



## RSS260-SD-ST

- Universal coding with RFID technology
- 1 x connector plug M8
- Frontal and lateral actuation enabled
- Max. 31 sensors can be wired in series.
- Thermoplastic enclosure
- Simple mounting without additional angle
- RFID-technology for needs-based protection against tampering

## Data

### Ordering data

Product type description	RSS260-SD-ST
Article number (order number)	103003605
EAN (European Article Number)	4030661436449
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 cULus FCC IC UKCA ANATEL
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## General data

Standards	EN ISO 13849-1 EN IEC 60947-5-3 EN IEC 61508
Coding	Universal coding
Coding level according to EN ISO 14119	Low
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	61 g

## General data - Features

Serial diagnostics	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 poles	8
Number of fail-safe digital outputs	2
Number of series-wiring of sensors	31

### Safety classification

Standards	EN ISO 13849-1 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 front side
Active area	lateral 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 M8, 8-pole

## Mechanical data - Dimensions

Length of sensor	29.5 mm
Width of sensor	39.2 mm

Height of sensor	18 mm
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## Ambient conditions

Degree of protection	IP65 IP67
Ambient temperature	-28 ... +65 °C
Storage and transport temperature	-28 ... +85 °C
Relative humidity, maximum	93 %
Note (Relative humidity)	non-condensing 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
Overtoltage 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, maximum	2,000 ms
Switching frequency, maximum	1 Hz
Electrical fuse rating, maximum	2 A

### Electrical data - Safety digital inputs

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

### Electrical data - Safety digital outputs

Designation, Safety outputs	Y1 and Y2
Rated operating current (safety outputs)	250 mA
Output current, (fail-safe output), maximum	0.25 A
Design of control elements	short-circuit proof, p-type
Voltage drop $U_d$ , maximum	1 V
Leakage current $I_r$ , maximum	0.5 mA
Voltage, Utilisation category DC-12	24 VDC
Current, Utilisation category DC-12	0.25 A
Voltage, Utilisation category DC-13	24 VDC

Current, Utilisation category DC-13	0.25 A
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 - Serial diagnostic SD

Designation, Serial diagnostic SD	OUT
Operation current	150 mA
Design of control elements	short-circuit proof
Wiring capacitance	50 nF

### 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
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### Pin assignment

PIN 1	A1 U <sub>e</sub> : White
PIN 2	X1 safety input 1: Brown
PIN 3	A2 GND: Green
PIN 4	Y1 safety output 1: Yellow
PIN 5	serial diagnostic output OUT Grey
PIN 6	X2 safety input 2: Pink

PIN 7	Y2 safety output 2: Blue
PIN 8	IN serial diagnostic input Pink

## Scope of delivery

Scope of delivery	Actuator must be ordered separately.
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## Accessory

Recommendation (actuator)	RST16-1 RST-U-2 RST260-1
Recommended safety switchgear	PROTECT PSC1 SRB-E-301ST SRB-E-201LC

## Note

Note (General)	Evaluation requirements: dual-channel safety input, suitable for p-type sensors with NO function. The safety-monitoring module must tolerate internal functional tests of the sensors with cyclic switch-off of the sensor outputs for max. 0.5 ms. Short-circuit recognition by the evaluation is not necessary.
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## Ordering code

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

(1)

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

(2)

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

(3)

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<b>without</b>	Standard version without feedback circuit monitoring 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)



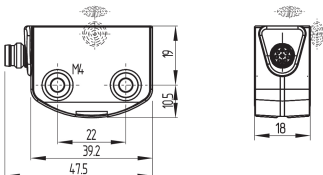
ID: krss2f01

| 509.4 kB | .jpg | 352.778 x 281.164 mm - 1000 x 797 px - 72 dpi

| 40.1 kB | .png | 74.083 x 58.914 mm - 210 x 167 px - 72 dpi

| 59.5 kB | .jpg | 123.472 x 98.425 mm - 350 x 279 px - 72 dpi

### Dimensional drawing basic component



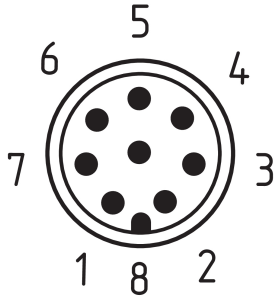
ID: krss2g02

| 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-k8b

| 5.3 kB | .png | 73.731 x 87.489 mm - 209 x 248 px - 72 dpi

| 138.6 kB | .jpg | 352.425 x 417.689 mm - 999 x 1184 px - 72 dpi

Schmersal India Pvt. Ltd., Plot No - G-7/1, Ranjangaon MIDC, Tal. - Shirur, Dist.- Pune 412 220

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.

Generated on: 24/08/2024, 9:11 am