



## RSS 36-D-ST

- Universal coding with RFID technology
- 1 x connector socket M12, 8-pole
- Actuation from side
- 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-D-ST
Article number (order number)	101213954
EAN (European Article Number)	4030661410623
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 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 dBm
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	80 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 fail-safe digital outputs	2

### 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 lifetime, minimum	1,000,000 Operations
Note (Mechanical lifetime)	Actuating speed 0.25 m/s Operations for door weights $\leq 5$ kg
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

Switch distance, typical	12 mm
Assured switching distance "ON" $S_{ao}$	10 mm
Assured switching distance "OFF" $S_{ar}$	20 mm
Note (switching distance)	All switching distances in accordance EN IEC 60947-5-3
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
Utilisation category DC-12	24 VDC / 0.05 A
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	0.3 ms
Classification ZVEI CB24I, Source	C2
Classification ZVEI CB24I, Sink	C1 C2

### Electrical data - Diagnostic outputs

Designation, Diagnostic outputs	OUT
Design of control elements	short-circuit proof, p-type
Voltage drop $U_d$ , maximum	2 V
Voltage, Utilisation category DC-12	24 VDC
Current, Utilisation category DC-12	0.05 A
Voltage, Utilisation category DC-13	24 VDC
Current, Utilisation category DC-13	0.05 A

### Electrical data - Electromagnetic compatibility (EMC)

Interfering radiation	IEC 61000-6-4
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### 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)
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PIN 2	X1 Safety input 1
PIN 3	A2 GND Blue
PIN 4	Y1 Safety output 1 Black
PIN 5	OUT Diagnostic output OUT Grey
PIN 6	X2 Safety input 2 violet
PIN 7	Y2 Safety output 2 red
PIN 8	IN without function Pink

## Scope of delivery

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

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

## Note

Note (General)	Anforderungen an die Auswertung: Zweikanaliger Sicherheitseingang, geeignet für p-schaltende Sensoren mit Schließerfunktion. Die Funktionstests der Sensoren mit zyklischem Abschalten der Sensorausgänge für max. 1 ms müssen von der Auswertung toleriert werden. Eine Querschlusserkennung in der Auswertung ist nicht notwendig.
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## Ordering code

Product type description:  
RSS 36 (1)-(2)-(3)-(4)-(5)-(6)

(1)

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

(2)		
<b>without</b>		Without diagnostic function (only on request <sup>1)</sup> )
<b>D</b>		With diagnostic output
<b>SD</b>		With serial diagnostic function <sup>2)</sup>
(3)		
<b>without</b>		Standard version without feedback circuit monitoring EDM (External Device Monitoring)
<b>F0</b>		EDM with automatic reset <sup>2)</sup>
<b>F1</b>		EDM with manual reset <sup>2)</sup>
(4)		
<b>without</b>		Without EMERGENCY STOP
<b>Q</b>		Acknowledge input error with EMERGENCY STOP <sup>2)</sup>
(5)		
<b>without</b>		Without latching
<b>R</b>		With latching, latching force approx. 18 N
(6)		
<b>ST</b>		Connector plug M12, 8-pole
<b>ST5</b>		Connector plug M12, 5-pole
(*)		
<b>1)</b>		only for version -ST5
<b>2)</b>		only for version -ST

## Pictures

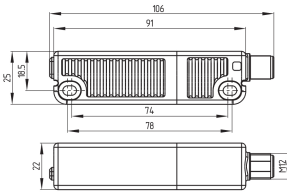
**Product picture (catalogue individual photo)**



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  
| 23.0 kB | .png | 74.083 x 74.083 mm - 210 x 210 px - 72 dpi  
| 8.7 MB | .png | 169.333 x 494.538 mm - 2000 x 5841 px - 300 dpi

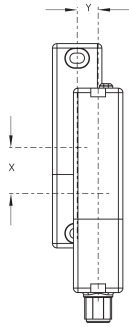
## Dimensional drawing basic component



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

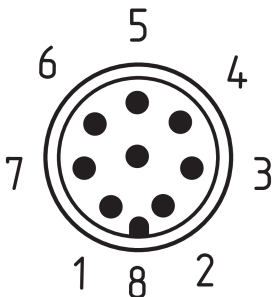
## Operating principle



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

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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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