

SCHMERSAL Tech Briefs:

RSS260 Compact RFID Safety Sensor



Overview

Schmersal has applied Radio-frequency identification (RFID) technology in the RSS260 series non-contact safety sensor. The RSS260 is designed for application in safety circuits monitoring the position of hinged, sliding or removable guards using a specifically coded, passive RFID tag in the actuator.

The clear advantage of using RFID technology is enhanced tamper resistance. Since the RSS260 uses a special frequency, the sensor will disregard non-actuator RFID signals, and the passive RFID tag in the actuator will not interfere with other RFID systems such as product trackers. The RSS260 is also difficult to by-pass because it has the option of individual coding: The basic version of the sensor responds to any RST target actuator; The "I1" version only accepts the coded ID number of the specific target actuator which is taught in during the first start-up; The "I2" version allows the teach-in process to be repeated, allowing replacement of a lost or damaged actuator. The I1 and I2 options also fulfill the High level coding requirements of ISO 14119.

The non-contact sensing allows for longer switch life - Since there are no moving parts there is little to no wear on the components. As safety guard panels age, the sensor will also tolerate misalignments, up to 10 mm.

The RSS260 series has several actuator targets and accepts two approach directions which allow for mounting flexibility. The standard actuator (RST-260-1) matches the body profile of the switch which fits to regular aluminum profile systems, the RST-16-1 has a flat elongated profile with a discrete appearance for mounting on clear plastic doors, and the RST-U-1 is an extremely compact rectangular target designed for integration into the surrounding construction of the guard door. Any of these targets can approach the sensor from either the front face or the long side.

The RSS260 also features all of the diagnostic advantages of our other electronic safety sensors and solenoid interlocks. It comes standard with LEDs to indicate various errors. For more advanced indication the RSS260 is also available with serial diagnostics to communicate its status via serial data packages for use in various network protocols. Because of an integrated dual monitoring microprocessor, only one switch is required to meet PLe per ISO 13849-1 and SIL3 per IEC 62061. The RSS260 can be connected in series with other electronic sensors and locking switches, up to 31 devices, without loss of signal or safety level when monitored with a standard Schmersal safety controller.

Features



2 actuator approach directions



3 Color LED Display
Green: Power, not actuated
Yellow: Actuation
Red: (Flashing) Diagnostic error



Optional prewired 10' cable with M12, 8 pin connector end

Actuator options



RST-260-1
(39 mm x 29.5 mm x 18 mm)



RST-16-1
(60 mm x 16 mm x 6.8 mm)



RST-U-2
(23 mm x 9 mm x 7 mm)

Flexible mounting options



Side actuation with RST-260-1

Flat, discrete RST-16-1 mounted to Plexiglas door

RST-U-1 embedded into sliding Plexiglas door

Applications

- Material handling systems
- Packaging machinery
- Chemical processing equipment
- Robot cells
- Folding or brake presses
- Filter presses
- Punching machines
- Printing machines
- Injection molding
- Palletizers
- Packaging equipment

Available Literature



Electronic Safety Sensors and Solenoid Interlocks Catalog

Ordering Details

RSS260①-②-ST

- ① Actuator Coding
blank Standard version (no coding)
 I1 Individual coding (single)
 I2 Individual coding (multiple)
- ② Outputs
 D Diagnostic output
 SD Serial Diagnostic

RSS260-D-LSTM12-8-0.25M RSS260-I2-D-LSTM12-8-0.25M

(Prewired cable with M12, 8 pin connector)

Regularly stocked models:
 RSS260-D-ST RSS260-SD-ST
 RSS260-I2-D-ST
 RSS260-D-LSTM12-8-0,25M

Accessories

Actuators

- RST-260-1** Standard Actuator
RST-16-1 Flat Actuator
RST-U-2 Compact Actuator

Mounting / Spacers

- ACC RSS260-SK** Mounting hole seal
ACC RSS260-MK Mounting set

Connector cables

- M8, 8 pole with straight connector
 103003638 2 m cable
 103003639 5 m cable
 103003640 10 m cable

- M8, 8 pole with right angled connector
 103003641 2 m cable
 103003642 5 m cable
 103003643 10 m cable

CSS-Y-8P

- CSS-Y-A-8P** Y adapter
 Chain end

- 103003645 1 m cable
 M8 fem to M12 male cable for Y adapter connection

Compatible Safety Controllers

- SRB-E-201LC** **SRB-E-322ST**
SRB-E-201ST **SRB-E-402ST**
SRB-E-301ST **SRB-301MC**
SRB-E-212ST

Bold part numbers are regularly stocked

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