

## Datasheet - RSS 36-D-R

Safety sensors / RSS 36



(Minor differences between the printed image and the original product may exist!)

- Thermoplastic enclosure
- Electronic contact-free, coded system
- 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
- 1 x Pre-wired cable 8-pole
- Actuation from side
- Max. 31 sensors can be wired in series.

### Ordering details

Product type description	RSS 36-D-R
Article number	101213959
EAN code	4030661407944

### Approval


Approval



### Classification

Standards	EN ISO 13849-1, IEC 61508, IEC 60947-5-3, EN 62061
PL	bis e
Control category	bis 4
PFH	$2.7 \times 10^{-10}/h$
SIL	3
Mission time	20 Years
Classification	PDF-M

### Global Properties

Product name	RSS 36
Standards	IEC 60947-5-3
Compliance with the Directives (Y/N) 	Yes
Suitable for safety functions (Y/N)	Yes
Function	Sensor for series wiring
Series-wiring	up to 31 components
Length of the sensor chain	max. 30 m
Mounting	For the assembly of the sensors as well as for flat mounted actuators 25

mm screw length is usually sufficient. The 30 mm long screws are recommended when the actuator is mounted upright and/or when the sealing disks are used.

Active principle	RFID
Materials	
- Material of the active surface	Plastic, glass-fibre reinforced thermoplastic
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
Housing construction form	Block
Cable colour	Black
Cable type	LiYY
Weight	
Input for enabling pushbutton, suitable for automatic start (Y/N)	No
Input for reset pushbutton, with edge monitoring (Y/N)	No
Coding	Included in standard version
Diagnostic output (Y/N)	Yes
Reaction time	≤ 100 ms
Duration of risk	≤ 200 ms
Time to readiness	≤ 5 s
Cascadable (Y/N)	Yes
Recommended actuator	RST 36-1, RST 36-1-R

## Mechanical data

---

Design of electrical connection	Cable (Y-UL 2517), 8-pole
Cable length	2 m
Cable section	
- Min. Cable section	
- Max. Cable section	8 x 0,35 mm <sup>2</sup>
AWG-Number	22
mechanical installation conditions	not flush
Actuating planes	Actuation from side
Active area	lateral
Switch distance S <sub>n</sub>	12 mm
Ensured switch distance ON S <sub>ao</sub>	10 mm
Ensured switch distance OFF S <sub>ar</sub>	16 mm
hysteresis	max. 2 mm
Repeat accuracy R <sub>R</sub>	< 0,5 mm
restistance to shock	30 g / 11 ms
Resistance to vibration	10 ... 55 Hz, Amplitude 1 mm
Latching (Y/N)	Yes
Latching force	18 N
notice	<b>Axial offset:</b> 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 drawing: Operating principle
	minimum distance 100 mm in case of approach from side

## Ambient conditions

---

Ambient temperature	
- Min. environmental temperature	-25 °C
- Max. environmental temperature	+70 °C
Storage and transport temperature	
- Min. Storage and transport temperature	-25 °C
- Max. Storage and transport temperature	+85 °C

Temperature resistance cable	
- min. Temperature resistance	-30 °C in position of rest, -10 °C in Movement
- max. Temperature resistance	+105 °C
Protection class	IP65, IP67 to IEC/EN 60529
Protection rating	II
Air clearances and creepage distances To IEC/EN 60664-1	
- Rated impulse withstand voltage $U_{imp}$	0,8 kV
- Overvoltage category	III
- Degree of pollution	3

### Electromagnetic compatibility (EMC)

---

EMC rating	to IEC 60947-3
Interfering radiation	to IEC 61000-6-4

### Electrical data

---

Cross circuit/short circuit recognition possible (Y/N)	Yes
Voltage type	DC
Switch frequency	1 Hz
Rated insulation voltage $U_i$	32 VDC
Rated operating voltage $U_e$ (stabilised PELV)	
- Min. Rated operating voltage	20.4 VDC
- Max. Rated operating voltage	26.4 VDC
Operating current $I_e$	0,6 A
No-load current $I_0$	0,1 A
Required rated short-circuit current notice	100 A
	The cable section of the interconnecting cable must be observed for both wiring variants! Cable length and cable section alter the voltage drop depending on the output current

### Electrical data - Safety inputs

---

Safety inputs	X1 and X2
Rated operating voltage $U_e$	24 VDC -15% / +10%

### Electrical data - Safety outputs

---

Safety outputs	Y1 and Y2
Fuse rating	short-circuit proof
Design of control output	p-type
Number of secure semi-conductor outputs	2 piece
Voltage drop $U_d$	< 1 V
Max. output current at secured output	0,25 A
Rated operating voltage	min. ( $U_e$ &minus; 1 V)
Residual current $I_r$	≤ 0,5 mA
Operating current $I_e$	max. 0,25 A
- Ambient temperature: -25 °C ... +70 °C	≤ 0,1 A
Minimum operating current $I_m$	0,5 mA
- Ambient temperature: -25 °C ... +65 °C	≤ 0,25 A
Utilisation category	DC-12: 24 V / 0,25 A DC-13: 24 V / 0,25 A

### Electrical data - Diagnostic output

---

Serial diagnostics (Y/N)	No
Fuse rating	short-circuit proof
Design of control output	p-type
Number of semi-conductor outputs with signaling function	1 piece
Rated operating voltage	$U_e < 2 \text{ V}$
Operating current $I_e$	max. 0,05 A
Utilisation category	DC-12: 24 V / 0,05 A DC-13: 24 V / 0,05 A

### LED switching conditions display

---

LED switching conditions display (Y/N)	Yes
Number of LED's	3 piece
green LED	Supply voltage
red LED	Error
yellow LED	switching condition

### ATEX

---

Explosion protection categories for gases	None
Explosion protected category for dusts	None

### Dimensions

---

Dimensions of the sensor	
- Width of sensor	106.3 mm
- Height of sensor	25 mm
- Length of sensor	22 mm

### Pin assignment

---

1 - A1 Ue	Brown
2 - X1 Safety input 1	White
3 - A2 GND	Blue
4 - Y1 Safety output 1	Black
5 - OUT Diagnostic output OUT	Grey
6 - X2 Safety input 2	violet
7 - Y2 Safety output 2	red
8 - IN without function	Pink

### notice

---

Requirements for the safety monitoring module	2-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. 0,25 ms. The safety monitoring module does not need to have a cross-wire short monitoring function.
---	---

### Included in delivery

---

Actuators must be ordered separately.

### Ordering code

---

RSS 36 (1)-(2)-(3)-(4)

(1)		
<i>without</i>		Included in standard version Coding
I1		Individual coding
I2		Individual coding,
(2)		
D		with Diagnostic output
SD		with
(3)		
<i>without</i>		without latching
R		with latching, Latching force approx. 18 N
(4)		
<i>without</i>		with Pre-wired cable 2 m
ST		with connector plug M12

## Documents

---

**Operating instructions and Declaration of conformity (it)** 650 kB, 22.02.2012

Code: mrl\_rss36\_it

**Operating instructions and Declaration of conformity (nl)** 614 kB, 23.09.2011

Code: mrl\_rss36\_nl

**Operating instructions and Declaration of conformity (en)** 528 kB, 18.01.2012

Code: mrl\_rss36\_en

**Operating instructions and Declaration of conformity (es)** 461 kB, 04.06.2012

Code: mrl\_rss36\_es

**Operating instructions and Declaration of conformity (fr)** 593 kB, 12.08.2011

Code: mrl\_rss36\_fr

**Operating instructions and Declaration of conformity (de)** 532 kB, 31.01.2012

Code: mrl\_rss36\_de

**Operating instructions and Declaration of conformity (jp)** 617 kB, 16.09.2011

Code: mrl\_rss36\_jp

**TÜV certification (de, en)** 574 kB, 19.09.2011

Code: z\_rssp01

**ECOLAB certification (de)** 403 kB, 08.07.2011

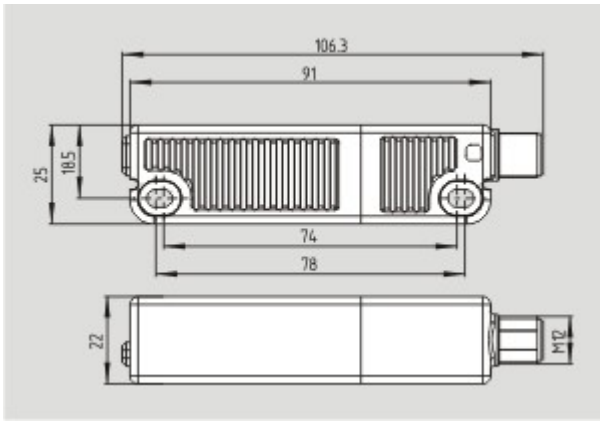
Code: q\_rssp01

**ECOLAB certification (en)** 383 kB, 08.07.2011

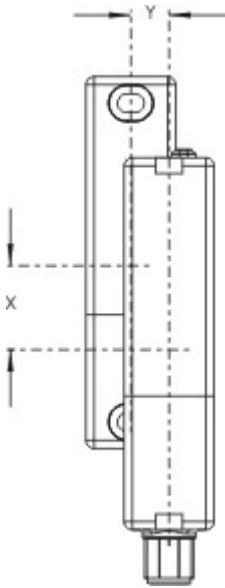
Code: q\_rssp02

---

## Images



Dimensional drawing (basic component)



Configuration graphic

## System components

### Actuator



#### RST 36-1-R

- Actuation from side
- with latching magnet
- Simple flexible mounting and adjustment



#### RST 36-1

- Actuation from side
- Simple flexible mounting and adjustment

### Accessories

#### 101215048 - ACC RSS 36-SK

- to seal the mounting holes and as spacer (approx. 3 mm) to facilitate the cleaning below the mounting surface
- also suitable as tampering protection for the screw fixings



---

## Mounting accessories



### 101217747 - NRS-M4X30-FHS-4PCS

- Set of 4 Tamperproof screws M4 x 30
- Stainless steel (V4A)



### 101217746 - NRS-M4X25-FHS-4PCS

- Set of 4 Tamperproof screws M4 x 25 and Washer
- Stainless steel (V4A)

---

K.A. Schmersal GmbH, Mödinghofe 30, D-42279 Wuppertal

The data and values have been checked thoroughly. Technical modifications and errors excepted.

Generiert am 16.07.2012 - 10:23:36h Kasbase 2.2.2.F DBI

Image

Image  
et=sS