

## INTERCONNECTION MODULES

# SAFEGATE M SG BOX RST

### GENERAL

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The SAFEGATE M SG BOX RST modules are accessory devices designed to make the wiring of the SAFEGATE S / SAFEGATE TRX-S, barriers fast and safe, as well as provide the main controls necessary for their operation close to the protected gate.

In addition to the safety relays with guided contacts piloted and monitored by the light curtain, terminal blocks for connecting the cables, jumpers and dip-switches for the configuration of the barrier itself.

### DESCRIPTION

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M SG BOX RST is characterized by:

- Luminous push-button for restart and output status indication.
- Connectors for wiring the box to the barrier:
  - 12 M12-8 poles male for TRX-S Active Element (or SAFEGATE S Receiver);
  - 12 M12-5 poles female for SAFEGATE S Emitter.
- Fairlead for the connections toward the machine of:
  - power supply;
  - connection with the output contacts of the internal safety relays and relative EDM;
  - output signals which indicate the status of the safety light curtain.

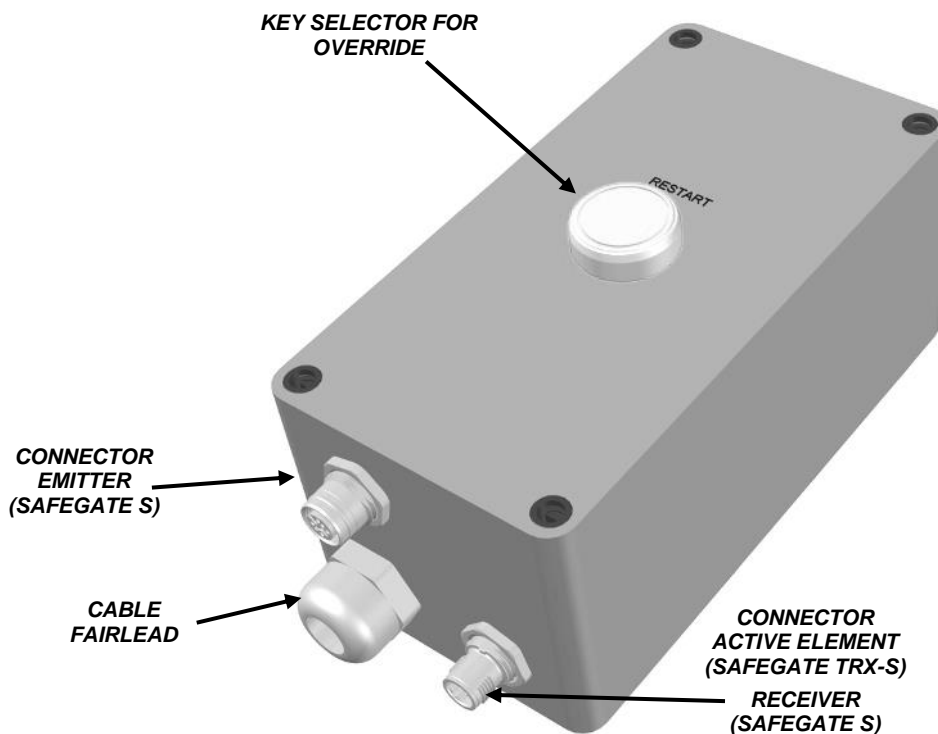


Figure 4 - M SG BOX RST – Connections and signals

**CONFIGURATION**

The configuration of the operating modes is described below.

This configuration is performed following the descriptions of the tables below, by setting the various jumper, connectors and dip-switches located on the main board.

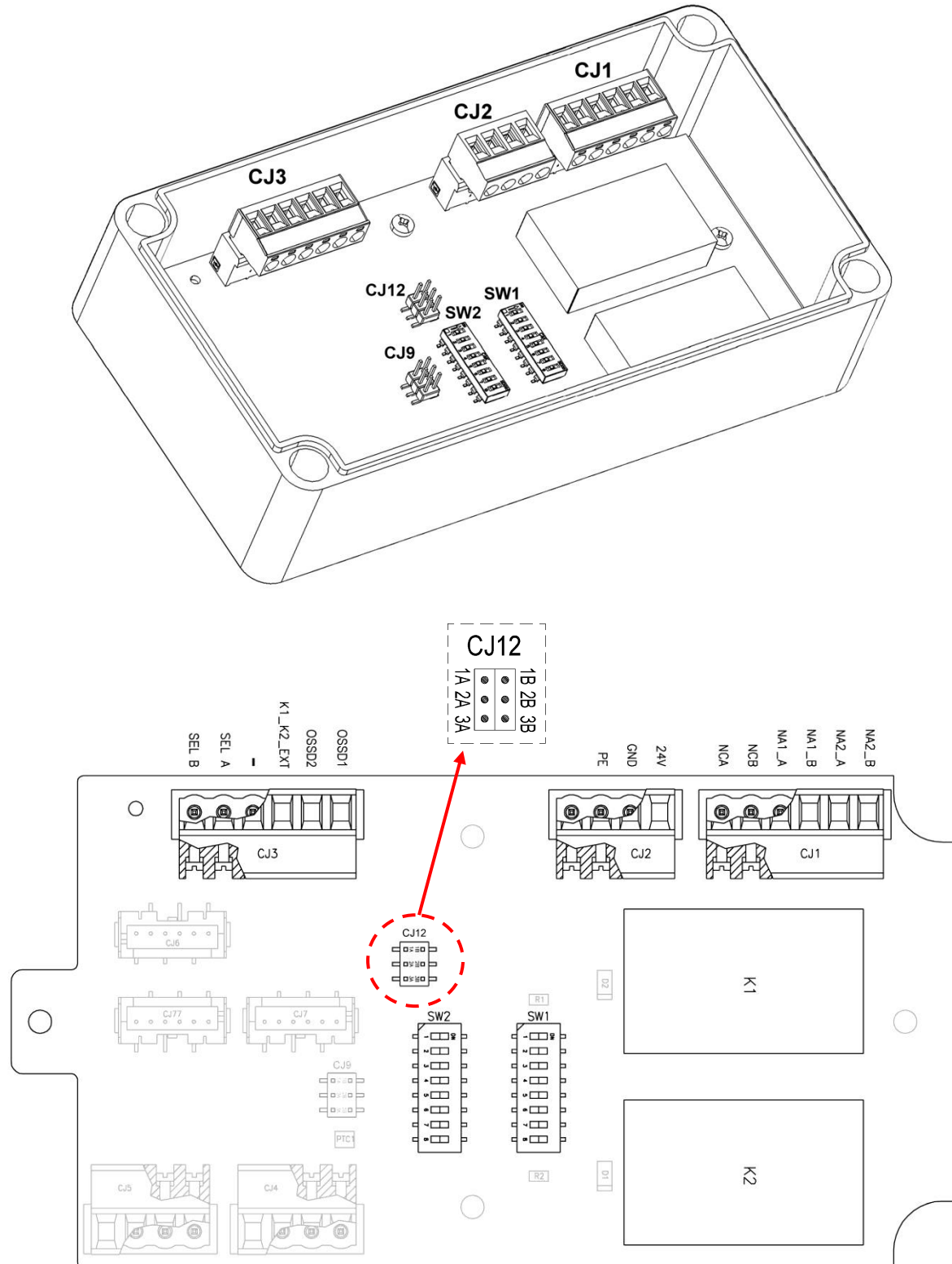
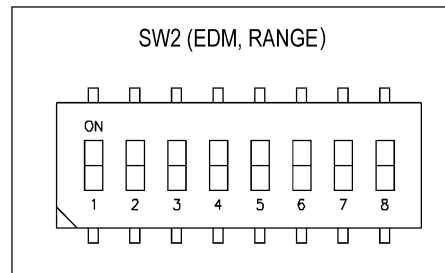
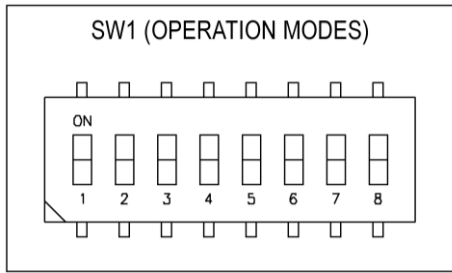


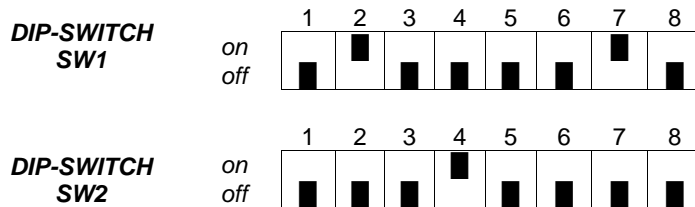
Figure 5 – Main board

**SELECTION OF OPERATION MODES (DIP-SWITCH SW1-SW2)**

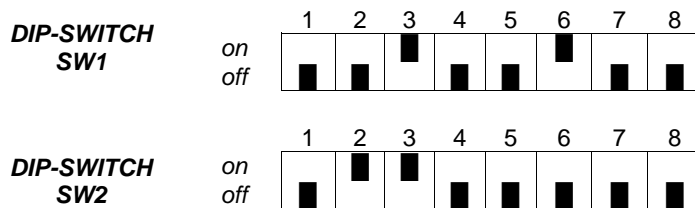


**Automatic Mode**

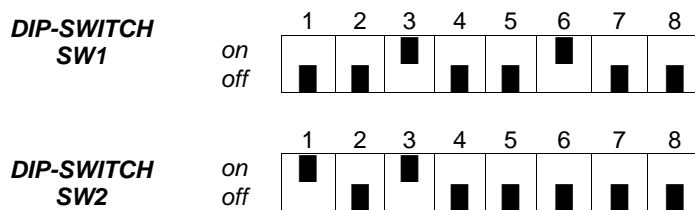
**Automatic Mode without EDM**



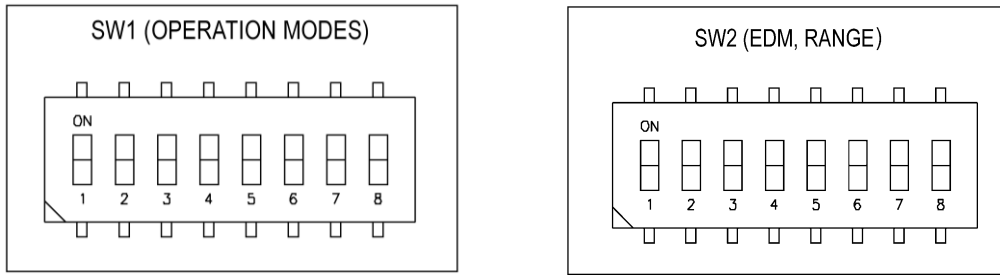
**Automatic Mode with EDM internal relays**



**Automatic Mode with EDM external relays**

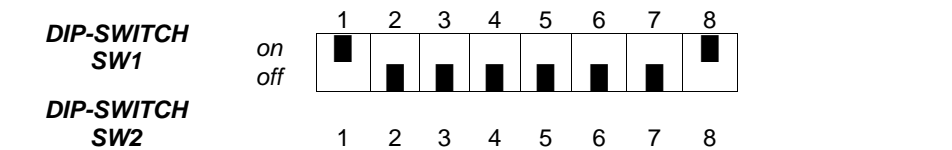


**SELECTION OF OPERATION MODES (DIP-SWITCH SW1-SW2)**

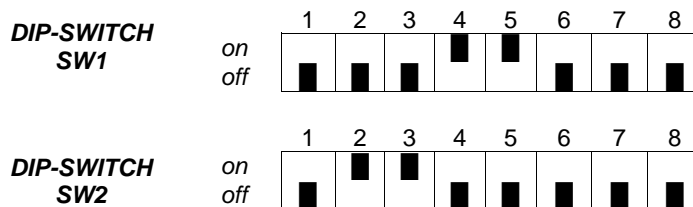


**Modalità Manuale**

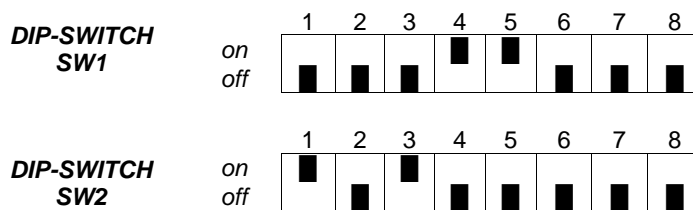
**Manual Mode without EDM**



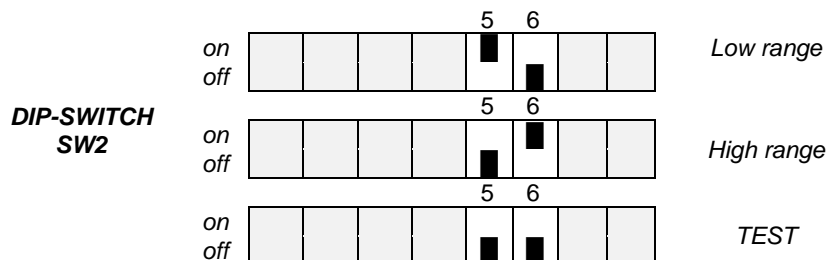
**Manual Mode without EDM internal relays**



**Manual Mode without EDM external relays**



**Range Selection (SAFEGATE S)**



**SELECTION STATIC OUTPUTS / RELAYS (CJ12)**

JUMPER	PIN	DESCRIPTION	SELECTION PRESET
	1A ↔ 2A 1B ↔ 2B	Static outputs	Internal Relays
	2A ↔ 3A 2B ↔ 3B	Internal Relays	

**INSTALLATION AND ELECTRIC CONNECTIONS**

- The M SG BOX RST modules can be fixed to the wall, using the proper plastic brackets inserted in the holes placed on the box rear side corners. These brackets can easily rotate to reach 90°.
- The light curtain must be connected to the respective connectors M12 (Fig.1) using the dedicated cables.
- The cables coming out from the cable gland (PG11) must be connected - depending on its utilization - to the connectors CJ1, CJ2 and CJ3. Terminal tightening torque: 4,4lb-in (0,5 Nm) is mandatory.
- Use 60/75°C copper (Cu) conductor only. Wire size range: AWG 12÷30, (solid/stranded) (UL).
- The working temperature is: -25°C ÷ 55°C.

Terminal board CJ1		
CLAMP	NAME	DESCRIPTION
1	NA2_B	Ends of the contact normally open n. 2
2	NA2_A	
3	NA1_B	Ends of the contact normally open n. 1
4	NA1_A	
5	NCB	Ends of contacts normally closed, in parallel
6	NCA	

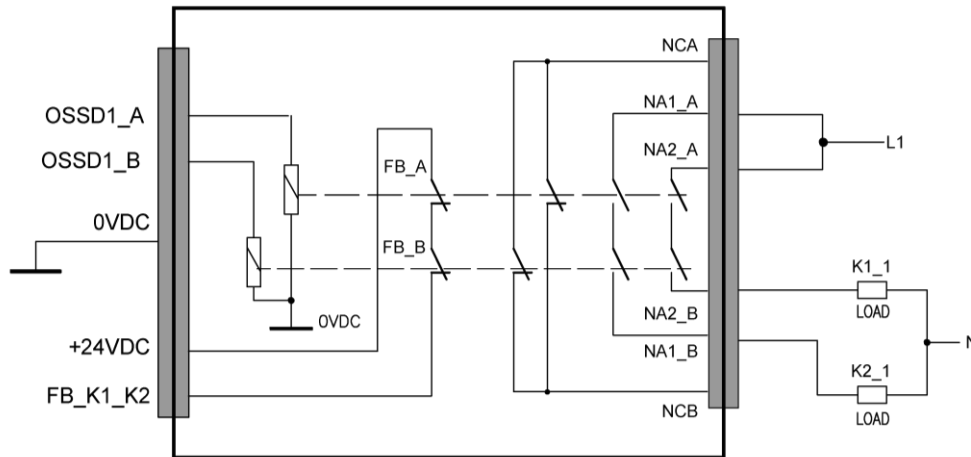


Figure 6 – M SG BOX RST connection sample

Terminal board CJ2		
CLAMP	NAME	DESCRIPTION
1	+24Vdc	24 ± 20%
2	0V	0 Vdc
3	PE	Protective Earth
4	-	-

Terminal board CJ3		
CLAMP	NAME	DESCRIPTION
1	OSSD1	Safety status output 1
2	OSSD2	Safety status output 2
3	K1_K2	Feedback external relays K1/K2 input
4	-	-
5	SEL_A	Operation mode selection
6	SEL_B	Operation mode selection

**SIGNALS**

SIGNAL	CONDITION	MEANING
OUTPUT STATUS <i>(White)</i>	ON	Outputs active
	OFF <i>(Low intensity blinking)</i>	Light curtain occupied: outputs disabled

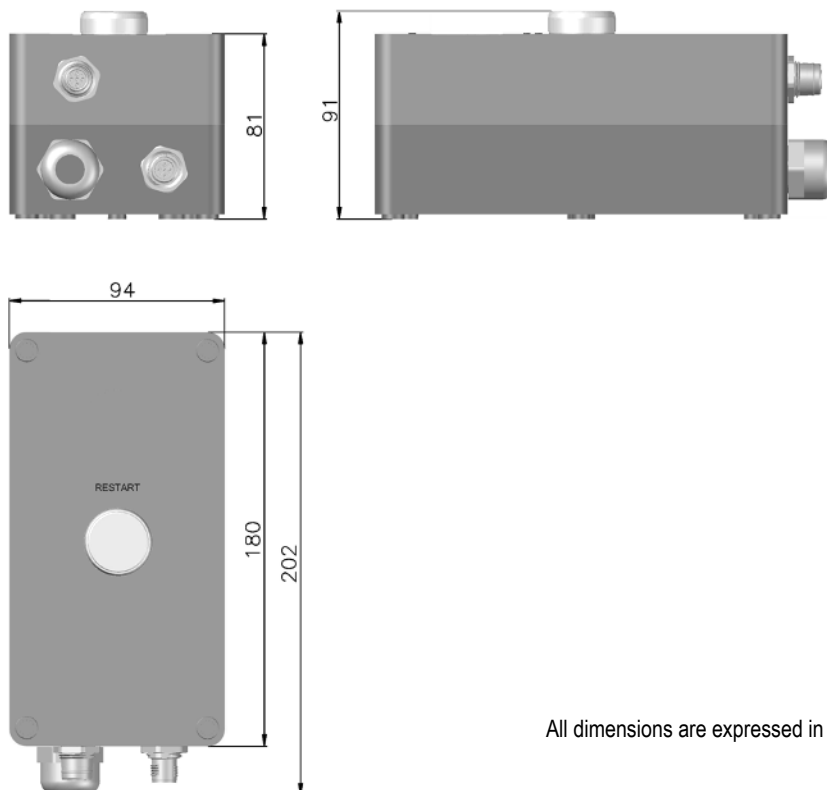
**SAFETY RELAYS TECHNICAL DATA**

The M SG BOX RST module uses two safety relays with guided contacts for the output circuit. These relays are specified by the manufacturer for voltages and currents greater than those indicated in the technical data; nevertheless to guarantee correct insulation and avoid damage or premature aging, protect each output line with a **3.15 A delayed fuse** and verify that the features of the load conform to the indications on the following table.

TECHNICAL DATA	
Number of contacts	2N.A. - 1N.C.*
Relay category (according to EN60947-5-1)	AC15 / DC13
Max commutable voltage	250Vac, 24Vdc
Min commutable voltage	10Vac/10Vdc
Max commutable current	2A
Min commutable current	10mA@24Vdc
Number of commutations (life)	$\geq 50 \times 10^3$ (el) / $\geq 40 \times 10^6$ (mech)

\* 1N.C. = DO NOT USE AS A SAFETY CONTACT

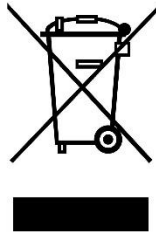
**MECHANICAL DIMENSIONS**



All dimensions are expressed in mm

**INDICATIONS AND INFORMATION FOR ENVIRONMENTAL PROTECTION**

Dispose of the product in an eco-compatible manner and in accordance with national legislation.

***For Countries in the European Union:******Pursuant to the Directive no. 2012/19/EU on waste electrical and electronic equipment (WEEE)***

The crossed out wheellie-bin symbol on the equipment or its packaging means that when the product reaches the end of its useful life it must be collected separately from other waste.

Proper separate collection of the discarded equipment for later environment-friendly recycling, processing and disposal, helps to avoid any negative impact on the environment and health and encourages re-use and recycling of the materials the equipment is made of.

In each individual Member State of the European Union this product is required to be disposed of in accordance with Directive **2012/19/EU** as implemented in the Member State where the product is disposed of.

For further information please contact ReeR or your local dealer.

Precise, complete compliance with all standards, instructions and warnings in this handbook is essential for the correct operation of the device.

ReeR S.p.A. therefore declines any responsibility for all and anything resulting from failure to comply with all or some of the aforesaid instructions.

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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)

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