

## Datasheet - RSS16-D-R-ST8H

Safety sensors / RSS16



- Thermoplastic enclosure
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- 3 different directions of actuation
- Door stop with magnetic latching
- Connection terminal or plug connection
- Suitable for series-wiring
- 1 x connector plug M12, 8-pole
- Series-wiring
- Included in standard version Coding
- with latching

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

### Ordering details

Product type description	RSS16-D-R-ST8H
Article number	103004338
EAN code	
eCl@ss	27-27-24-01

### Approval

Approval




### Classification

Standards	EN ISO 13849-1, IEC 61508, IEC 60947-5-3, EN 62061
PL	bis e
Control category	bis 4
PFH	$6.3 \times 10^{-11}/h$
SIL	3
Mission time	20 Years

### Global Properties

Product name	RSS16
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Standards	IEC 60947-5-3
Compliance with the Directives (Y/N) 	Yes
Suitable for safety functions (Y/N)	Yes
Function	Sensor for series wiring
Length of the sensor chain	max. 200 m
Mounting	2 x M5, Cylinder head screw
Active principle	RFID
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
- Material of the active surface	Plastic, glass-fibre reinforced thermoplastic
Housing construction form	Block
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	≤ 2 s
Cascadable (Y/N)	Yes
Series-wiring	
Recommended actuator	RST16-1-R

## Mechanical data

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Design of electrical connection	Connector M12, 8-pole
mechanical installation conditions	not flush
Actuating planes	front side, rear, Actuation from top
Active area	lateral, front side, cover-side
Switch distance $S_n$	15 mm
Ensured switch distance ON $S_{ao}$	5 mm
Ensured switch distance OFF $S_{ar}$	30 mm
hysteresis	max. 2 mm
Repeat accuracy $R_R$	< 0,5 mm
notice	see drawing: Operating principle
	Minimum distance between two safety sensors 250 mm
restistance to shock	30 g / 11 ms
Resistance to vibration	-
Latching (Y/N)	Yes
Latching force	lateral: approx. 60 N above or bottom: approx. 40 N
Tightening torque for nuts	2 Nm

## Ambient conditions

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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
Protection class	IP65, IP66, IP67 to IEC/EN 60529
Protection rating	-

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)

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

## Electrical data

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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 $I_e$	2.1 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

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

## Electrical data - Safety outputs

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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	1 A
Rated operating voltage	min. ( $U_e - 1 V$ )
Residual current $I_r$	$\leq 0,5$ mA
Operating current $I_e$	max. 1 A
Minimum operating current $I_m$	0,5 mA
- Ambient temperature -25°C ... +70°C	$\leq 0,25$ A
- Ambient temperature -25°C ... +65°C	$\leq 0,5$ A
- Ambient temperature -25°C ... +55°C	$\leq 1$ A
Utilisation category	DC-12: 24 V / 1 A DC-13: 24 V / 1 A

## Electrical data - Diagnostic output

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Serial diagnostics (Y/N)	Yes
Fuse rating	short-circuit proof
Design of control output	p-type
Number of semi-conductor outputs with signalina function	1 piece

Voltage drop $U_d$	< 2 V
Rated operating voltage $U_e$	min. ( $U_e - 2$ 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
Wiring capacitance for serial diagnostics	50 nF

## LED switching conditions display

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LED switching conditions display (Y/N)	Yes
Multi-coloured LED	green red
Number of LED's	2 piece
- green LED	Supply voltage
- red LED	Error piece
- yellow LED	switching condition

## ATEX

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

## Dimensions

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Dimensions of the sensor	
- Width of sensor	52 mm
- Height of sensor	30 mm
- Length of sensor	91 mm

## Included in delivery

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Actuators must be ordered separately.

## Ordering code

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RSS16 (1)-(2)-(3)-(4)

(1)	
<i>without</i>	Included in standard version Coding
I1	Individual coding
I2	Individual coding, for multiple applications
(2)	
D	with Diagnostic output
SD	with serial diagnostic function
(3)	
<i>without</i>	without latching
R	with latching, Latching force 40 ... 60 N
(4)	
ST8H	with connector plug M12, centered
CC	with Cage clamps
SK	with Screw connection

## Documents

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**Operating instructions and Declaration of conformity** (de) 1 MB, 11.09.2014

Code: mrl\_rss16\_de

**Operating instructions and Declaration of conformity** (es) 1 MB, 25.09.2014

Code: mrl\_rss16\_es

**Operating instructions and Declaration of conformity** (pl) 1 MB, 15.10.2014

Code: mrl\_rss16\_pl

**Operating instructions and Declaration of conformity** (en) 1 MB, 11.09.2014

Code: mrl\_rss16\_en

**Operating instructions and Declaration of conformity** (fr) 1 MB, 03.12.2014

Code: mrl\_rss16\_fr

**Operating instructions and Declaration of conformity** (it) 1 MB, 08.10.2014

Code: mrl\_rss16\_it

**Brochure** (en) 3 MB, 19.02.2015

Code: b\_rss16p01\_en

**Brochure** (fr) 3 MB, 19.02.2015

Code: b\_rss16p01\_fr

**Brochure** (nl) 336 kB, 19.02.2015

Code: b\_rss16p01\_nl

**Brochure** (it) 3 MB, 19.02.2015

Code: b\_rss16p01\_it

**Brochure** (cs) 353 kB, 13.03.2015

Code: b\_rss16p01\_cs

**Brochure** (es) 3 MB, 15.12.2014

Code: b\_rss16p01\_es

**Brochure** (pt) 3 MB, 19.02.2015

Code: b\_rss16p01\_pt

**Brochure** (de) 3 MB, 19.02.2015

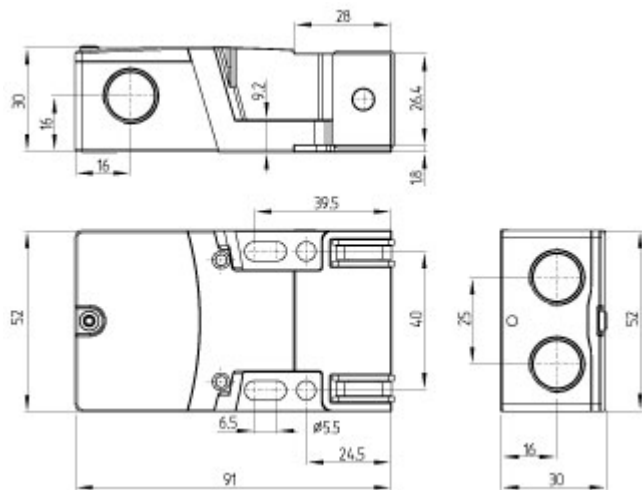
Code: b\_rss16p01\_de

**TÜV certification** (de, en) 1 MB, 27.01.2015

Code: z\_rssp03

## Images

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Dimensional drawing (basic component)

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## System components

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### Actuator



**103004337 - RST16-1-R**

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- Flat design
- with latching magnet

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

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