



## RSS260-I1-D-LSTM12-5-0,25M

- 5-pole cable connector M12 for individual connection
- Individual coding with RFID technology
- Coding level "High" according to ISO 14119
- Simple mounting without additional angle
- Frontal and lateral actuation enabled
- RFID-technology for needs-based protection against tampering
- Thermoplastic enclosure

## Data

### Ordering data

|                               |                            |
|-------------------------------|----------------------------|
| Product type description      | RSS260-I1-D-LSTM12-5-0,25M |
| Article number (order number) | 103026385                  |
| EAN (European Article Number) | 4030661515687              |
| eCl@ss number, version 12.0   | 27-27-46-01                |
| eCl@ss number, version 11.0   | 27-27-24-03                |
| eCl@ss number, version 9.0    | 27-27-24-03                |
| ETIM number, version 7.0      | EC001829                   |
| ETIM number, version 6.0      | EC001829                   |

### Approvals - Standards

|              |                                             |
|--------------|---------------------------------------------|
| Certificates | TÜV<br>cULus<br>FCC<br>IC<br>UKCA<br>ANATEL |
|--------------|---------------------------------------------|

## General data

|                                                                   |                                                    |
|-------------------------------------------------------------------|----------------------------------------------------|
| Standards                                                         | EN ISO 13849-1<br>EN IEC 60947-5-3<br>EN IEC 61508 |
| Coding                                                            | Individual coding                                  |
| Coding level according to EN ISO 14119                            | High                                               |
| Working principle                                                 | RFID                                               |
| Frequency band RFID                                               | 125 kHz                                            |
| Transmitter output RFID, maximum                                  | -6 dB/m                                            |
| Housing construction form                                         | Block                                              |
| Installation conditions (mechanical)                              | not flush                                          |
| Sensor topology                                                   | Sensor for series wiring                           |
| Housing material                                                  | Plastic, thermoplastic, self-extinguishing         |
| Active area                                                       | Glass-fibre, thermoplastic                         |
| Reaction time, maximum                                            | 100 ms                                             |
| Duration of risk, maximum                                         | 200 ms                                             |
| Reaction time, switching off safety outputs via actuator, maximum | 100 ms                                             |
| Gross weight                                                      | 96 g                                               |

## General data - Features

|                         |     |
|-------------------------|-----|
| Diagnostic output       | Yes |
| Short circuit detection | Yes |
| Cross-circuit detection | Yes |
| Series-wiring           | Yes |

|                                                          |     |
|----------------------------------------------------------|-----|
| Safety functions                                         | Yes |
| Cascadable                                               | Yes |
| Integral system diagnostics, status                      | Yes |
| Number of LEDs                                           | 3   |
| Number of semi-conductor outputs with signaling function | 1   |
| Number of poles                                          | 5   |
| Number of fail-safe digital outputs                      | 2   |

### Safety classification

|                                                            |                                |
|------------------------------------------------------------|--------------------------------|
| Standards                                                  | EN ISO 13849-1<br>EN IEC 61508 |
| Performance Level, up to                                   | e                              |
| Category                                                   | 4                              |
| PFH value                                                  | $6.80 \times 10^{-10}$ /h      |
| PFD value                                                  | $1.20 \times 10^{-4}$          |
| Safety Integrity Level (SIL), suitable for applications in | 3                              |
| Mission time                                               | 20 Year(s)                     |

### Mechanical data

|                                                 |                                                                                                                               |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Actuating panels                                | lateral<br>front side                                                                                                         |
| Active area                                     | lateral<br>front                                                                                                              |
| Mounting                                        | A 20 mm screw length usually suffices to mount the sensor. When the mounting plates are used, we recommend 25 mm long screws. |
| Type of the fixing screws                       | 2x M4                                                                                                                         |
| Tightening torque of the fixing screws, maximum | 0.8 Nm                                                                                                                        |

## Mechanical data - Switching distances according EN IEC 60947-5-3

|                                           |                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Typical switching distance, frontal       | 12 mm                                                                                                                                                                                                                                                                                                 |
| Typical switching distance, lateral       | 9 mm                                                                                                                                                                                                                                                                                                  |
| Assured switching distance "ON", frontal  | 10 mm                                                                                                                                                                                                                                                                                                 |
| Assured switching distance "OFF", frontal | 18 mm                                                                                                                                                                                                                                                                                                 |
| Assured switching distance "ON", lateral  | 6 mm                                                                                                                                                                                                                                                                                                  |
| Assured switching distance "OFF", lateral | 15 mm                                                                                                                                                                                                                                                                                                 |
| Note ( $S_{ao}$ )                         | The specifications of the safety switching distance $S_{ao}$ refer to a temperature range of -10 °C ... +60 °C. For a temperature range of -28 °C ... +65 °C, $S_{ao}$ is reduced by 2 mm.                                                                                                            |
| Note (switching distance)                 | Axial misalignment, a horizontal and vertical misalignment of the safety sensor and the actuator are tolerated. The possible misalignment depends on the distance of the active surfaces of the sensor and the actuator. The sensor remains active within the tolerance range.                        |
| Hysteresis (Switching distance), maximum  | 2 mm                                                                                                                                                                                                                                                                                                  |
| Repeat accuracy R                         | 0.5 mm                                                                                                                                                                                                                                                                                                |
| Note (Repeat accuracy R)                  | Axial offset: The long side allows for a maximum height misalignment (x) of sensor and actuator of 8 mm (e.g. mounting tolerance or due to guard door sagging). The axial misalignment (y) is max. $\pm 18$ mm (see figure: Operating principle). Minimum clearance between two sensor systems 100 mm |

## Mechanical data - Connection technique

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| Note (length of the sensor chain) | Cable length and cross-section change the voltage drop depending on the output current                     |
| Note (series-wiring)              | Unlimited number of devices, observe external line fusing, max. 31 devices in case of serial diagnostic SD |
| Termination                       | Connector M12, 5-pole, A-coded                                                                             |

## Mechanical data - Dimensions

|                  |         |
|------------------|---------|
| Length of sensor | 29.5 mm |
|------------------|---------|

|                 |         |
|-----------------|---------|
| Width of sensor | 39.2 mm |
|-----------------|---------|

|                  |       |
|------------------|-------|
| Height of sensor | 18 mm |
|------------------|-------|

### Ambient conditions

|                      |              |
|----------------------|--------------|
| Degree of protection | IP65<br>IP67 |
|----------------------|--------------|

|                     |                |
|---------------------|----------------|
| Ambient temperature | -28 ... +65 °C |
|---------------------|----------------|

|                                   |                |
|-----------------------------------|----------------|
| Storage and transport temperature | -28 ... +85 °C |
|-----------------------------------|----------------|

|                            |      |
|----------------------------|------|
| Relative humidity, maximum | 93 % |
|----------------------------|------|

|                          |                             |
|--------------------------|-----------------------------|
| Note (Relative humidity) | non-condensing<br>non-icing |
|--------------------------|-----------------------------|

|                          |                              |
|--------------------------|------------------------------|
| Resistance to vibrations | 10 ... 55 Hz, amplitude 1 mm |
|--------------------------|------------------------------|

|                     |              |
|---------------------|--------------|
| Resistance to shock | 30 g / 11 ms |
|---------------------|--------------|

|                                                            |         |
|------------------------------------------------------------|---------|
| Permissible installation altitude above sea level, maximum | 2,000 m |
|------------------------------------------------------------|---------|

### Ambient conditions - Insulation values

|                                |        |
|--------------------------------|--------|
| Rated insulation voltage $U_i$ | 32 VDC |
|--------------------------------|--------|

|                                           |        |
|-------------------------------------------|--------|
| Rated impulse withstand voltage $U_{imp}$ | 0.8 kV |
|-------------------------------------------|--------|

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
|----------------------|-----|

|                     |   |
|---------------------|---|
| Degree of pollution | 3 |
|---------------------|---|

### Electrical data

|                   |                                                     |
|-------------------|-----------------------------------------------------|
| Operating voltage | 24 VDC -15 % / +10 % (stabilised PELV power supply) |
|-------------------|-----------------------------------------------------|

|                            |        |
|----------------------------|--------|
| Operating current, minimum | 0.5 mA |
|----------------------------|--------|

|                                        |       |
|----------------------------------------|-------|
| No-load supply current $I_0$ , typical | 35 mA |
|----------------------------------------|-------|

|                         |        |
|-------------------------|--------|
| Rated operating voltage | 24 VDC |
|-------------------------|--------|

|                   |        |
|-------------------|--------|
| Operating current | 600 mA |
|-------------------|--------|

|                                      |       |
|--------------------------------------|-------|
| Required rated short-circuit current | 100 A |
|--------------------------------------|-------|

|                                    |                 |
|------------------------------------|-----------------|
| Time to readiness,<br>maximum      | 2,000 ms        |
| Switching frequency,<br>maximum    | 1 Hz            |
| Utilisation category DC-12         | 24 VDC / 0.05 A |
| Electrical fuse rating,<br>maximum | 2 A             |

### Electrical data - Safety digital inputs

|                                             |                |
|---------------------------------------------|----------------|
| Designation, Safety inputs                  | X1 and X2      |
| Current consumption of the<br>safety inputs | 5 mA           |
| Test pulse duration,<br>maximum             | 1 ms           |
| Test pulse interval,<br>minimum             | 100 ms         |
| Classification ZVEI CB24I,<br>Sink          | C1             |
| Classification ZVEI CB24I,<br>Source        | C1<br>C2<br>C3 |

### Electrical data - Safety digital outputs

|                                                |                             |
|------------------------------------------------|-----------------------------|
| Designation, Safety outputs                    | Y1 and Y2                   |
| Rated operating current<br>(safety outputs)    | 250 mA                      |
| Output current, (fail-safe<br>output), maximum | 0.25 A                      |
| Design of control elements                     | short-circuit proof, p-type |
| Voltage drop $U_d$ , maximum                   | 1 V                         |
| Leakage current $I_r$ ,<br>maximum             | 0.5 mA                      |
| Voltage, Utilisation category<br>DC-12         | 24 VDC                      |
| Current, Utilisation category<br>DC-12         | 0.25 A                      |

Voltage, Utilisation category 24 VDC

DC-13

Current, Utilisation category 0.25 A

DC-13

Test pulse interval, typical 1000 ms

Test pulse duration,  
maximum 1 ms

Classification ZVEI CB24I,  
Source C2

Classification ZVEI CB24I,  
Sink C1  
C2

### Electrical data - Diagnostic outputs

Designation, Diagnostic  
outputs OUT

Operating current 50 mA

Voltage drop  $U_d$ , maximum 2 V

Voltage, Utilisation category 24 VDC  
DC-12

Current, Utilisation category 0.05 A  
DC-12

Voltage, Utilisation category 24 VDC  
DC-13

Current, Utilisation category 0.05 A  
DC-13

### Electrical data - Electromagnetic compatibility (EMC)

Interfering radiation IEC 61000-6-4

EMC rating IEC 60947-3

### Status indication

Note (LED switching  
conditions display) (1) LED green: Supply voltage  
LED yellow: Operating condition  
LED red: Fault

## Pin assignment

|       |                       |
|-------|-----------------------|
| PIN 1 | A1 Supply voltage UB  |
| PIN 2 | Y2 Safety output 2    |
| PIN 3 | A2 GND                |
| PIN 4 | Y1 Safety output 1    |
| PIN 5 | OUT Diagnostic output |

## Scope of delivery

|                   |                                      |
|-------------------|--------------------------------------|
| Scope of delivery | Actuator must be ordered separately. |
|-------------------|--------------------------------------|

## Accessory

|                               |                                |
|-------------------------------|--------------------------------|
| Recommendation (actuator)     | RST16-1<br>RST-U-2<br>RST260-1 |
| Recommended safety switchgear | SRB-E-301ST<br>SRB-E-201LC     |

## Ordering code

Product type description:  
RSS260-(1)-(2)-(3)-(4)-(5)

(1)

|                |                                      |
|----------------|--------------------------------------|
| <b>without</b> | Standard coding                      |
| <b>I1</b>      | Individual coding                    |
| <b>I2</b>      | Individual coding, multiple teaching |

(2)

|           |                                 |
|-----------|---------------------------------|
| <b>D</b>  | With diagnostic output          |
| <b>SD</b> | With serial diagnostic function |

(3)

|                |                                                                                          |
|----------------|------------------------------------------------------------------------------------------|
| <b>without</b> | Standard version without feedback circuit monitoring<br>EDM (External Device Monitoring) |
|----------------|------------------------------------------------------------------------------------------|



|                       |                                              |
|-----------------------|----------------------------------------------|
| <b>F0</b>             | EDM with automatic reset                     |
| <b>F1</b>             | EDM with manual reset                        |
| (4)                   |                                              |
| <b>without</b>        | without emergency-stop                       |
| <b>Q</b>              | Acknowledge input error with EMERGENCY STOP  |
| (5)                   |                                              |
| <b>without</b>        | Connecting cable (length in m)               |
| <b>ST</b>             | Connector plug M8, 8-pole                    |
| <b>LSTM12-8-0,25M</b> | Cable 0.25 m long with connector M12, 8-pole |
| <b>LSTM8-8-0,1M</b>   | Cable 0.1 m long with connector M8, 8-pole   |
| <b>LSTM12-5-0.25M</b> | Cable 0.25 m long with connector M12, 5-pole |

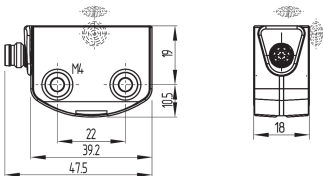
## Pictures

### Product picture (catalogue individual photo)



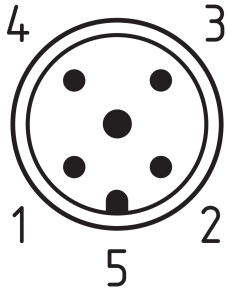
ID: krss2f13  
 | 42.7 kB | .png | 74.083 x 141.817 mm - 210 x 402 px - 72 dpi  
 | 638.8 kB | .jpg | 352.778 x 676.275 mm - 1000 x 1917 px - 72 dpi  
 | 22.4 kB | .jpg | 64.558 x 123.472 mm - 183 x 350 px - 72 dpi

### Dimensional drawing basic component



ID: krss2g02  
 | 147.2 kB | .ai | 297 x 210.002 mm - 841 x 595 px - 72 dpi  
 | 4.8 kB | .png | 74.083 x 39.864 mm - 210 x 113 px - 72 dpi  
 | 121.3 kB | .jpg | 352.778 x 189.089 mm - 1000 x 536 px - 72 dpi

### Contact arrangement



ID: km12-k5g

| 5.8 kB | .png | 73.731 x 106.892 mm - 209 x 303 px - 72 dpi

| 158.2 kB | .jpg | 352.425 x 510.117 mm - 999 x 1446 px - 72 dpi

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The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

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