

Datasheet - TK 256 STL-AS 2S



AS interface safety at work / Safety switchgear / Safety switches / 256 AS 2S / AS - 256 2S
Offset roller lever K



- with integrated AS-i Safety electronics and with M12-connector socket to connect a second position switch
- AS-Interface M12 connector
- 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

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

Ordering details

| | |
|--------------------------|------------------|
| Product type description | TK 256 STL-AS 2S |
| Article number | TK 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 ⁻⁸ / |
| - 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 |
|-----------|---------------------------|

| | |
|------------------|---|
| PL | up c |
| Control category | up 1 |
| PFH value | 1.14 x 10 ⁻⁶ / |
| - notice | up to max. 100000 switching cycles/year |
| SIL | up 1 |
| Mission time | 20 Years |

Global Properties

| | |
|--|---|
| Permanent light | AS - 256 2S Rollenhebel K |
| 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 | E to EN 50047 |
| Materials | |
| - Material of the housings | Plastic, glass-fibre reinforced thermoplastic, self-extinguishing |
| - Material of the connector | Plastic |
| - Material of the contacts | Silver |
| Housing coating | |
| Housing construction form | Norm construction design |
| Weight | |

Mechanical data


| | |
|--|---|
| 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 | Offset roller lever |
| Actuating force | 9 |
| restistance to shock | 30 / 11 |
| Resistance to vibration | 10 ... 150, Amplitude 0,35 / 5 |
| Positive break force | 19 |
| Actuating speed for vertical actuation | |
| - Max. Actuating speed | 1 |

Ambient conditions

| | |
|--|----------------------|
| 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

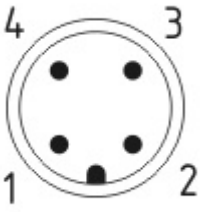
| | |
|--------------------------|-------|
| Dimensions of the sensor | |
| - Width of sensor | 87 |
| - Height of sensor | 108.6 |
| - Length of sensor | 30 |

Pin assignment






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|------------------|----------------|
| Connector | |
| 1 | AS interface + |
| 2 | None |
| 3 | AS interface - |

connector socket 2. switch

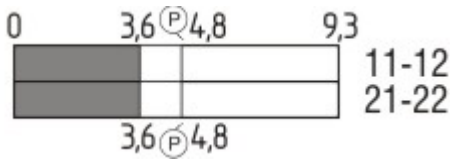
Diagram








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: TK 256 STL-AS 2S-**FKL**

...-**FKL**

Connection for flat cable, left

Ordering code

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

(1)

Z

Snap action

T

Slow action

(2)

S

Plunger S

| | |
|-----|------------------------------|
| R | Roller plunger R |
| 1R | Offset roller lever 1R |
| K | Angle roller lever K |
| 3K | Angle roller lever 3K |
| 4K | Angle roller lever 4K |
| K4 | Angle roller lever K4 |
| 1H | Roller lever 1H |
| 12H | Roller lever 12H |
| 14H | Roller lever 14H |
| 7H | Roller lever 7H |
| (3) | |
| STL | connector plug M12, left |
| FKL | Flat plug-in connector, left |

Documents

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

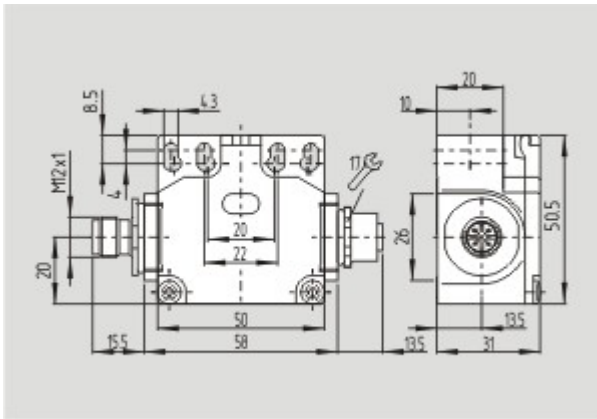
Operating instructions and Declaration of conformity (de) 303 kB, 22.11.2017

Code: mrl_zt-256-as-2s_de

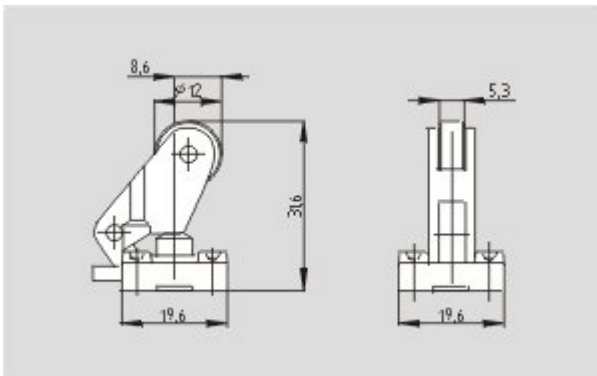
Images



Product photo



Dimensional drawing (basic component)



Dimensional drawing (actuator)

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

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