



Your future's safe!



Status output  
via internal bus



RFID safety switches

short form



# R-SAFE RFID: next generation sensors for machine safety

## The best for series connections

R-SAFE RFID allows individual status reading without the need to individually wire the status output of each sensor.

## The best in cost-effectiveness

Wear-free technology allows for longer product life time.

Status LED and diagnostic output.

Full mechanical compatibility with Magnus RFID and Magnus MG "S" series.

Can be used as stand-alone or in series.

## The best in safety

Tampering protection in accordance with EN ISO 14119, the highest in its class.

Screw covers prevent easy removal.

Series connection up to PL e/SIL 3.

IP67 and IP69K protection grade for use in harsh environments.

## The best in versatility

Triple mounting options.

M12 connector, M12 connector with pigtail or cable.

3 different coding levels.

Extension cables for series connection.



## R-SAFE RFID next generation



The application of R-SAFE RFID sensors can be extremely wide thanks to the compact and versatile design.

The different design and technology options as well as the complete mechanical compatibility with the Magnus MG and RFID sensors "S" series, make this product extremely valuable for users.

The RFID technology enables R-SAFE RFID sensors to be coded in three different ways to allow the appropriate tampering protection in all applications.

The highest level of coding allow the sensors to be paired only with the assigned actuators.

The RFID technology used allows to reach safety levels up to PL e/SIL 3 also when connecting the sensors in series.

As a result, R-SAFE RFID sensors can be simply integrated in existing safety scenarios, offering a cost-effective solution for modifying and upgrading machines.

## Typical applications

R-SAFE RFID is the ideal choice for many industrial applications, including ...

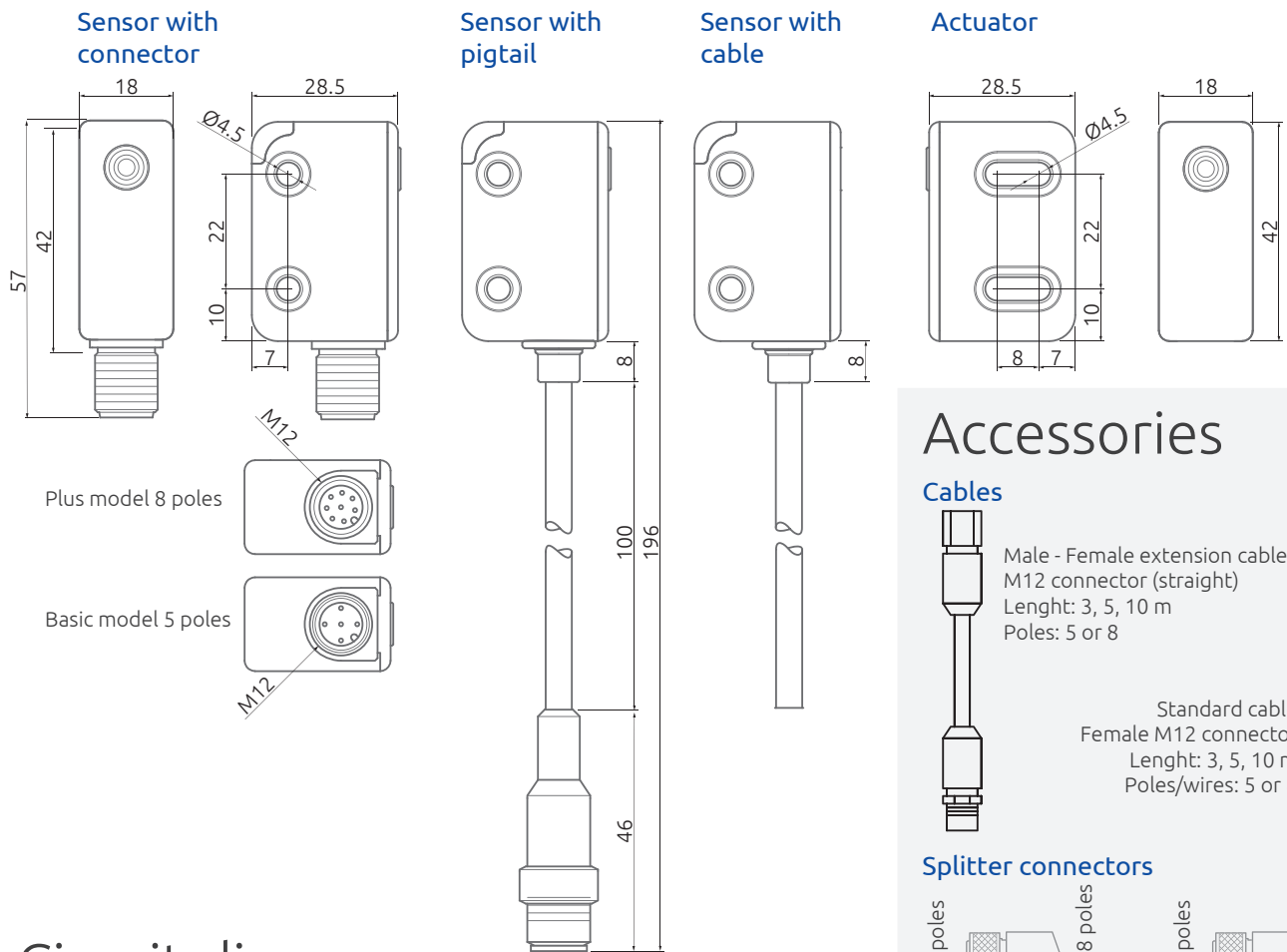
... food & beverage, packaging, pharmaceuticals, printing, paper, logistics, renewable energies, chemicals, injection moulding and many more ...



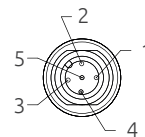
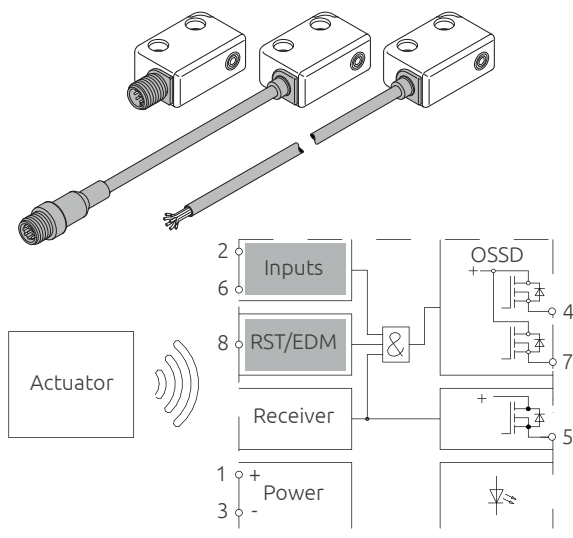


# Outstanding technical specifications

## Technical drawings



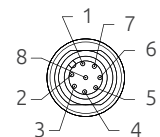
## Circuit diagram



### Basic model pin-out

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

Inputs available on Plus model only

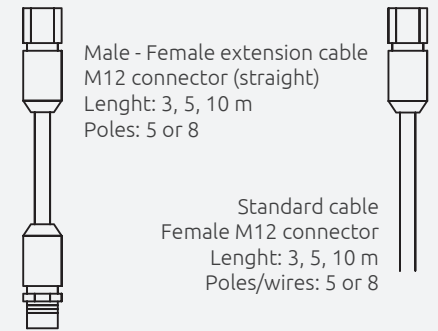


### Plus model pin-out

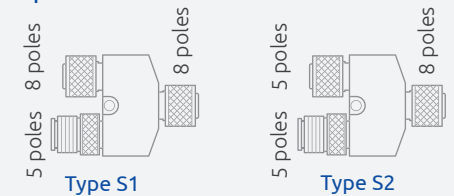
Pin	Function
1	24 VDC
2	Safety input 1
3	GND
4	Safety output 1
5	Diagnostic output
6	Safety input 2
7	Safety output 2
8	RST/EDM input

## Accessories

### Cables



### Splitter connectors



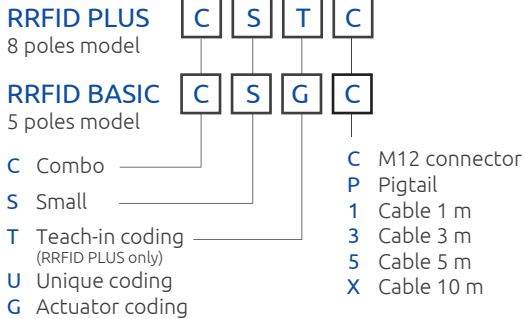
# New RFID safety sensors

[www.reersafety.com](http://www.reersafety.com)

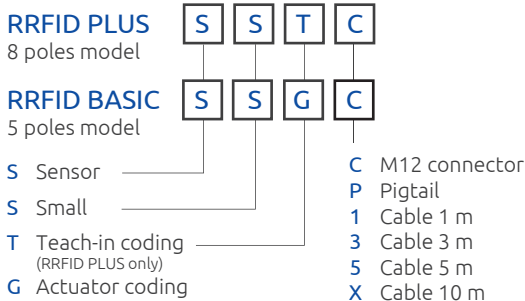
# Ordering information

# Technical data

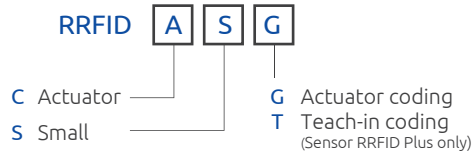
## Combo<sup>1</sup> (Sensor + Actuator)



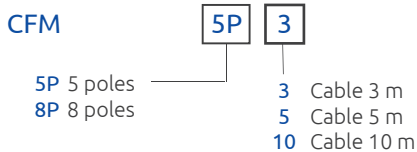
## Sensor



## Actuator



## Extension cables (for series connection)



## Cables

(For models with C and P connector)



## Splitter connectors

(for series connection)

- CRY12-885** TYPE S1 connector, for the 1<sup>st</sup> sensor of the serie  
**CRY12-855** TYPE S2 connector, for subsequent sensors of the serie

## Electrical specifications

Supply voltage	24 VDC ± 20%
Power consumption	0,5 W
Switching current safety output	Max. 300 mA
Switching current status output	Max. 50 mA
Safety outputs	2 OSSD active high
Safety inputs	2 inputs active high
Status output	1 output active high
Restart	Monitored normally open Restart input in series with EDM

## Operating characteristics

Functioning operating distance	12 mm
Assured release distance (Sar)	25 mm
Operating temperature	- 25 ... + 70 °C
Storage temperature	- 25 ... + 70 °C
Umidity	50% @ 70 °C ... 90% @ 20 °C
Protection class	IP65/IP67 (IP69K)
Shock resistance	30 g / 11 ms IEC 60068
Vibration resistance	10 ... 55 Hz, amplitude 1 mm
Switch-on delay	10s typical, 15s max.
Standalone Risk time Δ Rt	≤ 55 ms
Operating direction	Any direction
Switching principle	Electronic
Series connection	Max. 16 sensors
Technology	RFID

## Mechanical data

Material	Polyketone (POK)
Housing	Rectangular
Connector type	M12 8 or 5 poles
Cable	PVC 8 or 5 wires
Cross-section of wire	0,25 mm <sup>2</sup>
Temp. range cable	- 25 ... 80 °C
Dimensions (height x width x depth)	28,5 x 57 x 18 mm
Mounting type	M4 screws (countersunk)

## Approvals and safety characteristics

PL	PL e	ISO 13849-1
Categoria	4	ISO 13849-1
PFHd	3,58E <sup>-9</sup>	IEC 61508-1
SFF	90%... 99%	IEC 61508-1
SIL	3	IEC 61508-1
SIL max.	3	EN 62061
Hardware fault tolerance	1	EN ISO 13849-1 / EN 62061
Low level coding	Yes - Generic	ISO 14119-1
High level coding	Yes - Teach-in / Unique	ISO 14119-1

## Notes

1 Each Combo set is provided with a Sensor and the corresponding Actuator. Sensors and Actuators can be also ordered separately



# Quality, reliability and an extensive range

Cost-effective and reliable solutions

## Multiple options of actuation technology

### Teach-in coding (Plus model only)

The actuator is programmed via teach-in and permanently assigned to the sensor during set-up (the process can be repeated if necessary)

### Unique coding

The actuator is permanently assigned to the sensor during manufacturing (it cannot be replaced with another actuator)

### Actuator coded

The actuator is free and not specifically assigned to the sensor (one actuator can work with multiple generic sensors)



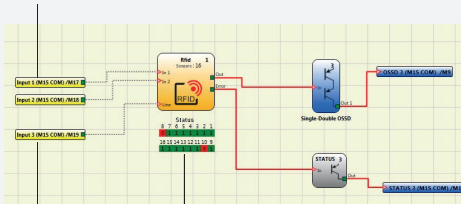
## Series connection with maximum safety

Allows individual status reading without individual status output wiring




### Example of connection with Mosaic

OSSD outputs from the last sensor of the series



Status output from last sensor of the series

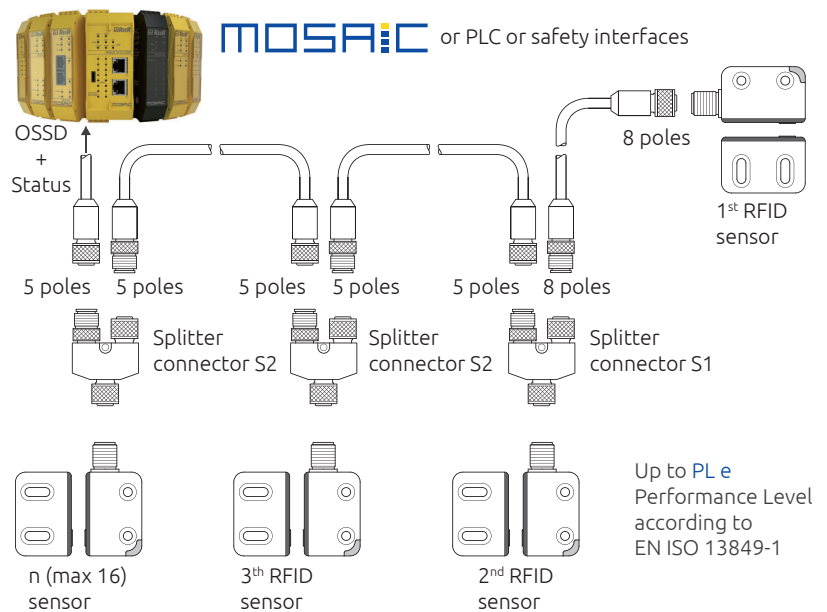
Status of each single sensor



### The signal status contains the individual status of each sensor in the series.

A simple logic signal readable by any PLC or directly with Mosaic M1S.

The status of each single sensor is also available on fieldbus data information.



# ange to fit all applications

## Basic and Plus models operative modes

### Basic model (5 poles)

- Automatic restart

### Plus model (8 poles)

- Automatic restart
- Manual restart
- Teach-in coding
- Automatic restart (without EDM)
- Serial connection

Note: The operative mode is set by wire connections

## 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.



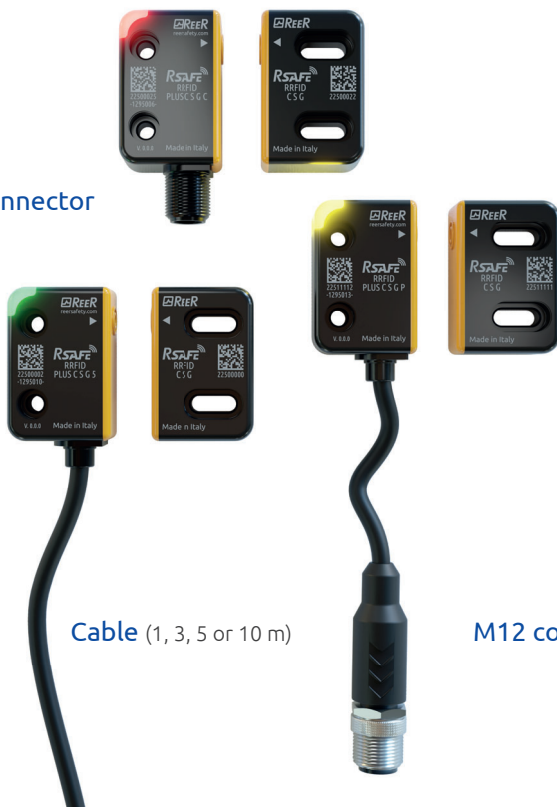
Resistant to aggressive elements, e.g. cleaning agents used in the food industry



Waterproof housing compliant with IP67 and IP69K requirements

## Connectivity

M12 connector



Cable (1, 3, 5 or 10 m)

M12 connector with pigtail (15 cm)

### M12 connector, M12 connector with Pigtail, Cable

R-SAFE RFID satisfies all connection requirements. Cables and connectors approved for the food industry complete the range of sensors



*Your future's safe!*

### More than 60 years of quality and innovation

Founded in Turin, Italy in 1959, ReeR distinguished itself for its strong commitment to innovation and technology.

A steady growth throughout the years allowed ReeR to become a point of reference in the safety automation industry at a worldwide level.

The Safety Division is in fact today a world leader in the development and manufacturing of safety optoelectronic sensors and controllers.

ReeR is ISO 9001, ISO 14001 and ISO 45001 certified.



**ReeR SpA**  
Via Carcano, 32  
10153 Torino, Italy

T +39 011 248 2215  
F +39 011 859 867

[www.reersafety.com](http://www.reersafety.com) | [info@reer.it](mailto:info@reer.it)



Issue 1 - Rev. 1.0  
February 2023  
8940031

Brochure R-SAFE RFID Sensors - English

*Printed in Italy*

