



RED - Hevo

USER MANUAL

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REL.	DATE	T.M Check and approval

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1 – INTRODUCTION

RED-H evo is an emergency rescue device for hydraulic lift systems, which allows the car to come back to bottom floor and the car doors opening during black out.

It is supplied by a battery voltage 24Vdc (N°2 batteries 12V 7Ah series connected) and it is easy-fitting to any kind of lift system, new or already existing.

This manual contains the necessary information about the connections, the put on duty and the operation of RED-H evo, please read it carefully before proceeding to the installation.

2 – GENERAL DESCRIPTION

The device is built in a metal box, and includes:

- Electronic box RED-X (including battery charger, logic circuits and 3-phase inverter)
- N°2 elevator transformers 200VA (primary 18V, secondary 230/400V)
- N°2 Batteries 12V 7Ah. (**non supplied inside the product**)

3 – OPERATING PRINCIPLE

RED-H evo detects the main power missing (even a single phase) and after a few seconds it starts the emergency rescue operation that is carried on as follows:

- Control panel supply, which usually comes directly from the mains, is insulated.
- After 2 seconds, the 3-phase inverter turns on and, through the elevator transformer, reproduces the mains voltage to supply the primary winding of the control panel transformer.
- A call to the bottom floor is made.
- The same control panel circuits active in normal operation make the car to go down, stop at bottom floor and open the automatic door.
- RED-H evo ends the rescue operation after a time programmable from 10 to 60 seconds from stop at floor, to allow the easy getting out of people from the car; when the operation ends, the lift system returns in the normal condition, as it is when mains supply is on.

A new emergency operation is possible only when the mains supply has first switched on, then switched off again.

4 – INSTALLATION

RED-H evo can be easily wall-mounted preferably as close as possible to the control panel, this will help in order to take advantage of the pre-wired cables and have the shortest connections.

The electrical connections must be carried out with the Main Power Switch and Car Light Switch OFF, following the WIRING DIAGRAM of paragraph 5, keeping in mind the following clarifications.

ATTENTION!

Check the correct polarity of the batteries. Reversing the polarity of the batteries will damage the rescue device.

RED-H in its STANDARD version is designed for THREE-PHASE 400V input / output voltage.

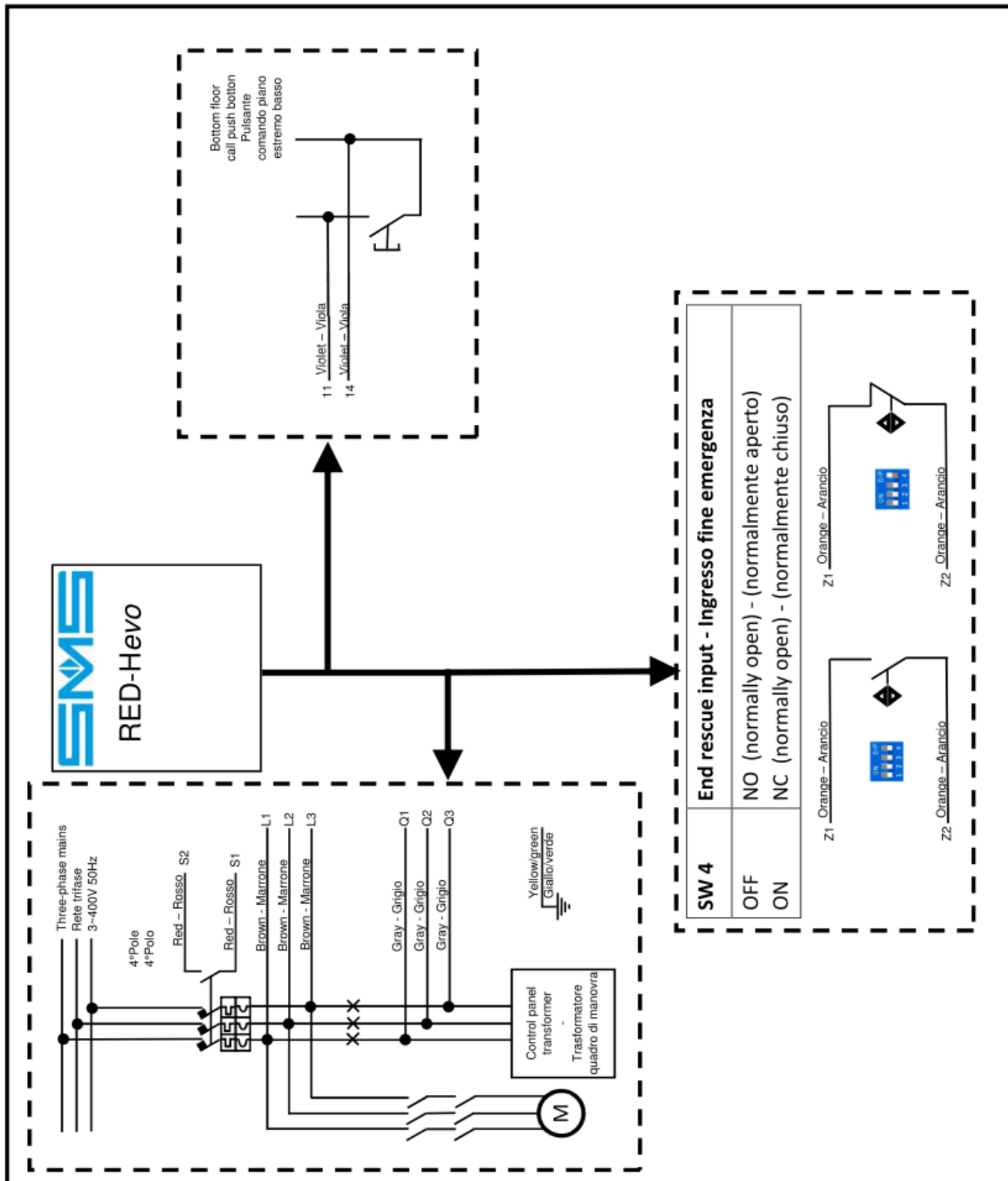
- If you need a **THREE-PHASE 230V** voltage, please modify the connections to the transformers T1-T2 as shown in the paragraph 7, page 5.
- If you need a **SINGLE-PHASE 400V OUTPUT** voltage, please modify the connections to the transformers T1-T2 and connect RED-H evo as shown in the paragraph 8, page 6.
- If RED-H evo is installed in a lift with **SINGLE-PHASE 230V INPUT** voltage, please modify the connections to the transformers T1-T2, set up and connect RED-H as shown in the paragraph 9, page 7.

- Cut off the operation transformer supply, connecting the wires coming from the mains to the terminals L1-L2-L3 (**BROWN** wires) and the operation transformer supply to the terminals Q1-Q2-Q3 (**GRAY** wires). In case of SINGLE-PHASE transformer, connect Q1 and Q3, and do not connect Q2, see paragraphs 8 and 9.
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- Connect the 4th pole of the Main Power Switch into the machine room to terminals S1-S2 (**RED-RED** wires). If the 4th pole is open the emergency mustn't operate.
- On the terminals 11, 14 there is a N.O. contact, which remains closed along the whole emergency cycle. This contact may be used to make the emergency call or, if needed, to by-pass the eventual phase control device contact.

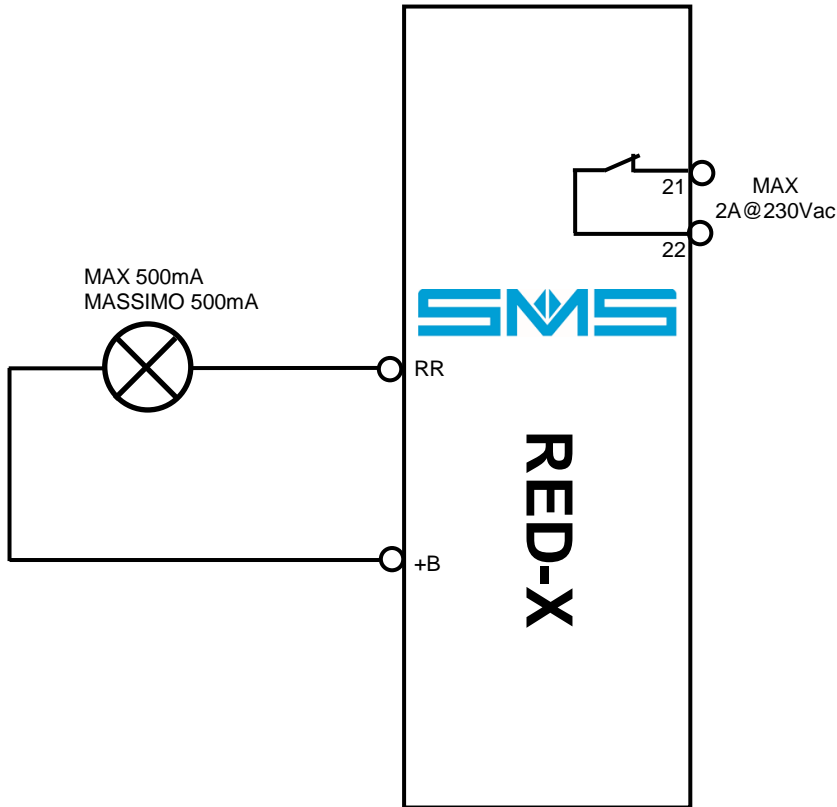
If you need a N.C. contact (as for example, to cut off the call button common), change wires 11,14 to 21, 22 on the REDX box.

- On terminals Z1 and Z2 (**ORANGE-ORANGE** wires) a clean contact must be connected. This contact is the rescue operation END input. With the DIP SWITCH of the REDX box it is possible to configure this input as a N.O. contact (DIP4 OFF) or as a N.C. contact (DIP4 ON).

5 – WIRING DIAGRAM

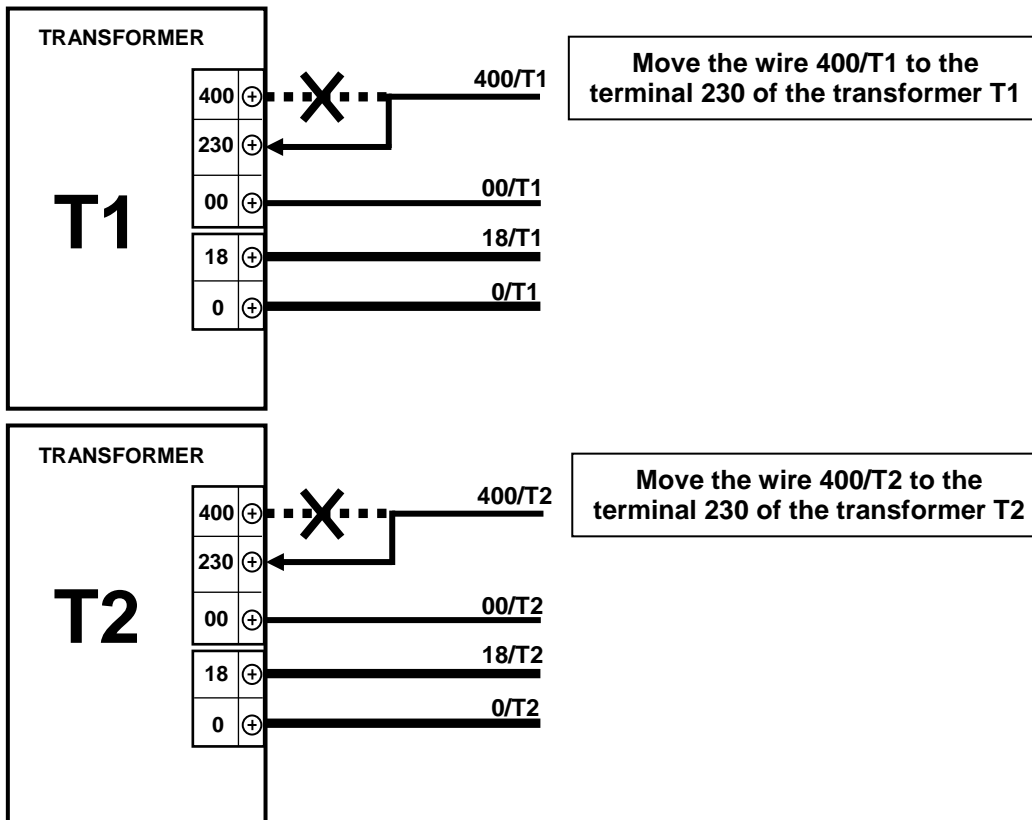


6 – OPTIONAL CONNECTIONS (DIRECTLY AVAILABLE ON RED-X BOX)



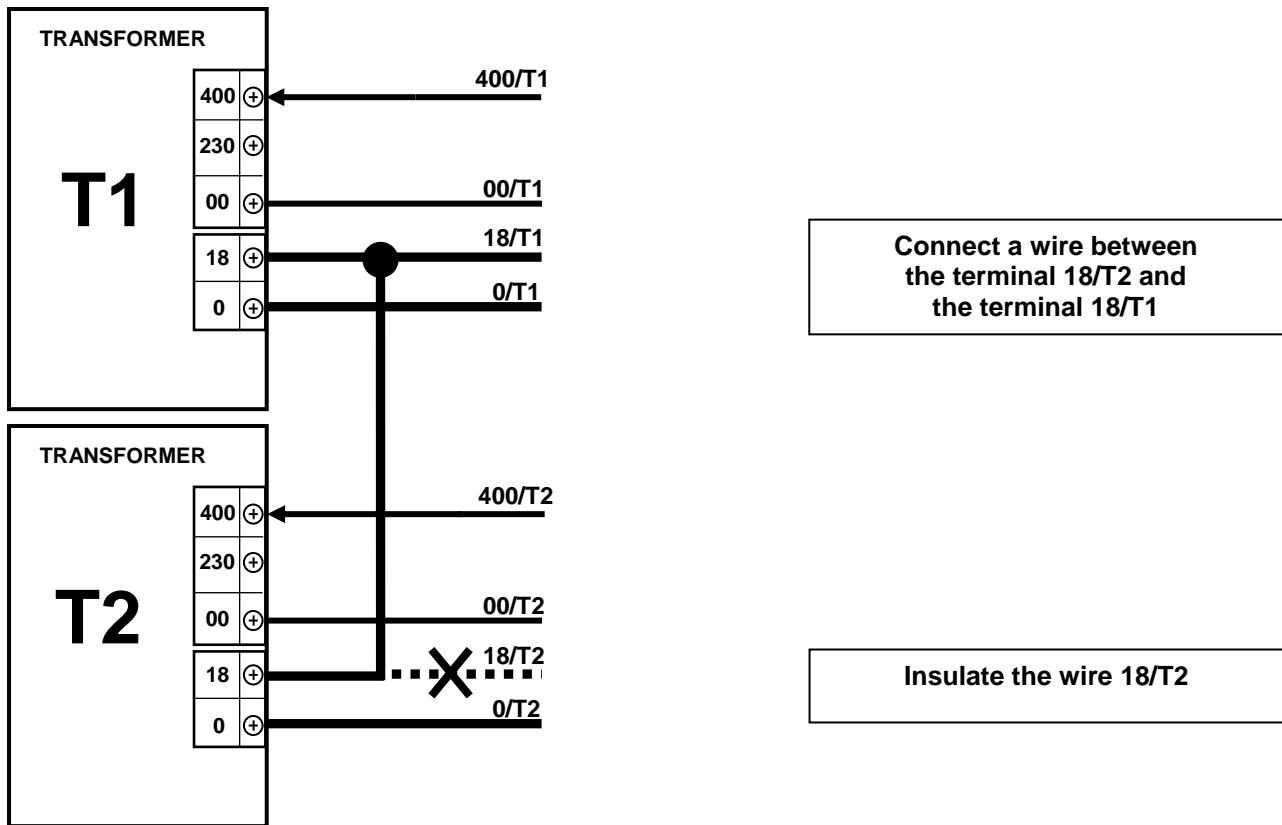
7 – CONNECTING TO GET 230V THREE-PHASE OUTPUT

MAKE THE CHANGES INSIDE THE DEVICE, AS FOLLOWS:

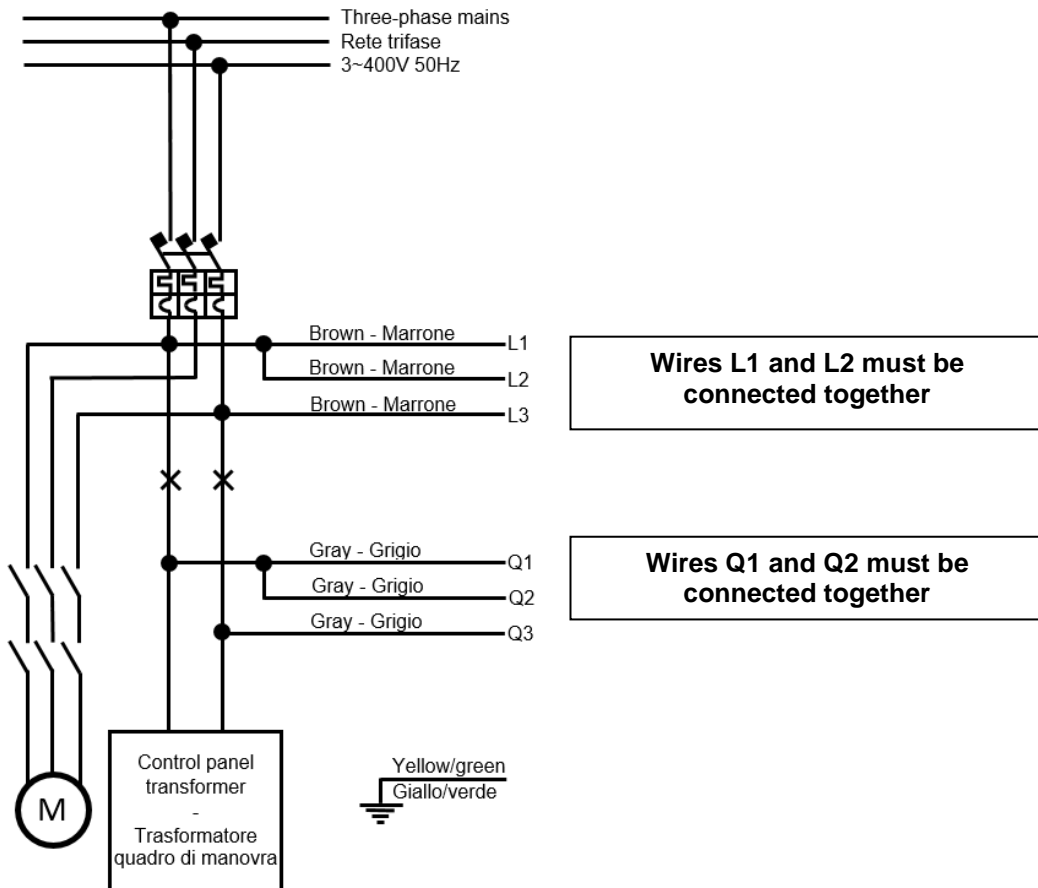


8 – CONNECTING TO GET 400V SINGLE-PHASE OUTPUT

MAKE THE CHANGES INSIDE THE DEVICE, AS FOLLOWS:

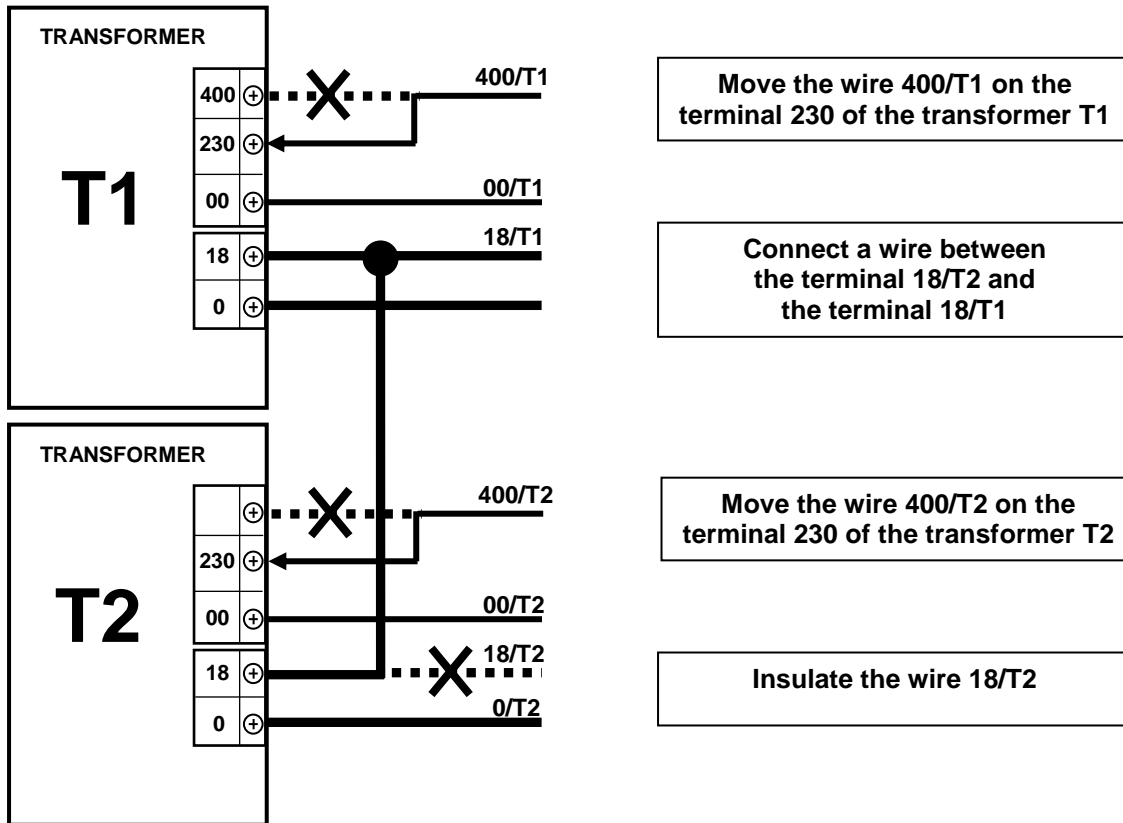


CONNECTION OF THE OPERATION TRANSFORMER

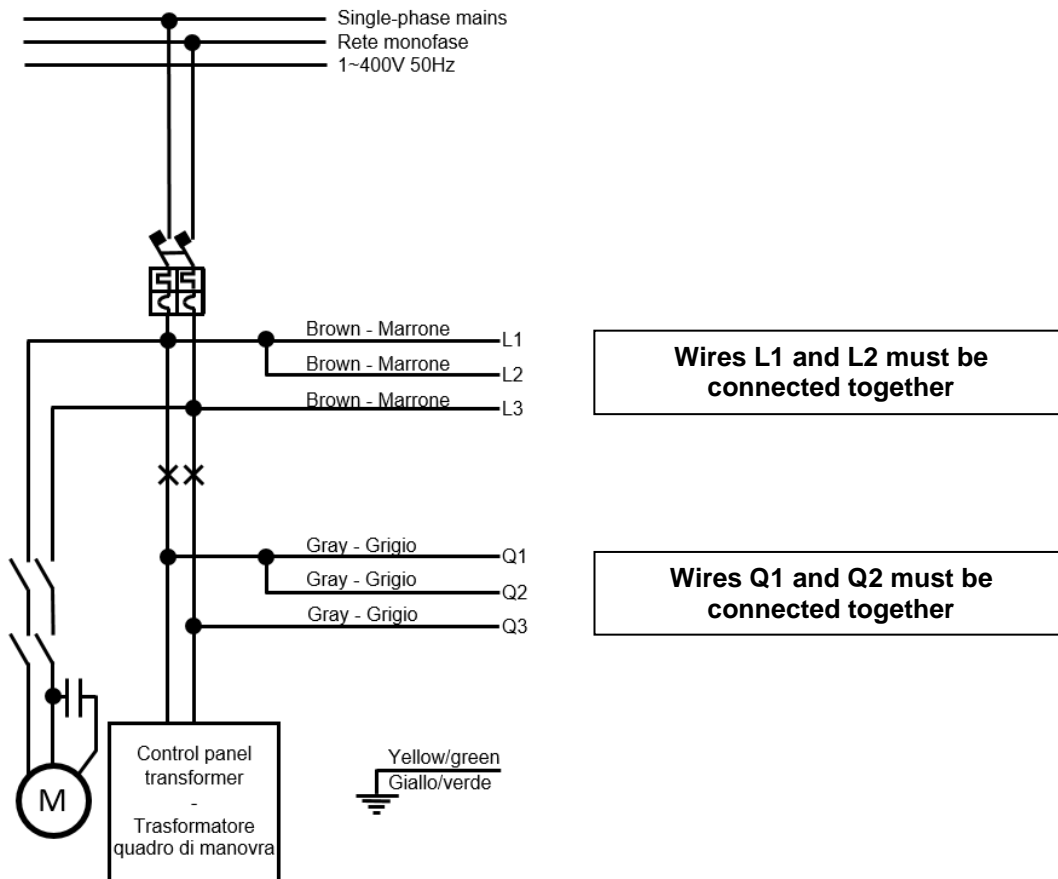


9 – CONNECTING TO GET 230V SINGLE-PHASE INPUT/OUTPUT

MAKE THE CHANGES INSIDE THE DEVICE, AS FOLLOWS:



CONNECTION OF THE OPERATION TRANSFORMER



10 – CHECKS AND FINAL TEST

Switch on the Mains Supply and Car Light Supply, then check that the lift is working properly.

If DIP SWITCH setting is changed, please switch OFF, then switch ON again the device.

The switch OFF operation of RED-H evo device must be performed disconnecting first the battery voltage, then the mains voltage. Wait some seconds until the leds are lighted off, then power on first the main voltage, than the battery voltage.

Now test the rescue operation as follows:

- Check that leds show the status “ready for rescue operation”.
- Make a call, let the car start and switch off the mains power switches when the car is out-floor.
- Make a bridge between terminals S1-S2, as with the 4th pole open the RED-H evo device cannot start the rescue operation cycle.

After a few seconds, the rescue operation starts and RED-H evo performs the following sequence:

- a) Leds will show the status “rescue operation ON”. The controller will be powered by the RED-H evo device, then it will start the car movement up to reach the lowest floor and it will open the doors.
- b) Once the stop zone will be reached, leds will show the status “Stop active”. If the stop delay is set to zero, (see DIP SWITCHes 2 and 3), this status will NOT be shown.
- c) At the end of the operation, leds will show “rescue operation end” and the controller will remain switched off.
- d) RED-H evo device waits that the mains power comes back. Once the mains power will come back, leds will show again the status “ready for rescue operation”.

11 – DIAGNOSTICS AND SETTINGS

LED

Led DLC	Led DLB	Led DLA	Description
⊗	⊗	⊗	Power missing
*	●	⊗	Ready for rescue operation
*	⊗	●	4 th pole open
●	*	⊗	Rescue operation end
*	*	⊗	Rescue operation ON
**	**	⊗	Stop active
*	*	*	Maximum current exceeded
⊗	⊗	*	5 times blinking at start. No batteries connected.
⊗	⊗	*x2	Low battery voltage
⊗	⊗	*x3	Overload (10s@20A 3s@30A)
⊗	⊗	*x4	Overcurrent (0s@45A)

Legenda:

- ⊗ = OFF
- = ON
- * = Blinking
- ** = Fast blinking

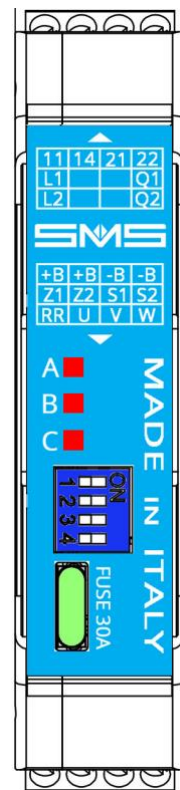
DIP SWITCH



SW 1	Output frequency
OFF	50Hz
ON	60Hz

SW 2	SW 3	Rescue end delay
OFF	OFF	0 seconds
ON	OFF	10 seconds
OFF	ON	30 seconds
ON	ON	60 seconds

SW 4	Rescue end input
OFF	NO (normally open)
ON	NC (normally close)



If switch setting is changed, it is necessary to power OFF, then power ON again the device, or to open, then close again the 4th pole.

12 – TECHNICAL FEATURES

BATTERIES: N° 2 Batteries 12V 7Ah (24V)

RED-X:

Battery charger

- 24Vdc 200mA

3-Phase inverter

- 3-Phase output voltage: 18Vac (RMS value)
- Output frequency: 50Hz/60Hz
- Maximum current: 15A (referring to 24Vdc input)

Hardware protections:

- 30A fuse

Software protections:

- Current limit (peak) from batteries: 45A
- Overload : 10s>20A or 3s>30A
- 24V Check: Batteries run-down at 20V
- Maximum emergency operation time: 2 minutes
- Stop delay from 0 to 60 seconds.

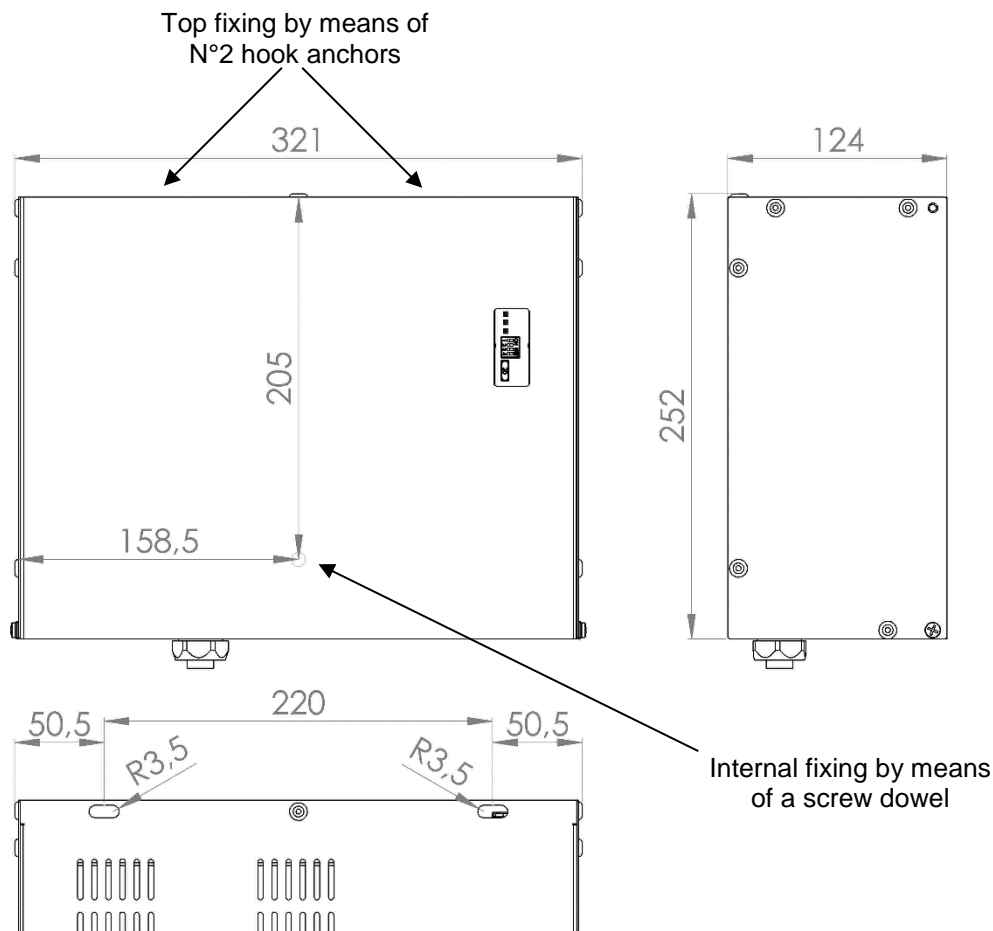
EMERGENCY TRANSFORMERS:

- N°2 Single-phase transformers: Power 200VA (each one) – Primary 0-18V – Secondary 0-230-400V

DIMENSIONS AND WEIGHT:

Width: 321 mm , Height: 252 mm , Depth: 135 mm , Weight: 10 Kg

FRAME FIXING



SMS S.R.L. (Gruppo SASSI HOLDING)