

## Datasheet - EX-TV1H 235-20Z-3D



Position switches with safety function / EX-235 Metal enclosure with Actuator / EX-235 Roller lever 1H



(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-TV1H 235-20Z-3D
Article number	EX-TV1H 235-20Z-3D
EAN Code	
eCl@ss	27-27-26-01

### Approval

Approval



EEX

### Classification

Standards	EN 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	EX-T 235 Rollenschwenkhebel 1H
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
Actuator type	A to EN 50047
Materials	
- Material of the housings	Zink
- Lever material	Plastic
- 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	492 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, DC-13: 24 V / 1 A
Max. fuse rating	6 A gG D-fuse

## ATEX

Marking	EX II 3D Ex tc IIIC T90°C Dc X 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	111
- Length of sensor	42.5

## 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

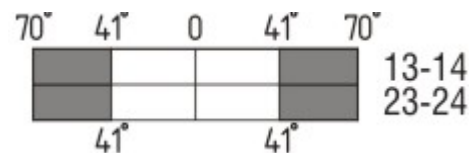
## Diagram



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

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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

**Operatina instructions and Declaration of conformitv** (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

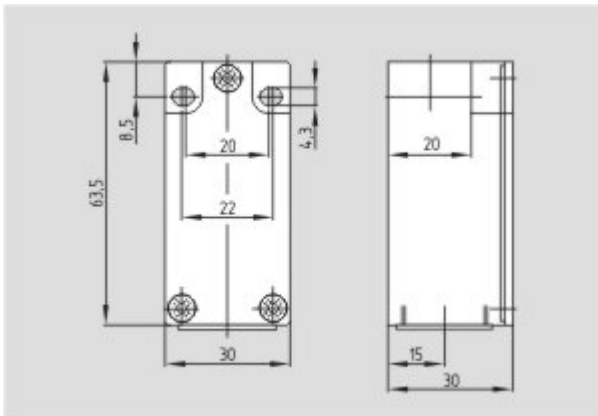
Code: b\_atep05

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

Code: b\_atep09

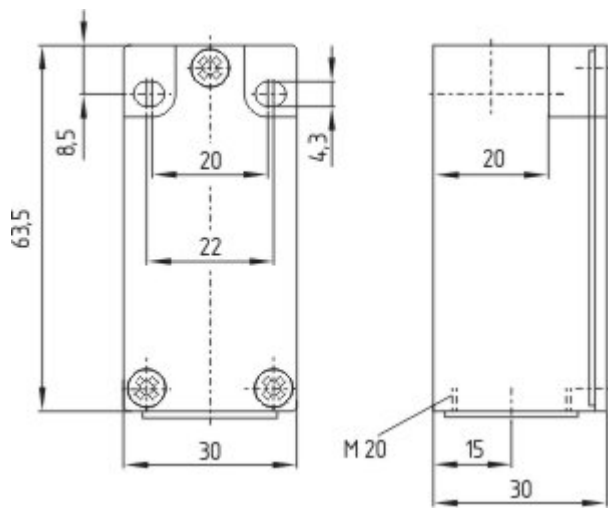
## Images

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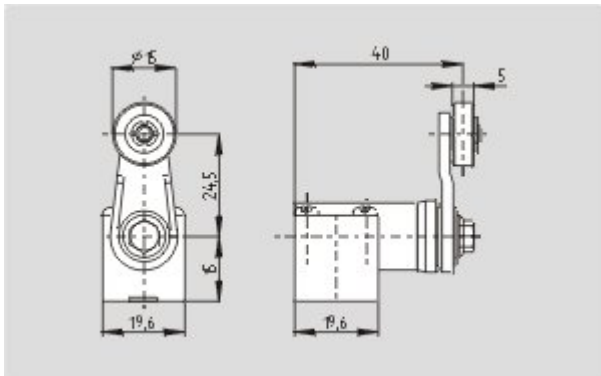


Dimensional drawing (basic component)

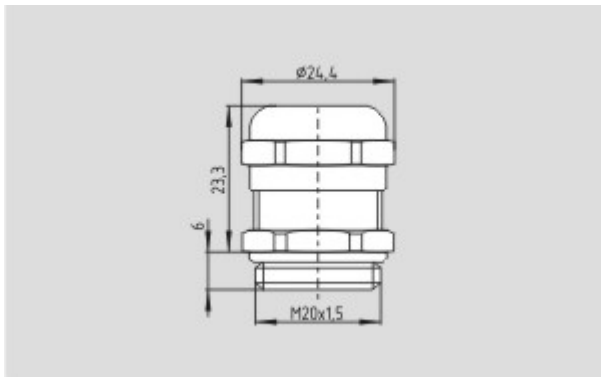
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Dimensional drawing (basic component)



Dimensional drawing (actuator)



Dimensional drawing (miscellaneous)