

## Datasheet - TV7H 236-20zh

Position switch / 236 Thermoplastic enclosure - EN 50047 with Actuator / 236 Roller lever 7H



- Thermoplastic enclosure
- Good resistance to oil and petroleum spirit
- Wide range of alternative actuators
- 30 mm x 58,5 mm x 30 mm
- slim design
- 1 Cable entry M 20 x 1.5
- Double-insulated
- Mounting details to EN 50047
- Actuator heads can be repositioned by 4 x 90°
- **only for positioning tasks**
- Lever angle adjustable in 10° steps

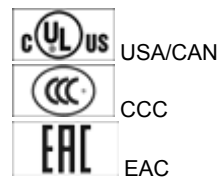
(Minor differences between the printed image and the original product may exist!)

### Ordering details

|                          |               |
|--------------------------|---------------|
| Product type description | TV7H 236-20ZH |
| Article number           | 101145103     |
| EAN Code                 | 4030661136028 |
| eCl@ss                   | 27-27-26-01   |

### Approval

Approval




### Classification

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

### Global Properties

|                 |                             |
|-----------------|-----------------------------|
| Permanent light | T 236 Rollenschwenkhebel 7H |
|-----------------|-----------------------------|

|  |   |
|--|---|
| 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)  | No  |
| Materials  |   |
| - Material of the housings   | Plastic, glass-fibre reinforced thermoplastic, self-extinguishing |
| - Lever material   | Metal film  |
| - Roller material  | Plastic   |
| - Material of the contacts   | Silver  |
| Housing coating  | None  |
| Housing construction form  | Norm construction design  |
| Weight   | 89  |

## Mechanical data

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|   |   |
|---|---|
| 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 lever  |
| actuating torque  | min. 15 Ncm   |
| Bounce duration   | in accordance with actuating speed  |
| Switchover time   | in accordance with actuating speed  |
| Actuating speed with actuating angle 30° to switch axis |   |
| - Min. Actuating speed                                  | 1440 mm/min   |
| - Max. Actuating speed                                  | 1 m/s   |

## 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)               |
| Switching principle                       | Slow action with staggered contacts      |
| Number of auxiliary contacts              | 2  |
| Number of safety contacts                 | 0  |
| 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

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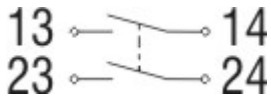
|                          |       |
|--------------------------|-------|
| Dimensions of the sensor |       |
| - Width of sensor        | 30 mm |

|                    |          |
|--------------------|----------|
| - Height of sensor | 158.5 mm |
| - Length of sensor | 49 mm    |

## notice

Switch with 2 NO contacts are not for security tasks

## Diagram



Note Diagram

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

## Switch travel diagram



Notes Switch travel diagram

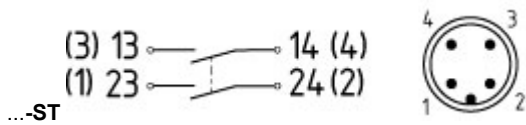
- Contact closed
- Contact open
- Setting range
- Break point
- Positive opening sequence/- angle
- VS** adjustable range of NO contact
- VÖ** adjustable range of NC contact
- N** after travel

## Ordering suffix

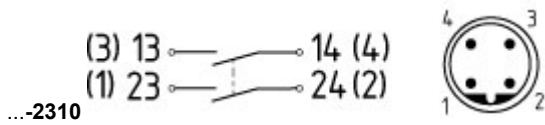
The applicable ordering suffix is added at the end of the part number of the safety switch.

Order example: TV7H 236-20zh-**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 |
| ....-Z    | Actuator head gasket                    |
|           | M12 connector with A-codina             |



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

T

Snap action

Slow action

(2)

S

R

4S

4R

1R

K

3K

4K

K4

1H

7H

10H

12H

14H

AF

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

(3)

3

5

slim design

large design

(4)

02

11

20

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)

(5)

H

UE

Slow action with staggered contacts

Slow action with overlapping contacts

(6)

without

ID

NPT

ST

ST-2310

Cable entry M20

IDC method of termination

cable entry NPT 1/2"

M12 connector with A-coding

M12 connector with B-coding

|                           |  |
|---------------------------|--|
| <b>(7)</b><br><b>1297</b> | Enclosure with transverse slotted holes                    |
| <b>(8)</b><br><b>2138</b> | Roller lever 7H for Position switches with safety function |
| <b>(9)</b><br><b>1637</b> | 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

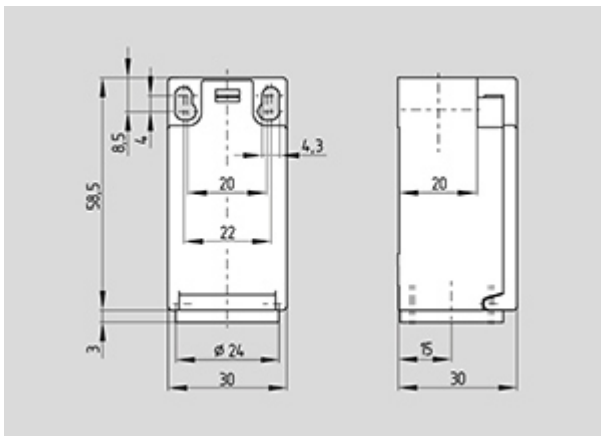
Code: q\_235p01

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

Code: q\_6037p17\_ru

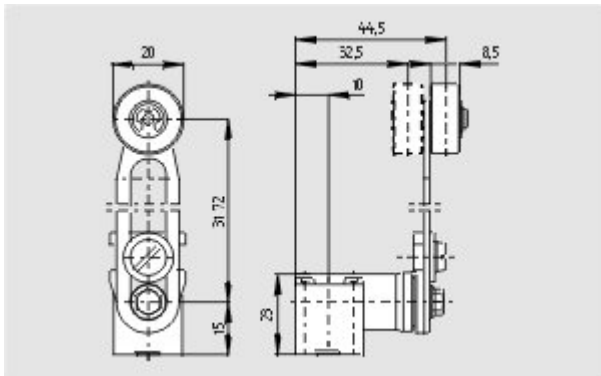
## Images

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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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