

## Datasheet - EX-TV7H 235-20Z-2138-3D



Position switches with safety function / EX-235 Metal enclosure with Actuator / EX-235 Roller lever 7H-2138



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

- Ex certified
- Metal enclosure
- Wide range of alternative actuators
- Good resistance to oil and petroleum spirit
- 30 mm x 63,5 mm x 30 mm
- Actuator heads can be repositioned by 4 x 90°
- Mounting details to EN 50047
- Ex-certified screwed cable gland
- 1 Cable entry M 20 x 1.5
- Lever angle adjustable in 10° steps

### Ordering details

|                          |                         |
|--------------------------|-------------------------|
| Product type description | EX-TV7H 235-20Z-2138-3D |
| Article number           | EX-TV7H 235-20Z-2138-3D |
| EAN Code                 |                         |
| eCl@ss                   | 27-27-26-01             |

### Approval

Approval



EEX

### Classification

|                     |   |
|---------------------|---|
| Standards           | EN ISO 13849-1  |
| 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

|                                      |   |
|--------------------------------------|---|
| Permanent light                      | EX-T 235 Rollenschwenkhebel 7H-2138                             |
| Standards                            | EN 60947-5-1, EN 60079-0, EN 60079-15, EN 60079-31, BG-GS-ET-15 |
| Compliance with the Directives (Y/N) | Yes   |

|                                     |                          |
|-------------------------------------|--------------------------|
| Suitable for safety functions (Y/N) | No                       |
| Materials                           |                          |
| - Material of the housings          | Zink                     |
| - Lever material                    | Metal film               |
| - Roller material                   | Plastic                  |
| - Material of the contacts          | Silver                   |
| Housing coating                     | painted                  |
| Housing construction form           | Norm construction design |
| Weight                              |                          |

## Mechanical data

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|   |   |
|---|---|
| Design of electrical connection                         | Screw connection  |
| Cable cross-section of the cable glands                 |   |
| - Min. Cable cross-section of the cable glands          | 6   |
| - Max. Cable cross-section of the cable glands          | 12  |
| Cable section   |   |
| - Min. Cable section                                    | 0,75  |
| - Max. Cable section                                    | 2.5   |
| AWG-Number  | 13  |
| 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  |
| Positive break torque                                   | 18.5  |
| 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 | -20  |
| - Max. environmental temperature | +60  |
| Protection class                 | IP67 |

## Electrical data

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|   |  |
|---|--|
| Design of control element                 | Normally open contact (NO)               |
| Switching principle                       | Creep circuit element                    |
| 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 |
| Max. fuse rating                          | 6 A gG D-fuse                            |

## ATEX

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|   |  |
|---|--|
| Marking                                   | EX II 3D Ex tc IIIC T90°C Dc X<br>EX II 3G Ex nC IIC T5 Gc X |
| Explosion protection categories for gases | 3G   |
| Explosion protection Zones for gases      | 2  |
| Explosion protected category for dusts    | 3D   |
| Explosion protection Zones for dusts      | 22   |

## Dimensions

|                          |       |
|--------------------------|-------|
| Dimensions of the sensor |       |
| - Width of sensor        | 30    |
| - Height of sensor       | 160.5 |
| - Length of sensor       | 49    |

## notice

Switch with 2 NO contacts are not for security tasks

## Keywords

Keywords Ex, EEx, ATEX, Ex 235, Ex 235, 235 Ex, 235ex, 235ex, ATEX 235

## 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 code

EX-(1)(2) 235-(3)Z-(4)-(5)-(6)-(7)-3D

(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)

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*)

(4)

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

(5)

1297 Enclosure with transverse slotted holes

(6)

2138 Roller lever 7H for Position switches with safety function

(7)

1637 gold-plated contacts

## Documents

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**Operating instructions and Declaration of conformity** (pt) 360 kB, 24.01.2018

Code: mrl\_ex-zt235\_pt

**Operating instructions and Declaration of conformity** (pl) 379 kB, 31.01.2018

Code: mrl\_ex-zt235\_pl

**Operating instructions and Declaration of conformity** (nl) 355 kB, 31.01.2018

Code: mrl\_ex-zt235\_nl

**Operating instructions and Declaration of conformity** (jp) 435 kB, 10.02.2015

Code: mrl\_ex-zt235\_jp

**Operating instructions and Declaration of conformity** (da) 359 kB, 31.01.2018

Code: mrl\_ex-zt235\_da

**Operating instructions and Declaration of conformity** (es) 355 kB, 24.01.2018

Code: mrl\_ex-zt235\_es

**Operating instructions and Declaration of conformity (it)** 355 kB, 31.01.2018

Code: mrl\_ex-zt235\_it

**Operating instructions and Declaration of conformity (de)** 303 kB, 13.11.2017

Code: mrl\_ex-zt235\_de

**Operating instructions and Declaration of conformity (en)** 351 kB, 13.11.2017

Code: mrl\_ex-zt235\_en

**Operating instructions and Declaration of conformity (fr)** 360 kB, 31.01.2018

Code: mrl\_ex-zt235\_fr

**Brochure (de)** 7 MB, 19.10.2016

Code: b\_atep01\_de

**Brochure (en)** 7 MB, 19.10.2016

Code: b\_atep01\_en

**Brochure (it)** 3 MB, 20.07.2007

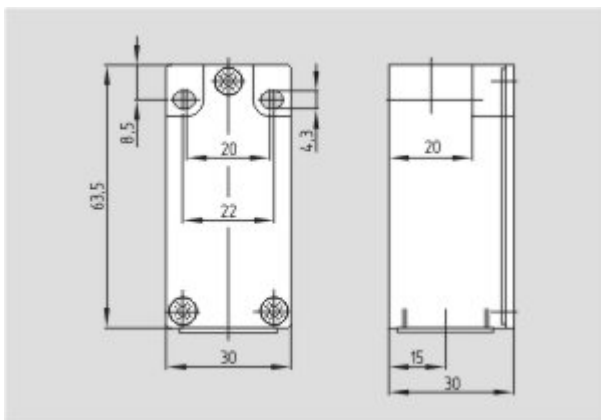
Code: b\_atep05

**Brochure (es)** 5 MB, 18.08.2009

Code: b\_atep09

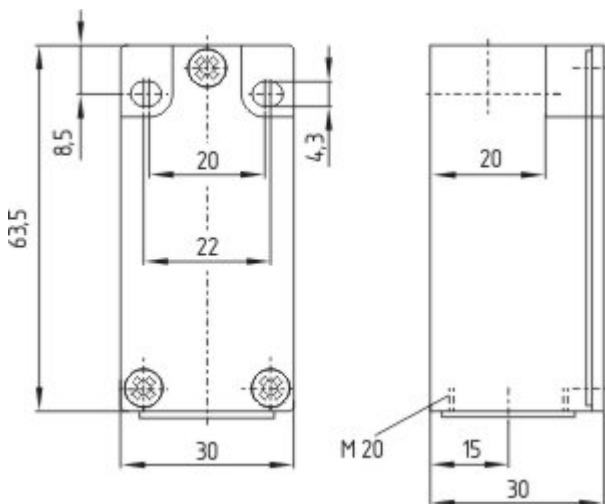
## Images

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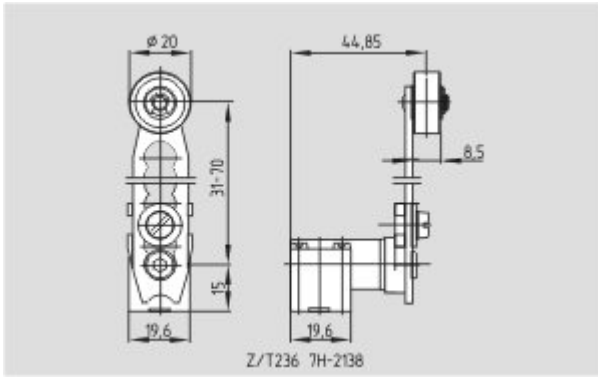


Dimensional drawing (basic component)

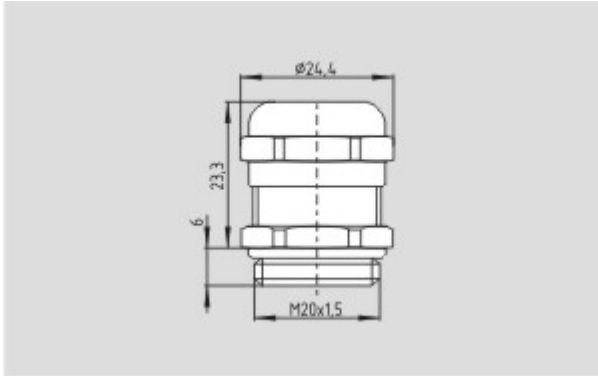
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Dimensional drawing (basic component)



Dimensional drawing (actuator)



Dimensional drawing (miscellaneous)

K.A. Schmersal GmbH & Co. KG, Mödinghofe 30, D-42279 Wuppertal

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

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