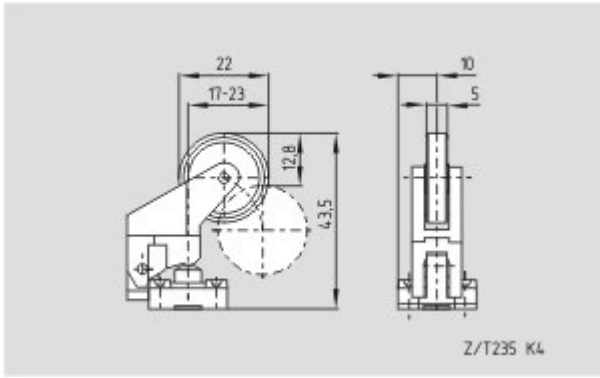
## Images

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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 13.04.2010 - 16:54:59h Kasbase 1.3.5 DBI