

## CE DECLARATION OF CONFORMITY

**Manufacturer :** FAAC S.p.A.

**Address:** Via Benini, 1  
40069 - Zola Predosa  
BOLOGNA-ITALY

**Declares that:** Electronic control unit 844 T

- conforms to the essential safety requirements of the following directives:

73/23/EEC and subsequent amendment 93/68/EEC.

89/336/EEC and subsequent amendment 92/31/EEC and 93/68/EEC

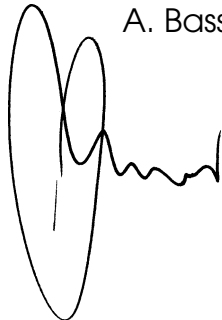
Additional information:

This product underwent a test in a typical, uniform configuration (all products manufactured by FAAC S.p.A.).

Bologna, 01 January 1997

The Managing  
Director

A. Bassi

A handwritten signature in black ink, consisting of a large, stylized initial 'A' followed by a series of connected loops and a final horizontal stroke.

# WARNING FOR THE INSTALLER

## GENERAL SAFETY OBLIGATIONS

- 1) **CAUTION! It is important for personal safety to follow all the instructions carefully. Incorrect installation or misuse of the product may cause people serious harm.**
- 2) Read the instructions carefully before starting to install the product.
- 3) Packaging material (plastic, polystyrene, etc.) must not be left within reach of children as it is a potential source of danger.
- 4) Keep the instructions in a safe place for future reference.
- 5) This product was designed and manufactured strictly for the use indicated in this documentation. Any other not expressly indicated use may damage the product and/or be a source of danger.
- 6) FAAC accepts no responsibility due to improper use of the automation or use other than that intended.
- 7) Do not install the appliance in an area subject to explosion hazard: inflammable gasses or fumes are a serious safety hazard.
- 8) Mechanical construction elements must meet the provisions of UNI8612, CEN pr EN 12604 and CEN pr EN 12605 Standards.  
To obtain an adequate level of safety in non EU countries, the above mentioned Standards must be observed in addition to national standards.
- 9) FAAC will not accept responsibility if the principles of Good Workmanship are disregarded in constructing the closing elements to be motorised, and if any deformation occurs during use of the said elements.
- 10) Installation must meet the following Standards: UNI8612, CEN pr EN 12453 and CEN pr EN 12635.  
The safety class for the automation must be C+D.
- 11) Before carrying out any work on the system, switch off the power supply.
- 12) The mains power supply of the automation must be fitted with a all-pole switch with contact opening distance of 3mm or greater. Use of a 6A thermal breaker with all-pole circuit break is recommended.
- 13) Make sure there is a differential switch with 0.03A threshold upstream of the system.
- 14) Check that the earthing system is correctly made and connect the closure metal parts to it. Also connect the Yellow/Green wire of the automation to the earthing system.
- 15) The automation includes an intrinsic anti-crushing device consisting of a torque control which, however, must be installed together with other safety devices.
- 16) The safety devices (e.g.: photocells, sensitive edges, etc...) protect any dangerous areas against **Movement mechanical risks**, such as, crushing, dragging, or shearing.
- 17) Use of at least one indicator-light is essential for each system (e.g.: FAAC LAMP MINILAMP, etc.) as well as a sign adequately fixed to the frame structure, in addition to the devices mentioned at point "16".
- 18) FAAC accepts no responsibility regarding safety and correct operation of the automation, should components made by manufacturers other than FAAC be used in the system.
- 19) Use only FAAC original spare parts for maintenance.
- 20) Do not make any alterations to the components of the automation.
- 21) The installer must supply full information regarding manual operation of the system in case of an emergency and hand to the user of the system the "User's Guide" included with the product.
- 22) Do not allow children or other persons to stand near the product while in operation.
- 23) Keep remote controls or any other pulse generator well away from children, to prevent the automation from being activated accidentally.
- 24) The user must refrain from attempting to repair or adjust the system personally and should contact qualified personnel only.
- 25) **Anything not expressly provided for in these instructions is not permitted.**

# 844 T

These instructions apply to the following model:

## 844T Electronic control unit

This appliance can be installed in containers mod. E, L and LM. Before securing the card in the container, fit the supplied support feet (long for mod. E, short for models L and LM) in the 3 S-holes (Fig.2).

### 1. TECHNICAL SPECIFICATIONS

TABLE 1 TECHNICAL SPECIFICATIONS OF 844T CONTROL UNIT

Power supply	230V 3ph (+6 -10 %) 50Hz 400V 3ph+N (+6 -10 %) 50Hz
Motor max load	1,3 kW
Accessories power supply	24 Vdc
Accessories max load	500 mA
Warning light power supply	24V~ (5W max)
Temperature range	- 20°C + 55°C
Fuses	transformer primary winding accessories
Quick-fit plugs	- for decoding cards or RP receivers -
Inputs	OPEN PARTIAL OPEN STOP CLOSURE SAFETY DEVICES LIMIT-SENSORS
Outputs	warning light flashlight motor power supply to 24Vdc accessories
Programming	pause time (5-10-15-30-60-120-180 sec.) logics A1/A2/S1/S2/E1/E2/B/C pre-flashing
Motor braking	fixed
Safety timing	255 sec.

### 1.1. 844T LAY-OUT

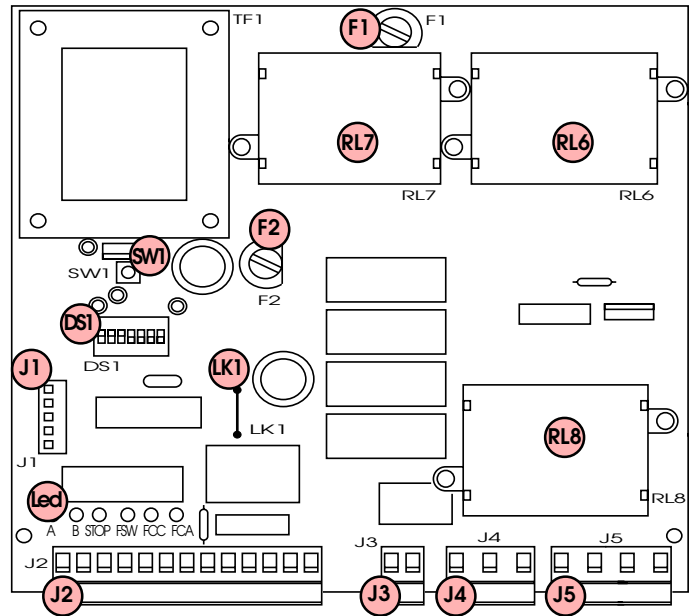


Fig. 1

TABLE 2 844T CONTROL UNIT COMPONENTS

F1	Fuse F1 5x20 F5A/250V rapid (transformer)
F2	Fuse F2 5x20 T1,6A/250V delayed (accessories)
SW1	RESET push-button
DS1	Programming microswitches
Led	Input status signalling LEDs
J1	Quick-fit plug for decoding cards/RP receivers
J2	Low voltage terminal board for inputs/accessories
J3	Flashlight output terminal board (230V~ max 60W)
J4	Motor output terminal board
J5	Line power supply input terminal board
LK1	Bridge for warning light free contact
RL6-7	Motor relay
RL8	Braking relay

### 2. ELECTRICAL CONNECTIONS WITH 400V 3ph (N.B.: for connection to 230 V 3ph, see Chapter 8)

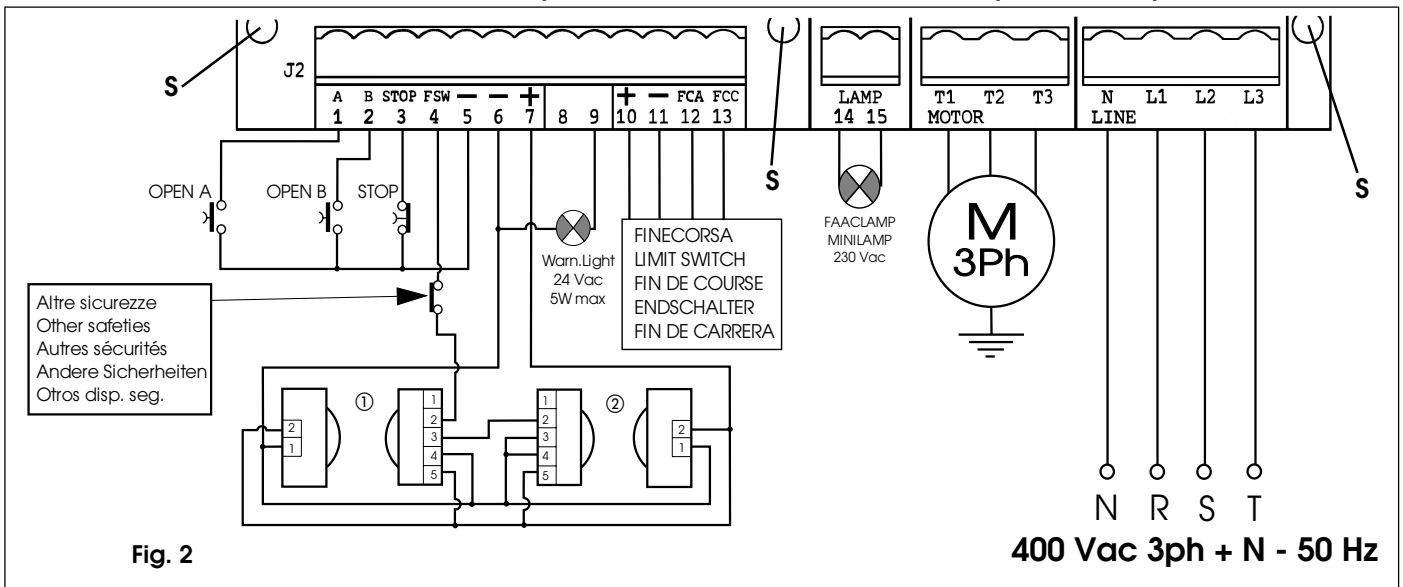


Fig. 2

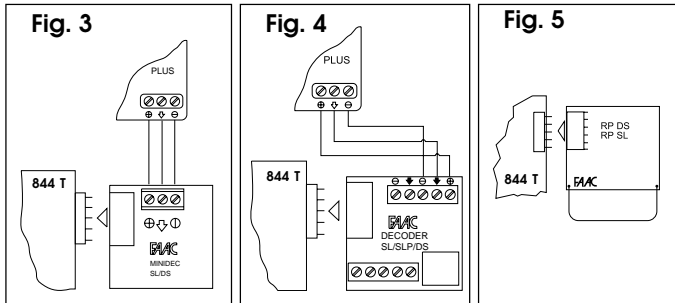
⚠ Before attempting any work on the card (connections, programming, maintenance), always turn off power. **Warning:** If plugs J3 and J4 are disconnected, high voltage may be present on the flashlight and motor outputs.

Observe points 10, 11, 12, 13 and 14 of the GENERAL SAFETY RULES. Always separate power cables from control and safety cables (push-button receiver, photocells, etc.). To prevent any electrical noise whatever, use separate sheaths.

**3. DESCRIPTION**

**3.1. J1 PLUG**

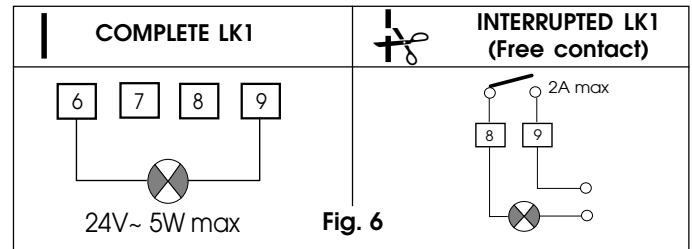
The J1 plug is used for rapid connection of cards MINIDEC, DECODER, RP RECEIVERS (Fig. 3, 4, 5)  
 Install by fitting the accessory cards so that their components side faces the inside of the 844 T electronic appliance.  
 Insert and remove the cards after cutting power.



**3.2. TERMINAL BOARD J2 (low voltage)**

- 1 = OPEN A (N.O.) – Total opening**  
 This is any pulse generator with N.O. contact which, when activated, produces a gate opening movement. In A, E and S logics, it commands both opening and closing.  
 To install several Open A devices, connect N.O. contacts in parallel.
- 2 = OPEN B (N.O.) – Opening for pedestrians / Closing**  
 This is any pulse generator with N.O. contact which, when activated in logics A, E and S, produces a gate opening movement for pedestrians. In B and C logics, it commands a closing movement.  
 To install several Open B devices, connect N.O. contacts in parallel.
- 3 = STOP command (N.C.)**  
 This is any device (e.g. a push-button) which, by opening a contact, stops gate movement.  
 To install several stop devices, connect the N.C. contacts in series.  
 ➔ If stop devices are not connected, link the input to the common contact (terminal 5) via a jumper.
- 4 = FSW closing safety devices contact (N.C.)**  
 Safety devices are all devices (photocells, sensitive edges, magnetic coils) with N.C. contact, which, if there is an obstacle in the area they protect, operate to interrupt gate movement. The purpose of the closing safety devices is to protect the gate movement area during closing.  
 If the safety devices are tripped during closure, gate movement is reversed, whereas they have no effect during opening. If used when the gate is open or pausing, closing safety devices prevent its closing.  
 To install several safety devices, connect the N.C. contacts in series.  
 ➔ If closing safety devices are not connected, link this input to the common contact (terminal 5) via a jumper.
- 5 = Common contact for commands**
- 6 = Negative of accessories power supply**
- 7 = 24 Vdc (+) power supply for accessories**  
 Max load of accessories is 500 mA.  
 To calculate absorption values, refer to the instructions for individual accessories.

- 9 = Warning light output (24 Vac)**  
 The maximum load of the warning light is 5 W.  
 For instructions on operation of the warning light, consult microswitch programming.  
 ➔ If you cut out jumper LK1, you obtain a voltage free contact between terminals 8 and 9 (see fig. 6).



- 10 = 24 Vdc (+) power supply for inductive limit switch**
- 11 = Limit switch common contact**
- 12 = Opening limit switch (N.O.)**
- 13 = Closing limit switch (N.O.)**

N.B.: If installing the card on the 844 MC-T gearmotor, terminals 10-11-12-13 should be connected to the 844 INTERFACE card (supplied with gearmotor), observing the diagram in Fig.20.

**3.3. TERMINAL BOARD J3 (high voltage)**

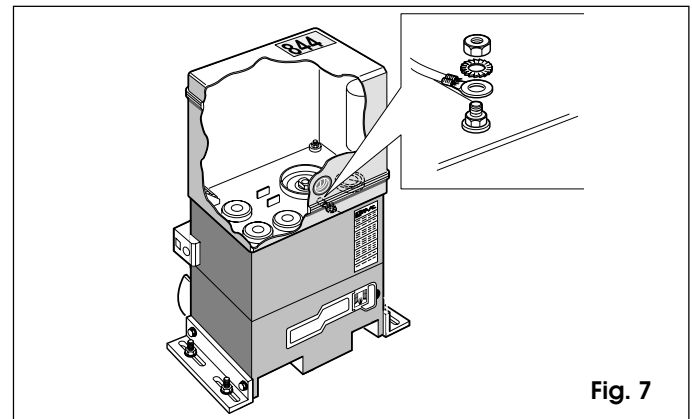
Terminal board for connecting flashlight (max 60W).

**3.4. TERMINAL BOARD J4 (high voltage)**

Terminal board for connection of motor.

**3.5. TERMINAL BOARD J5 (high voltage)**

Terminal board for supplying power of 400V 3ph + Neutral - 50 Hz (see fig.2) or 230V 3ph - 50 Hz (see fig.8).  
 Connect the yellow-green earth cable as shown in Fig. 7.



**3.6. SIGNALLING LEDs**

6 LEDs are fitted on the card, indicating status of terminal board inputs:

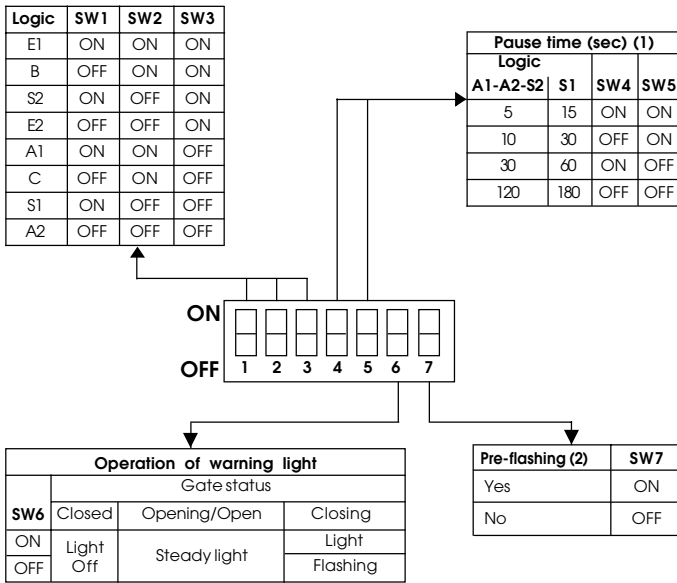
- LED LIGHTED = contact closed
- LED OFF = contact open

TABLE 3 STATUS OF LEDS

LED	LIGHTED	OFF
OPEN A	command active	command inactive
OPEN B	command active	command inactive
STOP	command inactive	command active
FSW	safety devices not operating	safety devices operating
FCC	closing limit sensor free	closing limit sensor engaged
FCA	opening limit sensor free	opening limit sensor engaged

**4. PROGRAMMING**

To program operation of automation, use the microswitches as shown below.



(1) Pause times include pre-flashing if any  
 (2) Pre-flashing begins 5" before every movement.

➔ You must press the RESET push-button after every programming job.

**Function logics**

The following are available:

A1/A2 = "Automatic"                      S1/S2 = "Safety"  
 E1/E2/B = "Semi-automatic"            C = "Dead man"

Operation of automation in the different logics is indicated in Tables 4-5-6-7-8-9-10-11.

**Pause time**

Pause time is waiting time in open position before re-closing when an automatic logic was selected.

Pause times include pre-flashing if any

**Operation of warning light**

Used to change the appearance of the warning light at closing by making it flash.

**Pre-flashing**

Flashlight pre-flashing time of 5sec before any movement can be selected. This warns anyone near the gate that it is about to move.

**TABLE 4 LOGIC A1 (AUTOMATIC)**

LOGIC A1	PULSES		
GATE STATUS	OPEN A - OPEN B (1)	STOP	SAFETY DEVICES
CLOSED	opens and closes after pause time (2)	no effect	no effect
OPEN ON PAUSE	re-closes after 5" (3)	stops the count	freezes pause until disengagement
CLOSING	reverses motion	stops	reverses motion
OPENING	no effect	stops	no effect
STOPPED	re-closes (2)	no effect	no effect

**TABLE 5 LOGIC A2 (AUTOMATIC PLUS)**

LOGIC A2	PULSES		
GATE STATUS	OPEN A - OPEN B (1)	STOP	SAFETY DEVICES
CLOSED	opens and closes after pause time (2)	no effect	no effect
OPEN FOR PAUSE	re-closes after 5" (3)	stops the count	when disengaged, re-closes after 5"
CLOSING	reverses motion	stops	stops and reverses at disengagement (2)
OPENING	no effect	stops	no effect
STOPPED	re-closes (2)	no effect	no effect

**TABLE 6 LOGIC S1 (SAFETY)**

LOGIC S1	PULSES		
GATE STATUS	OPEN A - OPEN B (1)	STOP	SAFETY DEVICES
CLOSED	opens and closes after pause time (2)	no effect	no effect
OPEN FOR PAUSE	closes immediately (2-3)	stops the count	when disengaged, re-closes after 5"
CLOSING	reverses motion	stops	reverses motion
OPENING	reverses motion	stops	no effect
STOPPED	re-closes (2)	no effect	no effect

**TABLE 7 LOGIC S2 (SAFETY PLUS)**

LOGIC S2	PULSES		
GATE STATUS	OPEN A - OPEN B (1)	STOP	SAFETY DEVICES
CLOSED	opens and closes after pause time (2)	no effect	no effect
OPEN FOR PAUSE	closes immediately (2-3)	stops the count	freezes pause until disengagement
CLOSING	reverses motion	stops	stops and reverses at disengagement (2)
OPENING	reverses motion	stops	no effect
STOPPED	re-closes (2)	no effect	no effect

**TABLE 8 LOGIC E1 (SEMI-AUTOMATIC)**

LOGIC E1	PULSES		
GATE STATUS	OPEN A - OPEN B (1)	STOP	SAFETY DEVICES
CLOSED	opens (2)	no effect	no effect
OPEN	re-closes (2)	no effect	no effect
CLOSING	reverses motion	stops	reverses motion
OPENING	stops	stops	no effect
STOPPED	re-closes (when safety devices engaged, it re-opens) (2)	no effect	no effect

**TABLE 9 LOGIC E2 (SEMI-AUTOMATIC PLUS)**

LOGIC E2	PULSES		
GATE STATUS	OPEN A - OPEN B (1)	STOP	SAFETY DEVICES
CLOSED	opens (2)	no effect	no effect
OPEN	re-closes (2)	no effect	no effect
CLOSING	reverses motion	stops	stops and reverses at disengagement (2)
OPENING	stops	stops	no effect
STOPPED	re-closes (when safety devices engaged, it re-opens) (2)	no effect	no effect

**TABLE 10 LOGIC B (SEMI-AUTOMATIC)**

LOGIC B	PULSES			
GATE STATUS	OPEN A	OPEN B (4)	SAFETY DEVICES	STOP
CLOSED	opens (2)	no effect	no effect	no effect
OPEN	no effect	closes (2)	prevents closing	no effect
CLOSING	no effect	no effect	stops movement	stops movement
OPENING	no effect	no effect	no effect	stops movement
STOPPED	completes opening (2)	completes closing (2)	prevents closing	no effect

**TABLE 11 LOGIC C (DEAD MAN)**

LOGIC C	CONTROLS HELD DOWN CONTINUOUSLY		PULSES	
GATE STATUS	OPEN A (5)	OPEN B (4 e 5)	SAFETY DEVICES	STOP
CLOSED	opens	no effect	no effect	no effect
OPEN	no effect	closes	prevents closing	no effect
CLOSING	no effect		stops movement	stops movement
OPENING		no effect	no effect	stops movement
STOPPED	completes opening	completes closing	prevents closing	no effect

(1) OPEN B input commands partial opening.  
 (2) With pre-flashing selected, movement begins after 5 sec.  
 (3) If the pulse is sent during pre-flashing, counting is restarted.  
 (4) OPEN B input commands closing.  
 (5) Push-button must be kept pressed to activate gate movement. When the push-button is released, the gate stops.

## 5. FAULT CONDITIONS

The following conditions cause certain effects to normal operation of automation:

- ① microprocessor error
  - ② safety electronic timing tripped (operation is interrupted if continuous work time exceeds 255 sec.).
  - ③ limit sensors disconnected (or both engaged)
    - Conditions ① and ② cause automation to stop and nothing more.
    - Condition ③ causes an alarm situation disabling any activity: Normal operation can be restored only after eliminating the alarm cause and pressing the RESET push-button (or turning off power supply momentarily).
- To have this condition signalled, the warning light must be connected: the alarm is signalled by very rapidly flashing light (0.25 sec).

## 6. ROTATION DIRECTION CHECK

- 1) Release the operator, take it manually to mid-travel and re-lock it.
- 2) Power up the system and then press the RESET push-button.
- 3) Give an Open command to the operator, check if the gate moves in opening direction and then press the RESET push-button to stop the leaf moving.
- 4) If rotation direction is incorrect, change over wiring of cables T1 and T3 of the electric motor.

## 7. LIMIT SENSORS CONNECTION CHECK

Command opening of the gate, and check if, with the leaf open, the FCC LED is lighted and the FCA LED is off.

Command the gate to re-close (or wait for pause time to elapse in case of automatic logic) and check if, with the leaf closed, the FCA LED is lighted and the FCC LED is off.

If the LEDs are reversed, change over the cables connected to terminals 12 and 13.

## 8. ELECTRICAL CONNECTIONS WITH 230V 3ph

To connect the 844 T appliance to a 3-phase 230 V mains, observe the diagram in Fig.8.

N.B.: The electric motor of the gearmotor must be 230V 3-phase.

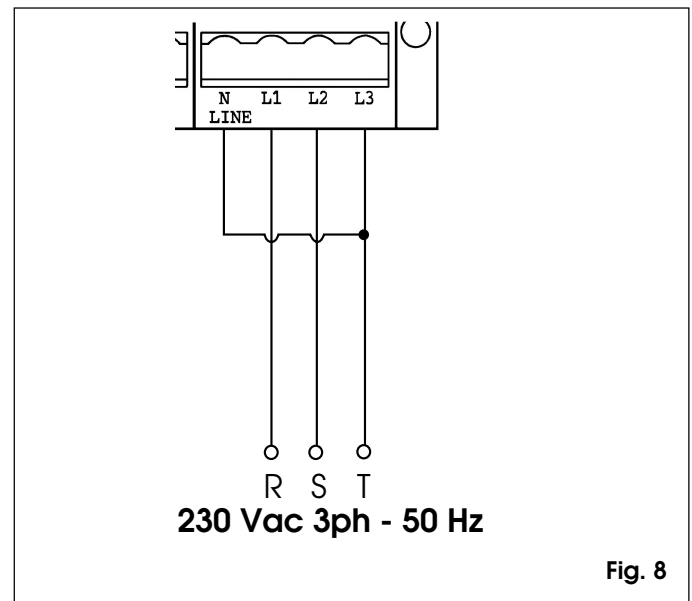


Fig. 8