

RFID SAFETY SENSORS



SSF... SERIES

SAFETY SENSORS RFID SSF... SERIES

RFID technology

The use of RFID technology enables safety level PL e/SIL 3, even when sensors are connected in series. SSF... sensors can be easily integrated into existing safety designs, offering efficient solutions to improve and upgrade machine safety.

Thanks to RFID technology, coded sensors can be chosen in two different modes, giving the user the option of using the technology that best suits the desired level of tamper protection required for the application. The most secure mode is characterised by the fact that the sensor can only be associated with a single actuator.

Wear-free RFID technology ensures a longer product life cycle. In addition, there are status LEDs and diagnostic output.

Typical applications

Food & beverage, packaging, pharmaceutical, printing, paper, logistics, chemical, injection moulding and many more...

Highly visible status LED

2 different coding levels

Anti-tampering protection caps

22mm interaxis



RFID technology



Series connection

SSF... series RFIDs allow the status of each sensor to be read in series without the need to wire the status output of each individual sensor individually. Series connection is supported up to PL e/SIL 3.

M12 connector,
Pigtail with M12



Safety

The protection against tampering complies with ISO/EN/BS 14119. Protective caps on the screws prevent unwanted alterations and eliminate the possibility of dirt accumulating. The IP67 and IP69K degree of protection makes the device suitable for use in harsh operating environments.

IP67 and IP69K

Versatility

The product offers two wiring options: through the M12 connector or using the 15cm M12 connector pigtail. In addition, connectors are available for series connection, together with an adapter for a 78mm spacing.

Series connection with
status information



SAFETY SENSORS



SSF8TM



SSF8TP



SSFX...

Order code	Auxiliary supply voltage	Connector type	Encoding type	Qty per pkg	Wt
	[V]			n°	[kg]

5-pin version.

SSF5GM	24VDC	M12 connector	Generic	1	0,044
SSF5GP	24VDC	M12 Pigtail connector 15cm	Generic	1	0,056

8-pin version.

SSF8GM	24VDC	M12 connector	Generic	1	0,044
SSF8GP	24VDC	M12 Pigtail connector 15cm	Generic	1	0,056
SSF8TM	24VDC	M12 connector	Teach-in	1	0,044
SSF8TP	24VDC	M12 Pigtail connector 15cm	Teach-in	1	0,056

Each set consists of a sensor and corresponding actuator. Each set also includes tamper-evident protective caps.

ACCESSORIES

Order code	Description	Qty per pkg	Wt
		n°	[kg]
SSFXC55	5-5 pin RFID sensor connector	1	0,026
SSFXC58	5-8 pin RFID sensor connector	1	0,026
SSFX01	Fixing bracket to adapt to 78mm interaxis	1	0,013

Main characteristics

- Auxiliary supply voltage: 24VDC
- 22mm interaxis (with anti-tampering protection caps)
- 2 OSSD outputs (300mA at 24VDC) with short circuit protection
- 2 different types of connector: M12 or Pigtail with M12 connector
- 2 different types of coded levels: generic coding or Teach-in coding
- 2 different configurations: 5 or 8 pins
- 5-pin version allows operation only with automatic reset
- 8-pin version allows operation with automatic or manual reset, automatic without EDM and series connection (with status information) of up to 16 SSF safety RFID sensors...
- very high visibility status LED
- possibility of mounting sensor and actuator in both directions
- degree of protection (sensor and actuator) IP67 and IP69K.

Certifications and compliance

Certifications obtained: cULus, TUV.

Compliant with standards: Cat. 4, PLe according to EN/BS 13849-1, EN/BS 61508-1 (SIL 3), EN/BS 61508-2 (SIL 3), EN/BS 61508-3 (SIL3), IEC/BS 62061 (max. SIL 3).

TWO DIFFERENT TYPES OF IMPLEMENTATION

Actuator with TEACH-IN coding

The actuator is uniquely programmed and pre-assigned to the sensor via TEACH-IN during production at the factory. If necessary, the coupling process can be repeated in the field with a new actuator, without having to replace both components, maintaining the unique coding.

Actuator with GENERIC coding

The actuator can work with any generic RFID SSF... generic.

OPERATING MODES

5 pin model

- automatic restart.

8 pin model

- automatic restart
- manual restart
- actuator with TEACH-IN coding
- automatic restart without EDM
- series connection.

The operating mode is only selected by changing the connection.

IDEAL ALSO IN THE MOST DEMANDING APPLICATIONS

Unique mechanical characteristics allow protection against cleaning agents and washdown processes, a typical requirement of the food industry.



Resistant to aggressive elements, e.g. cleaning agents used in the food industry



Waterproof housing compliant with IP67 and IP69K requirements

LED STATUS

The sensor is equipped with a multicolor LED that signals its status in real time.

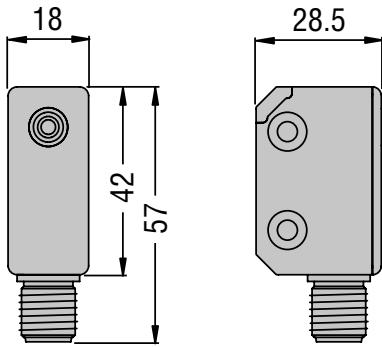


Colour	Sensor status	Meaning	Output status
RED	BREAK	OSSD outputs deactivated	Low level
GREEN	GUARD	OSSD outputs active	High level
YELLOW	RESTART	Waiting for Restart	-
Flashing GREEN/RED	GUARD INPUT OFF	One or more sensors are in break condition	-
Flashing GREEN	PROGRAMMING	Programmazione (Teach-in)	-
Flashing YELLOW	CONFIGURATION	Type of configuration	-
Flashing RED	FAIL	Error condition	See manual

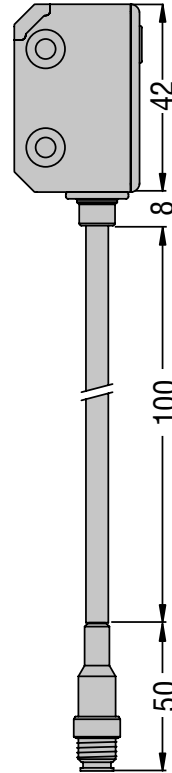
DIMENSIONS [mm] AND WIRING DIAGRAMS

SSF...

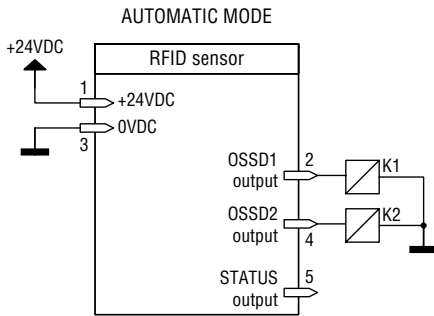
Sensor with connector



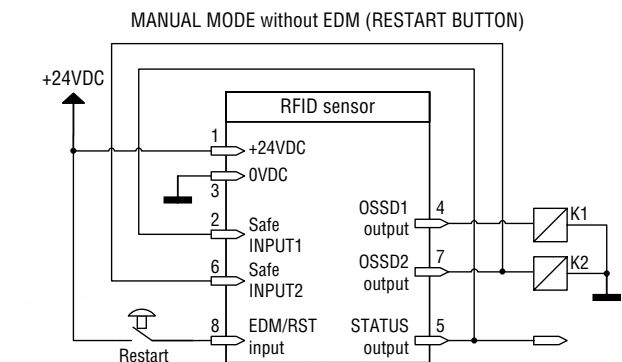
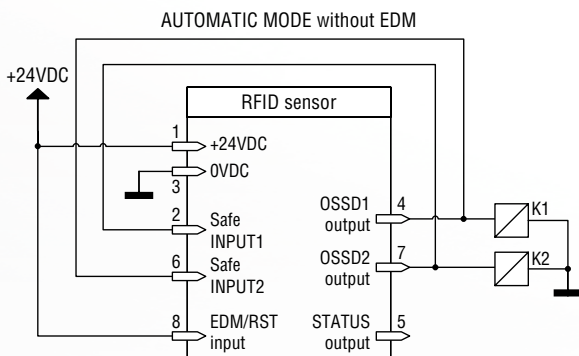
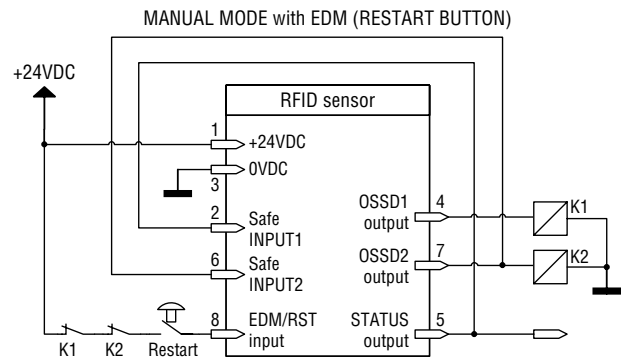
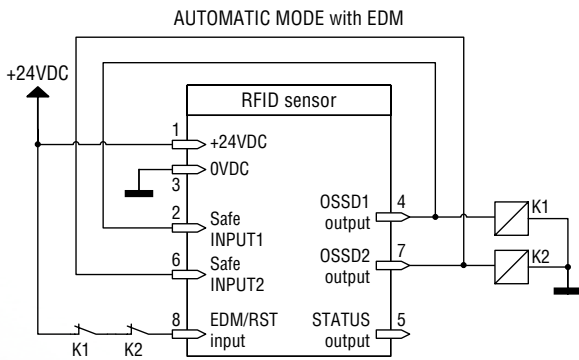
Sensor with Pigtail connector



SSF5...

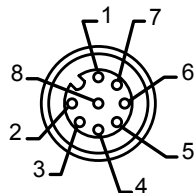
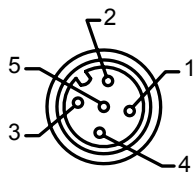


SSF8...



M12 connector, Pigtail with M12 connector

RFID SSF... sensors are able to satisfy various wiring requirements. To complete the offer, connectors are available to simplify wiring in the case of series connections of several sensors.



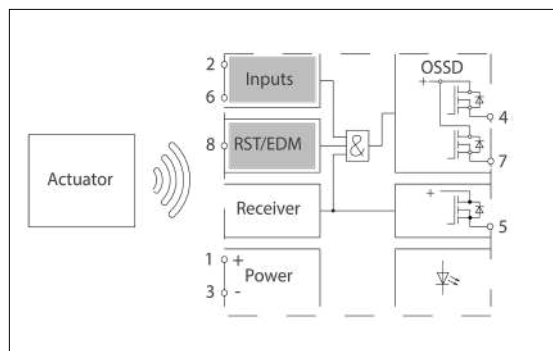
Inputs available on 8-pole model only

Pin-out model 5-pole

Pin	Function
1	24VDC
2	Safety output 1
3	GND
4	Safety output 2
5	Diagnostic output

Pin-out model 8-pole

Pin	Function
1	24VDC
2	Safety input 1
3	GND
4	Safety output 1
5	Diagnostic output
6	Safety input 2
7	Safety output 2
8	RST/EDM input



Series connection with maximum safety

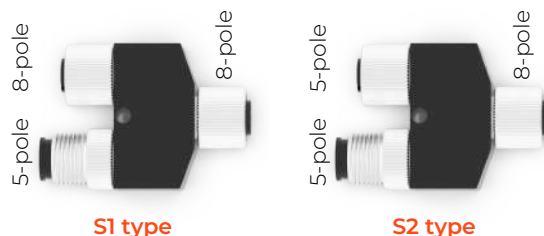
Allows individual status reading without individual status output wiring.

Splitter connectors

(for series connection)

SSFXC58: S1 TYPE connector, for the first sensor of the series.

SSFXC55: S2 TYPE connector, for the other sensors of the series.



S1 type

S2 type

RELATED PRODUCTS

For more LOVATO Electric safety products visit www.LovatoElectric.com



RFID SAFETY SENSORS SSF...



ENERGY AND AUTOMATION

www.LovatoElectric.com

LOVATO ELECTRIC S.P. A.

Via Don E. Mazza, 12
24020 Gorle (Bergamo), Italia

tel. +39 035 4282111
info@LovatoElectric.com

Follow us



The products described in this publication are subject to be revised or improved at any moment. Catalogue descriptions and details, such as technical and operational data, drawings, diagrams and instructions, etc., do not have any contractual value. In addition, products should be installed and used by qualified personnel and in compliance with the regulations in force for electrical systems in order to avoid damages and safety hazards.