

## Datasheet - TV1H 256 STL-AS 2S



AS interface safety at work / Safety switchgear / Safety switches / 256 AS 2S / AS - 256 2S  
Roller lever 1H



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

- with integrated AS-i Safety electronics and with M12-connector socket to connect a second position switch
- AS-Interface M12 connector
- Lever angle adjustable in 10° steps
- Thermoplastic enclosure
- Wide range of alternative actuators
- Good resistance to oil and petroleum spirit
- 87 mm x 50,5 mm x 31 mm
- Actuator heads can be repositioned by 4 x 90°
- Mounting details to EN 50047
- AS-Interface LED and status display
- Integrated AS-Interface
- Suitable for AS-i Power24

### Ordering details

Product type description	TV1H 256 STL-AS 2S
Article number	TV1H 256 STL-AS 2S
EAN Code	
eCl@ss	27-27-26-01

### Approval

Approval



### Classification

**Application: Two position switches, dependent, on one safety guard:**

Standards	EN ISO 13849-1, IEC 61508
PL	up e
Control category	up 4
PFH	2 x 10 <sup>-8</sup> /
- notice	up to max. 100000 switching cycles/year
SIL	up 3
Mission time	20 Years


**Application: Each time one position switch, independent, on two safety guards:**

Standards	EN ISO 13849-1, IEC 61508
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PL	up c
Control category	up 1
PFH value	1.14 x 10 <sup>-6</sup> /
- notice	up to max. 100000 switching cycles/year
SIL	up 1
Mission time	20 Years

## Global Properties

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Permanent light	AS - 256 2S Rollenschwenkhebel 1H
Standards	EN 50295, EN 60947-5-1, EN ISO 13849-1, IEC 61508
Compliance with the Directives (Y/N) 	Yes
Suitable for safety functions (Y/N)	Yes
Actuator type	A to EN 50047
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
- Lever material	Plastic
- Roller material	Plastic
- Material of the connector	Plastic
- Material of the contacts	Silver
Housing coating	
Housing construction form	Norm construction design
Weight	

## Mechanical data

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Design of electrical connection	connector plug M12, 4-pole (AS-i connection) connector socket M12, 4-pole (2 . switch)
connector	left (AS-i) right (2. switch)
Mechanical life	1.000.000 operations
Switching frequency	5000
Design of actuating element	Roller lever
actuating torque	15
restistance to shock	30 / 11
Resistance to vibration	10 ... 150, Amplitude 0,35 / 5
Positive break torque	18.5
Actuating speed for vertical actuation	
- Max. Actuating speed	1

## Ambient conditions

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Ambient temperature	
- Min. environmental temperature	-25
- Max. environmental temperature	+60
- Min. Storage and transport temperature	-25
- Max. Storage and transport temperature	+85
Relative humidity	30 ... 95
- non-condensing	
- non-icing	
Protection class	IP67 to IEC/EN 60529
Protection rating	II

## Electrical data

Design of control element	Opener (NC)
Switching principle	Creep circuit element
- positive break NC contact 	
Number of auxiliary contacts	0
Number of safety contacts	2
Rated impulse withstand voltage	800
Rated insulation voltage	32
Thermal test current	10 A
Utilisation category	AC-15: 230 V / 4 A, DC-13: 24 V / 1 A
Max. fuse rating	6 A gG D-fuse

## Electrical data - AS interface

AS-i Supply voltage	18 ... 31.6 VDC, Protection against polarity reversal
AS-i operating current	≤ 50
AS-i Device insulation	internally short-circuit proof
AS-i Specification	
- version	V 3.0
- Profile	S-0.B.F.F
AS-i Inputs	
- Channel 1	Data bits DI 0/DI 1= dynamic code transmission (Z/T 256 AS)
- Channel 2	Data bits DI 2/DI 3= dynamic code transmission (2. switch)
AS-i Outputs	DO 0 ... DO 3 not used
AS-i Parameter bits	P1 ... P3 not used
- P0	Channel 2 switched, switching condition 2. switch
AS-i input module address	0
- Default on address 0, programmable via the AS-Interface Master or Hand-held programming device	

## LED switching conditions display

LED switching conditions display (Y/N)	Yes
AS-i LED switching conditions display	
(1) yellow LED	Channel 1 / AS-i SaW Bit 0,1
(2) green/red LED (AS-i duo LED)	Supply voltage / Communication error / slave address = 0
(3) yellow LED	Channel 2 / AS-i SaW Bit 2,3

## ATEX

Explosion protection categories for gases	None
Explosion protected category for dusts	None

## Dimensions

Dimensions of the sensor	
- Width of sensor	87
- Height of sensor	97.5
- Length of sensor	31

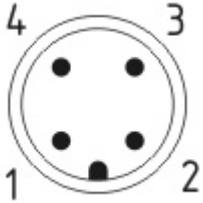
## Pin assignment

### Connector

1	AS interface +
2	None
3	AS interface -
4	None

connector socket 2. switch

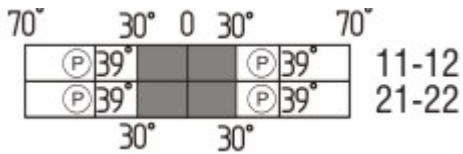
## Diagram



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: TV1H 256 STL-AS 2S-FKL

...-FKL Connection for flat cable, left

...-Z Actuator head gasket

## Ordering code

(1)(2) 256 (3)-AS 2S

<b>(1)</b>	
<b>Z</b>	Snap action
<b>T</b>	Slow action
<b>(2)</b>	
<b>S</b>	Plunger S
<b>R</b>	Roller plunger R
<b>1R</b>	Offset roller lever 1R
<b>K</b>	Angle roller lever K
<b>3K</b>	Angle roller lever 3K
<b>4K</b>	Angle roller lever 4K
<b>K4</b>	Angle roller lever K4
<b>1H</b>	Roller lever 1H
<b>12H</b>	Roller lever 12H
<b>14H</b>	Roller lever 14H
<b>7H</b>	Roller lever 7H
<b>(3)</b>	
<b>STL</b>	connector plug M12, left
<b>FKL</b>	Flat plug-in connector, left

## Documents

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**Operating instructions and Declaration of conformity (da)** 331 kB, 30.01.2018

Code: mrl\_zt-256-as-2s\_da

**Operating instructions and Declaration of conformity (cs)** 345 kB, 30.01.2018

Code: mrl\_zt-256-as-2s\_cs

**Operating instructions and Declaration of conformity (es)** 331 kB, 26.01.2018

Code: mrl\_zt-256-as-2s\_es

**Operating instructions and Declaration of conformity (it)** 328 kB, 30.01.2018

Code: mrl\_zt-256-as-2s\_it

**Operating instructions and Declaration of conformity (pt)** 332 kB, 26.01.2018

Code: mrl\_zt-256-as-2s\_pt

**Operating instructions and Declaration of conformity (nl)** 331 kB, 30.01.2018

Code: mrl\_zt-256-as-2s\_nl

**Operating instructions and Declaration of conformity (en)** 328 kB, 22.11.2017

Code: mrl\_zt-256-as-2s\_en

**Operating instructions and Declaration of conformity (pl)** 345 kB, 30.01.2018

Code: mrl\_zt-256-as-2s\_pl

**Operating instructions and Declaration of conformity (jp)** 385 kB, 13.08.2012

Code: mrl\_zt-256-as-2s\_jp

**Operating instructions and Declaration of conformity (fr)** 334 kB, 30.01.2018

Code: mrl\_zt-256-as-2s\_fr

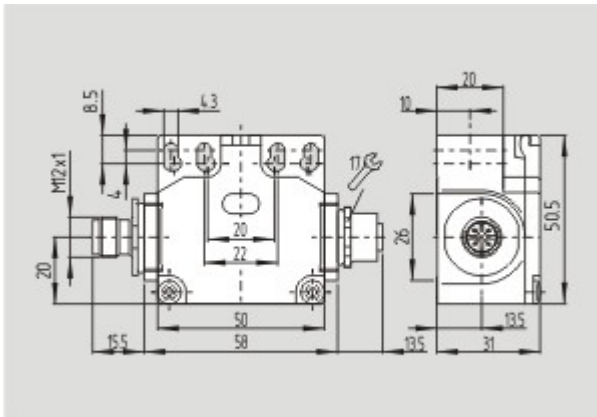
**Operating instructions and Declaration of conformity (de)** 303 kB, 22.11.2017

Code: mrl\_zt-256-as-2s\_de



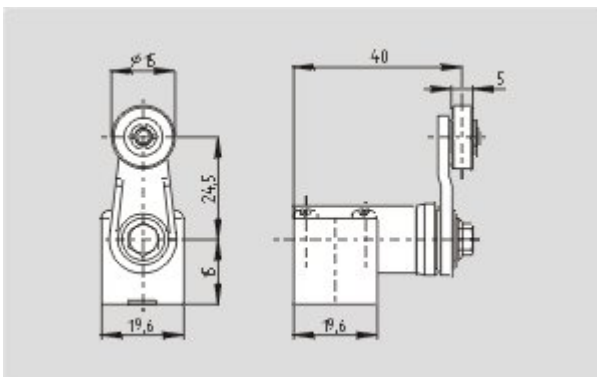
Product photo

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Dimensional drawing (basic component)

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Dimensional drawing (actuator)

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