



RSS 36-D-R-ST-DU

- 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-R-ST-DU
Article number (order number)	103044826
EAN (European Article Number)	4030661563930
eCl@ss number, version 9.0	27-27-24-03
eCl@ss number, version 11.0	27-27-24-03
ETIM number, version 7.0	EC000030
ETIM number, version 6.0	EC000030

Approvals - Standards

Certificates	TÜV cULus ECOLAB EAC FCC IC
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General data

Standards	IEC 60947-5-3
Coding	Universal coding
Coding level according to ISO 14119	High
Working principle	RFID
Frequency band RFID	125 kHz
Transmitter output, maximum	-6 dB/m
Housing construction form	Block
Installation conditions (mechanical)	not flush
Sensor topology	Sensor for series wiring
Enclosure material	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
Active area	Glass-fibre, reinforced thermoplastic
Gross weight	100 g
Time to readiness, maximum	2,000 ms
Reaction time, maximum	100 ms
Duration of risk, maximum	200 ms

General data - Features

Latching	Yes
Diagnostic output	Yes
Short circuit detection	Yes
Cross-circuit detection	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
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Safety classification

Standards	EN ISO 13849-1 IEC 60947-5-3 EN 62061 IEC 61508
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Performance Level, up to	e
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Category to EN13849	4
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PFH value	$2.70 \times 10^{-10} /h$
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Safety Integrity Level (SIL), suitable for applications in	3
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Mission time	20 Year(s)
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Mechanical data

Actuating panels	lateral
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Active area	lateral
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Hysteresis (Switching distance), maximum	2 mm
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Repeat accuracy R R	0.5 mm
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Note (Repeat accuracy R_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. ± 18 mm (see figure: Operating principle). Minimum clearance between two sensor systems 100 mm.
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Latching force	18 N
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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.
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Type of the fixing screws	2XM4
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Mechanical data - Switching distances according EN IEC 60947-5-3

Switching distance	12 mm
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Assured switching distance "ON" S_{ao}	10 mm
Assured switching distance "OFF" S_{ar}	20 mm

Mechanical data - Connection technique

Type of connection	Connector M12, 8-pole
Note (series-wiring)	Unlimited number of devices, observe external line fusing, max. 31 devices in case of serial diagnostic SD
Note	The cable section of the interconnecting cable must be observed! Cable length and cable section alter the voltage drop depending on the output current

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, minimum	-25 °C
Ambient temperature, maximum	+70 °C
Storage and transport temperature, minimum	-25 °C
Storage and transport temperature, maximum	+85 °C
Material temperature resistance of the cable (in motion), minimum	-10 °C
Material temperature resistance of the cable (at rest), minimum	-30 °C
Material temperature resistance (long-term), maximum	+105 °C

Relative humidity, maximum	93 %
Resistance to vibration to EN 60068-2-6	10 ... 55 Hz, amplitude 1 mm
Resistance to shock	30 g / 11 ms
Protection class	III

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 to IEC/EN 60664-1	3

Electrical data

Voltage type	DC (direct current)
Operating voltage, minimum	20.4 VDC
Operating voltage, maximum	26.4 VDC
Note (Power supply, general)	stabilised PELV power supply
No-load supply current, maximum I_0	35 mA
Rated operating voltage	24 VDC –15 % / +10 %
Rated operating voltage, minimum	20.4 VDC
Rated operating voltage, maximum	26.4 VDC
Operating current	600 mA
Required rated short-circuit current to EN 60947-5-1	100 A
Switching frequency, approx.	1 Hz

Electrical data - Safety digital inputs

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 switching elements	p-type
Voltage drop U_d , maximum	1 V
Leakage current I_r	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 duration, maximum	0.3 ms
Test pulse interval, typical	1000 ms
Classification ZVEI CB24I, Sink	C1 C2

Electrical data - Diagnostic outputs

Design of switching elements	short-circuit proof, p-type
Design of switching elements	p-type
Voltage drop U_d , maximum	2 V

Voltage, Utilisation category DC- 24 VDC
12

Current, Utilisation category DC- 0.05 A
12

Voltage, Utilisation category DC- 24 VDC
13

Current, Utilisation category DC- 0.05 A
13

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

Pin assignment

PIN 1	A1 Ue Brown
PIN 2	X1 Safety input 1 White
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 Actuators 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)	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. 2 ms. Short-circuit recognition by the evaluation is not necessary.
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Ordering code

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

(1)

without	Standard coding
I1	Individual coding
I2	Individual coding, re-teaching enabled

(2)

without	without diagnostic function (on request)
D	With diagnostic output
SD	With serial diagnostic function

(3)

without	without latching
R	with latching, latching force approx. 18 N

Pictures

Product picture (catalogue individual photo)

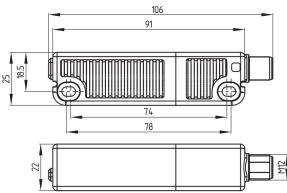


ID: krss3f11

| 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

Dimensional drawing basic component



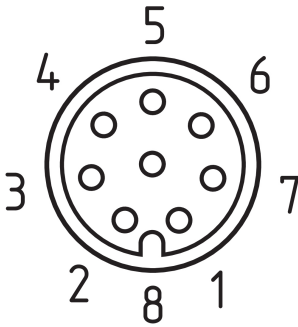
ID: 1rss3g03

| 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

Contact arrangement



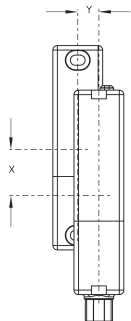
ID: km23-k8a

| 18.0 kB | .cdr |

| 5.5 kB | .png | 73.731 x 79.728 mm - 209 x 226 px - 72 dpi

| 155.6 kB | .jpg | 352.778 x 380.647 mm - 1000 x 1079 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

Schmersal, Inc., 15 Skyline Drive, Hawthorne, NY 10532

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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