



## RSS 36-I1-SD-R-ST

- Individual coding with RFID technology
- Coding level "High" according to ISO 14119
- 1 x connector socket M12, 8-pole
- Actuation from side
- Max. 31 sensors can be wired in series.
- serial diagnostic output
- Thermoplastic enclosure
- RFID-technology for needs-based protection against tampering
- Misaligned actuation possible
- 27 mm x 108.2 mm x 35 mm
- High repeat accuracy of the switching points
- 2 short-circuit proof PNP safety outputs
- Integral cross-short, wire-breakage and external voltage monitoring of the safety cables up to the control cabinet

## Data

### Ordering data

Product type description	RSS 36-I1-SD-R-ST
Article number (order number)	101218830
EAN (European Article Number)	4030661416366
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 ECOLAB FCC IC UKCA ANATEL
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## General data

Standards	EN ISO 13849-1 EN IEC 60947-5-3 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	Glass-fibre, reinforced thermoplastic
Reaction time, maximum	100 ms
Duration of risk, maximum	200 ms
Reaction time, switching off safety outputs via actuator, maximum	100 ms
Reaction time, switching off safety outputs via safety inputs, maximum	0.5 ms
Gross weight	250 g

## General data - Features

Serial diagnostics	Yes
Latching	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 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	$2.70 \times 10^{-10}$ /h
PFD value	$2.10 \times 10^{-5}$
Safety Integrity Level (SIL), suitable for applications in	3
Mission time	20 Year(s)

### Mechanical data

Actuating panels	lateral
Active area	lateral
Mechanical life, minimum	1,000,000 Operations
Note (Mechanical life)	Actuating speed 0.25 m/s Operations for door weights $\leq 5$ kg
Latching force, approx.	18 N

Mounting	A screw length of 25 mm is sufficient for sensor mounting and for side mounting of the actuators. 30 mm long screws are recommended when the actuator is mounted upright and/or when the sealing discs are used.
Type of the fixing screws	2x M4 (cylinder head screws with washers DIN 125A / form A)
Tightening torque of the fixing screws, minimum	2.2 Nm
Tightening torque of the fixing screws, maximum	2.5 Nm

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

Switch distance, typical	12 mm
Assured switching distance "ON" $S_{ao}$	10 mm
Assured switching distance "OFF" $S_{ar}$	20 mm
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, 8-pole

### Mechanical data - Dimensions

Length of sensor	22 mm
Width of sensor	106.3 mm
Height of sensor	25 mm

## Ambient conditions

Degree of protection	IP65 IP67 IP69
Ambient temperature	-28 ... +70 °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
Protection class	III
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 $I_p$ , 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	0.3 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, p-type
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)	LED yellow: Operating condition LED green: Supply voltage LED red: Fault
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### Pin assignment

PIN 1	1A1 Ue: (1)
PIN 2	X1 Safety input 1
PIN 3	A2 GND Blue
PIN 4	Y1 Safety output 1 Black
PIN 5	serial diagnostic output OUT Grey
PIN 6	X2 Safety input 2 violet
PIN 7	Y2 Safety output 2 red
PIN 8	IN serial diagnostic input Pink

## Scope of delivery

Scope of delivery                      Actuator must be ordered separately.

## Accessory

Recommendation (actuator)	RST 36-1 RST 36-1-R
Recommended safety switchgear	PROTECT PSC1 SRB-E-301ST SRB-E-201LC

## Note

Note (General)                      During the individual coding, a RST actuator is taught through a simple routine during start-up, so that any tampering by means of a spare or substitute actuator is permanently excluded.  
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.

## Ordering code

Product type description:  
RSS 36 (1)-(2)-(3)-(4)

(1)

<b>without</b>	Standard coding
<b>I1</b>	Individual coding
<b>I2</b>	Individual coding, re-teaching enabled

(2)

<b>without</b>	without diagnostic function (only on request for ST5)
<b>D</b>	With diagnostic output
<b>SD</b>	with serial diagnostics (only for ST)

(3)



without

without latching

R

with latching, latching force approx. 18 N

(4)

ST

Connector plug M12, 8-pole

ST5

Connector plug M12, 5-pole

## Pictures

### Product picture (catalogue individual photo)



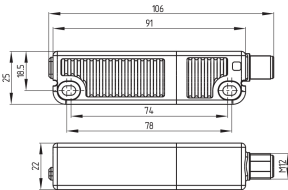
ID: krss3f11

| 501.7 kB | .jpg | 196.144 x 572.911 mm - 556 x 1624 px - 72 dpi

| 106.3 kB | .png | 74.083 x 216.253 mm - 210 x 613 px - 72 dpi

| 24.3 kB | .jpg | 42.333 x 123.472 mm - 120 x 350 px - 72 dpi

### Dimensional drawing basic component



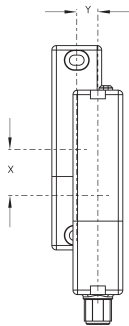
ID: 1rss3g03

| 55.0 kB | .cdr |

| 8.8 kB | .png | 74.083 x 51.506 mm - 210 x 146 px - 72 dpi

| 124.2 kB | .jpg | 352.778 x 245.181 mm - 1000 x 695 px - 72 dpi

### Operating principle

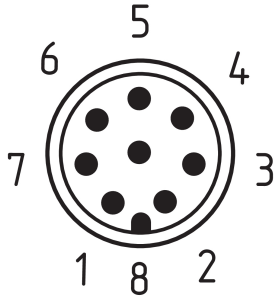


ID: krss3a01

| 182.6 kB | .jpg | 352.778 x 920.75 mm - 1000 x 2610 px - 72 dpi

| 4.2 kB | .png | 74.083 x 193.322 mm - 210 x 548 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.

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