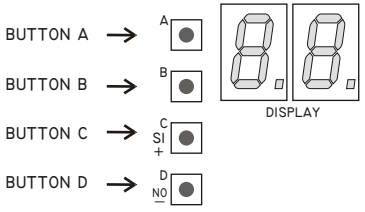
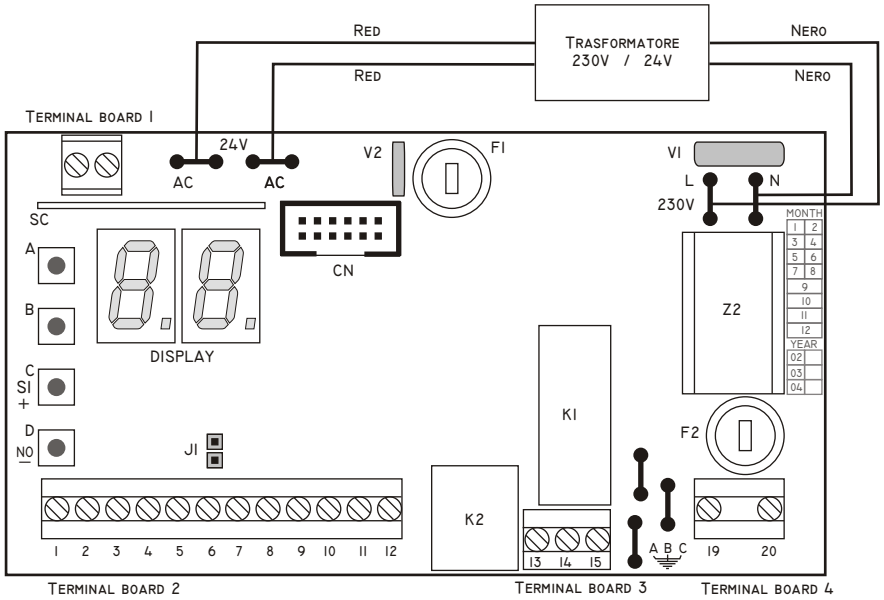
Q 36 S CONTROL UNIT FOR SLIDING GATES OR ONE LEAF SWING GATES

PROTECO CANCELLI AUTOMATICI
PROTECO di Proglio Giancarlo & C. S.n.c.
Via Neive, 77 Loc. Baraccone 12050
CASTAGNITO (CN) ITALY
Tel. (0039) 0173 210.111 - Fax (0039) 0173 210.199
www.proteco.net - E-mail: info@proteco.net

CONTROL UNIT COMPONENTS

A	SELECTION BUTTON A
B	SELECTION BUTTON B
C	BUTTON CONFIRMATION (YES) / INCREASE
D	BUTTON NEGATION (NO) / DECREASE
FI	FUSE 24 VAC 800 MA
F2	POWER CURRENT FUSE 230 VAC 5A
DISPLAY	7 SEGMENTS DISPLAY
MI	TERMINAL BOARD FOR RADIO OR ANTENNA
M2	TERMINAL BOARD FOR CONTROLS AND SECURITY
M3	TERMINAL BOARD FOR MOTORS
M4	TERMINAL BOARD FOR POWER SUPPLY
A B C	EARTH TERMINAL BOARDS
SC	RADIO BOARD
JI	PROGRAMMING JUMPER
CN	EXPANSION SERIAL CONNECTOR
Z2	FILTER
KI/K2	RELAY
VI	PRIMARY VARISTOR
V2	SECONDARY VARISTOR





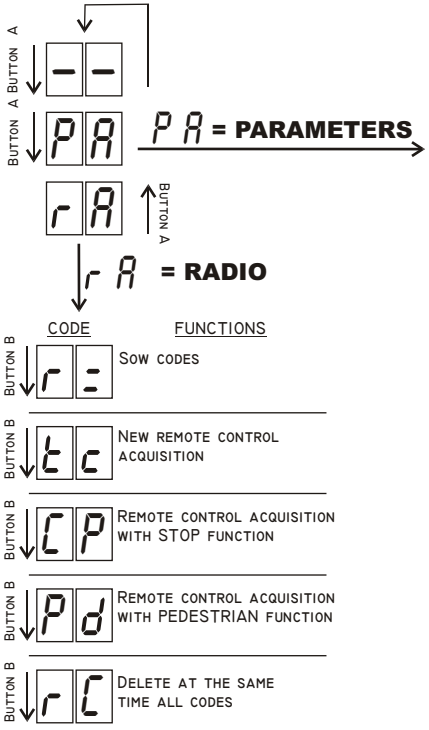
PARAMETERS

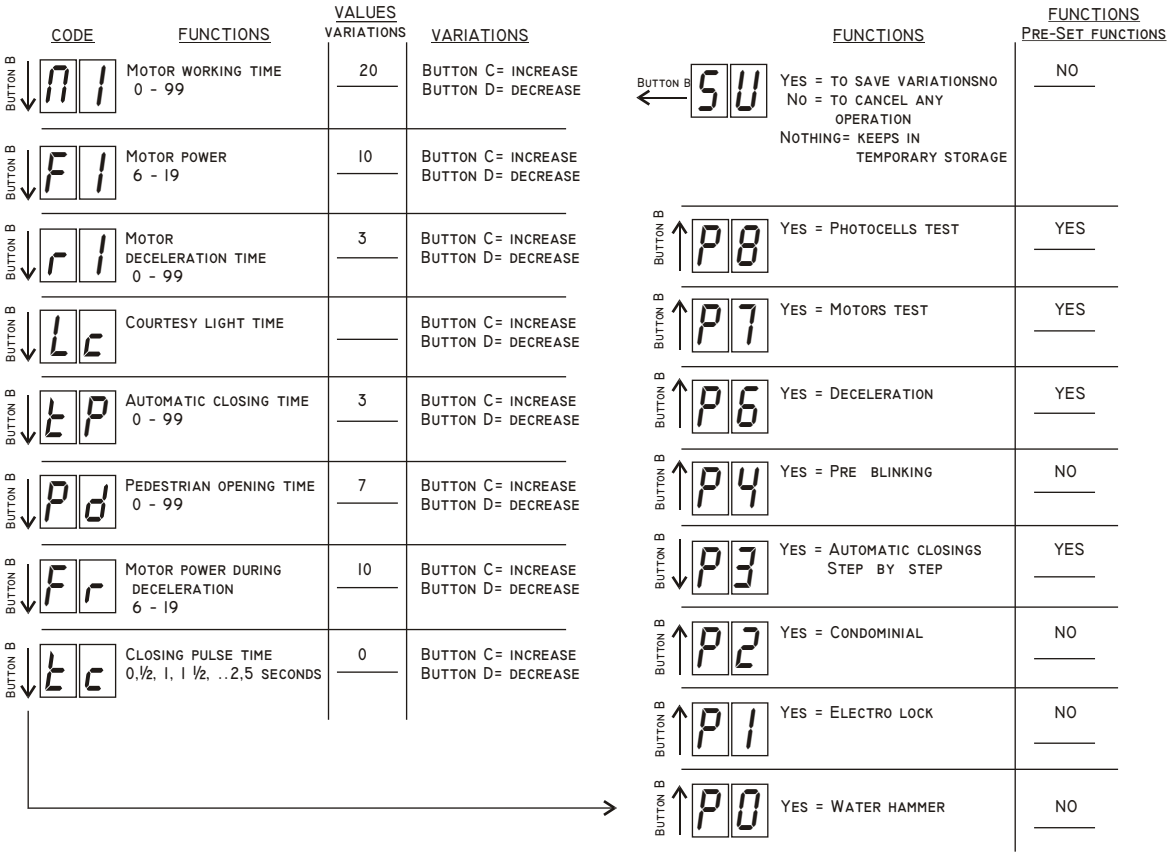
PARAMETERS VARIATIONS

Each time you press the button **A**, you enter in the menu;
with the button **B** you can choose the suitable parameter.
In order to change the pre - set parameters, use buttons **C** and D in the following way:

- **A)** The button **C** confirms or puts the selected parameter; it increases at each impulse the value of the selected parameter;
- **B)** The button **D** erases or puts out the selected parameter; it decreases at each impulse the value of the selected parameter.

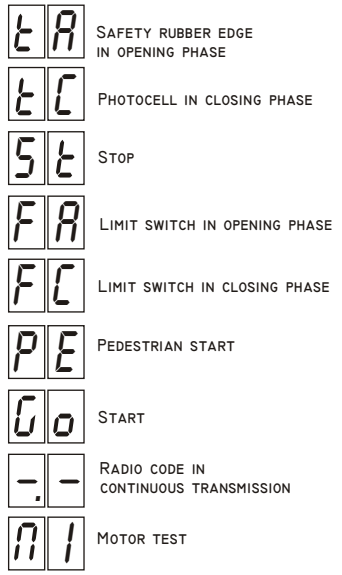
When you change one or more parameters with the buttons **C** and **D**, you have to store the variations in the following way: enter in the function **"store parameters"** SU (the last of the menu PA) and confirm pressing the button **C**.





SELF DIAGNOSIS ANOMALIES SIGNALLING

The display shows possible damages of each component of the control board.
Ex. Disconnect or obscure the photocell and verify that the display shows the code tC



RADIO RECEIVER PROGRAMMING

r - **Display the stored code scanning from 1 to 16**
ERASURE OF EACH SINGLE RADIO CODE
During the scanning press the button D when the display shows the number of the code you want to erase.

tc **RADIO CODE ACQUISITION**

PROCESS **1 = STANDARD acquisition**
PROCESS **2 = SEQUENTIAL acquisition**

PROCESS 1
- Press the button **A** several time until when the display shows the symbol r A
- Press the button **B** until when the display shows the symbol tc
- Give an impulse with the transmitter and keep it pressed
- At the same time press the button **C** to confirm the program storage

Repeat the same procedure for all the other transmitters that have different codes.

PROCESS 2
Connect Jumper **J1**
1. Codify the transmitter with your personal code changing the position of some of the Dip-switch.
2. Give an impulse with the transmitter and keep the transmitter button pressed.
3. At the same time press the button **A** for the code acquisition.
4. Repeat the procedure for all the remaining codes.
5. Remove the jumper **J1** (without switching off the power supply).
6. The double click of the relay confirms the code storage.

CP Press the button **A** until when the display shows the symbol r A
- Press the button **B** until when the display shows the symbol CP
- Give an impulse with the transmitter and keep it pressed
- At the same time press the button **C** to confirm the program storage

Repeat the same procedure for all the other transmitters that have different codes.

Pd Press the button **A** until when the display shows the symbol r A Pd
- Press the button **B** until when the display shows the symbol Pd
- Give an impulse with the transmitter and keep it pressed
- At the same time press the button **C** to confirm the program storage

Repeat the same procedure for all the other transmitters that have different codes.

rC When the display shows the symbol rC
Keep the button D pressed until when the display shows the symbol r -
(Now all the codes have been erased)

CONTROL UNIT PARAMETERS PROGRAMMING

Process **1 = STANDARD**
Process **2 = SEQUENTIAl**

Warning:
1. Check that the connection to the **motors** follows the diagram
2. Check that the connection of the **security** devices follows the diagram
   Note: *In case of you do not install the photocells in closing phase , please jump terminal 3 and 9.*
   In case of you do not install the rubber edge in opening phase , please jump terminal 4 and 9.
3. Check that the connections of the Controls follow the diagram
   Note: *If the **Stop** function is not in use for the time being Jump terminal 2 and 8.*
4. The gate has to reach the **closing** position
5. Switch on the control unit.

STANDARD PROGRAMMING *(Process 1)*
- Give a **START** impulse *(terminal 1 and 8)*

When the control unit has to be used for a sliding gate
• During the opening phase, after 240 cm of running, the deceleration will **start**.
(Because the control unit is pre-programmed for an opening range of 2,50mt)
• It will stop for 3 sec.
• And then will proceed to close.

When the control unit has to be used for a single leaf gate operator
• You should wait that the gate has accomplished a whole phase :
Opening - Stop- closing because the control unit is already pre-programmed.

- Give a further **START** impulse to see which are the non suitable times and functions of the device and note them in the boxes : values and changes.
- Step in the programming phase using the buttons **A** and **B** to join the wished parameter.
  Use the buttons **C** and **D** to change or confirm every single parameter.

EXAMPLE 1 : ***Addition the working time of the motor within 5 sec.***
EXAMPLE 2 : ***Reduce the deceleration time of the motor within 1 sec.***
EXAMPLE 3 : ***Delete the break time***

EXAMPLE 1

While the control board is switched on check that display shows :		- -
Press the button **A**	the display shows the symbols	PA
Press several times the button **B**	when display shows the symbols	01
Wait a little	when the display shows the symbols	20
Press 5 times the button **C**	the display shows the symbols	25
Press several time the button **B**	when the display shows the symbols	SU
Press the button **C**	the display shows the symbols	- -

The working time of the motor is boosted within 20-25 seconds.

EXAMPLES 2

While the control board is switched on check that the display shows		- -
Press the button **A**	the display shows the symbols	PA
Press moreover the button **B**	when the display shows the symbols	r1
Wait a minute	when the display shows the symbols	03
Press twice the button **D**	the display shows the symbols	01
Press several times the button **B**	when the display shows the symbols	SU
Press the button **C**	the display shows the symbols	- -

The deceleration time of the motor has been reduced within 2 seconds

EXAMPLE 3

When the control board is switch on check that the display shows:		- -
Press the button **A**	the display shows the symbol	PA
Press several times the button **B**	when the display shows the symbol	P3
Wait 1-2 seconds	the display will shows the symbol	SI
Press once button **D**	the display will shows the symbol	NO
Press several times button **B**	the display will shows the symbol	SU
Press button **C**	the display will shows the symbol	- -

It has been removed the automatic closing and it has been inserted the step by step function.

SEQUENTIAL PROGRAMMING *(Process 2)*
A) Insert Jumper **J1**
B) Press button **B** to select IN = **MOTOR 1**
When the display shows the required position you should wait a moment without pressing any button.
C) When the display will show the symbol 00 you can **START** the ***Sequential programming.***
You can go on using the **START** button or the radio transmitter button if it has been already programmed.

FOR SLIDING GATE
1° Impulse: **OPENING the gate start the opening phase**
2° Impulse: the deceleration begins, when the gate presses the stroke end It starts automatically to calculate the **Break Time**.
(the display will show it)
3° Impulse: **STOP** to the **Break Time** and start the **CLOSING** phase

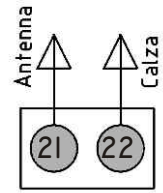
FOR SINGLE LEAF AUTOMATION
1° Impulse: **OPEN** the gate starts the opening phase
2° Impulse: the deceleration begins
3° Impulse: **STOP** of the opening phase and start to calculate the **Break Time**
4° Impulse: **STOP** of the **Break Time** and start of the **CLOSING**

D) Wait for the complete end of the cycle until when the blinker is off
E) Remove the jumper (without switching off the power supply)the double click of the relay shows that the stated values have been stored.
F) Give a **START impulse and control that times are responding to the needs.**
G) If the times of **Working, Deceleration** and **Pause** do not respond to your needs you can:
1. Repeat the sequence from step **A)** or
2. Set up in the programming with the buttons and modify the time which you want to change**.**

P3 **= YES = AUTOMATIC CLOSING INSERTED**
- A **START** Impulse during the opening phase stops the leaves (they stay unmoved until a new impulse)
- A **START** impulse during the closing phase changes the working. If you do not want that the Start impulse during the opening phase stops the gate you have to insert the condominial function (function P2 =yes)

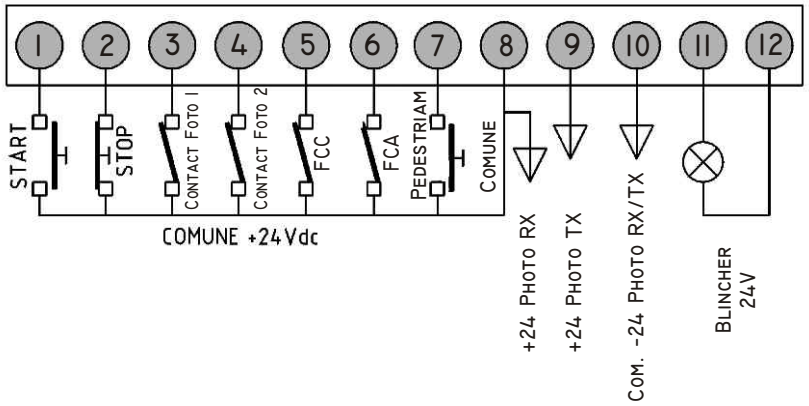
= NO = STEP BY STEP INSERTED
- An impulse opens An impulse blocks An impulse closes

P2 **= YES = CONDOMINIAL FUNCTION INSERTED**
The control board does not accept any command during the opening phase.

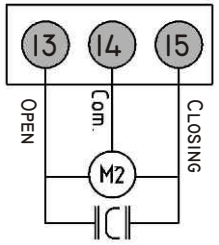


TERMINAL BOARD 1

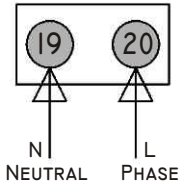
TERMINAL BOARD 2



TERMINAL BOARD 3



TERMINAL BOARD 4



TERMINAL BOARDS CONNECTIONS

All the connections must be done without power supply.

EARTH TERMINAL BOARD CONNECTIONS

Connect the yellow/green motors cable to earth terminals **A** / **B**.
Connect the yellow/green network cable to earth terminal **C**.

TERMINAL BOARD 1 CONNECTIONS

21	**Antenna or radio receiver signal**
22	**Sheath or negative for radio receiver**

TERMINAL BOARD 2 CONNECTIONS

1-8	**Start control** normally open (NA) for button, key selector and radio connection. The Start control starts the programmed running cycle.
2-8	**Stop control** normally closed (NC). Emergency button. When pressed the gate stops immediately. In Opening phase and Break-time: at the first impulse the gate closes. In Closing phase: at the first impulse the gate opens. **If, temporarily, the Stop contact is not used, jump terminal 2 with terminal 8.**
3-8	**Input of one safety photocell in closing phase.** **Input of safety rubber edges and of safety photocell in closing phase.** **Input of several safety photocells in closing phase**. The receiver contacts must be connected in series. Normally closed (NC). In opening phase: does not work In closing phase: Stop, break-time for 2 seconds, opening phase again. **If, temporarily, the photocell contacts are not used, jump terminal 3 with terminal 9.**
3-9	**Input only for safety rubber edges in closing phase.** The contacts must be connected in series if there is more than one safety rubber edge. Normally closed (NC). In opening phase: does not work. In closing phase: Stop, break-time for 2 seconds, opening phase again.
4-8	**Input for safety photocells in opening phase (for sliding gate).** Normally closed (NC). In opening phase: Stops and changes direction for 3 seconds In closing phase: does not work If you also want to connect the safety rubber edges, you must connect in series their contacts with the photocell ones. **If, temporarily, the photocell contacts are not used, jump terminal 4 with terminal 9.**
4-9	**Input safety rubber edges in opening phase (for sliding gate).** Normally closed (NC). In opening phase: Stops and changes direction for 3 seconds In closing phase: does not work Using more than one safety rubber edges, the contacts must be connected in series.
5-8	**Limit switch input in closing phase.**
6-8	**Limit switch input in opening phase.**
7-8	**Pedestrian start input**. Normally open (NA).Only one leaf start to open
8-10	**Output for photocell receiver power supply.** **Output for extra 24V dc accessories power supply.** With all Standard accessories included 100 m A are still available for extra accessories.
9-10	**Output for photocell transmitter power supply.**
11-12	**Blinker intermittent output.** 24V dc 10W max**.**

TERMINAL BOARD 3 CONNECTIONS

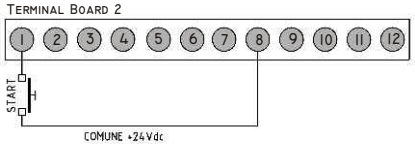
13 **14** **15**	**Motor 1 M1- output** (13 Brown; 14= Blue; 15= Black) The motor is preset to be fixed on the right side of the gate (looking from the interior side). If you fix the motor on the left side, you have to exchange the wire 13 with the 15 (motor) and the wire 5 with the 6 (limit switch) in the control board. Capacitor between connector 13 and 15.

TERMINAL BOARD 4 CONNECTIONS

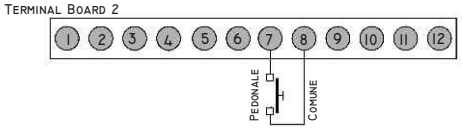
19-20 Power input 230-240 Vac - 50/60 Hz. (19=Neutral - 20=phase)

MEMORANDUM FOR WIRING AND PROGRAMMING THE CONTROL UNIT Q36S

1 START

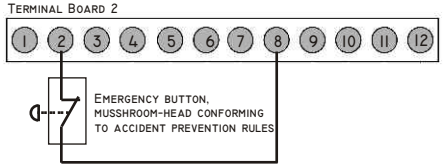


2 PEDESTRIAM START

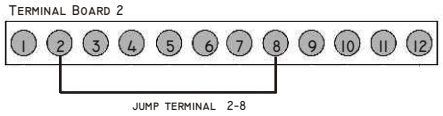


3 EMERGENCY PUSH BUTTON

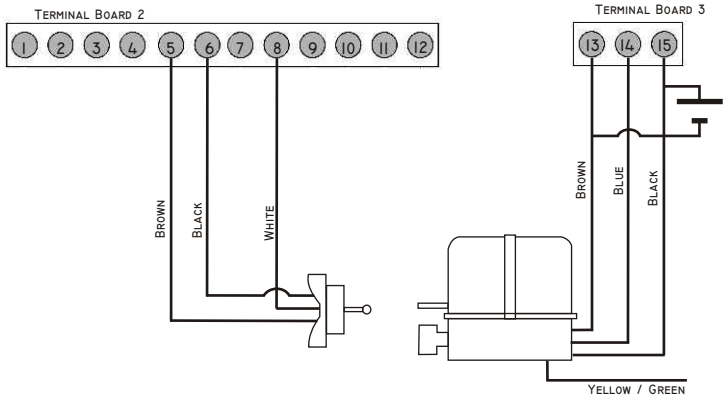
STOP CONTACT



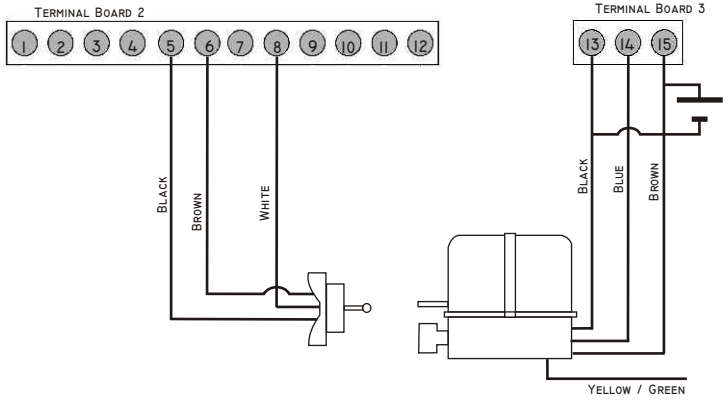
N.B.: Jump terminals 2 and 8 if, temporarily, the STOP contacts is not used



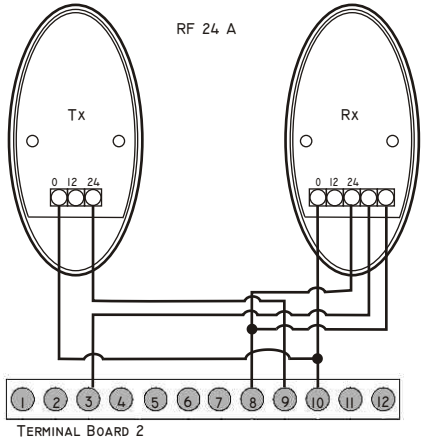
4 MOTOR AND LIMIT SWITCH



IF IT IS MOUNTED ON THE LEFT-HAND SIDE (looking the inside)
TO INVERT WIRE 13 WITH WIRE 15 END WIRE 5 WITH WIRE 6



5 CONECTION PHOTOCELL IN CLOSING PHASE

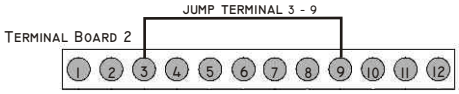


CONECTION PHOTOCELL

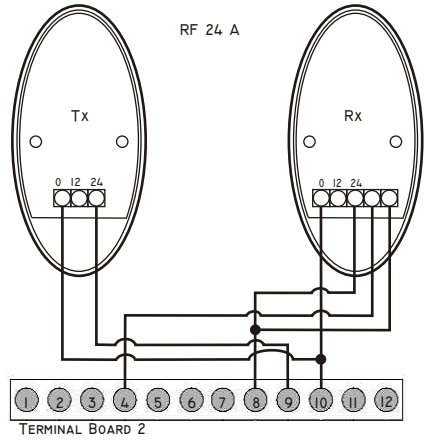
8 = Power supply + 24 PHOTO RX
9 = Power supply + 24 PHOTO TX
10= Power supply - COM. PHOTO TX/RX

3 - 8 = Conection photocell

3 - 9 : Jump terminals 3 and 9 if the photocell in closing has not been installed.



5 CONECTION PHOTOCELL IN OPENING PHASE

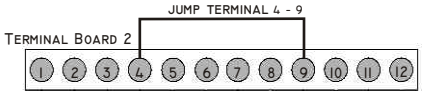


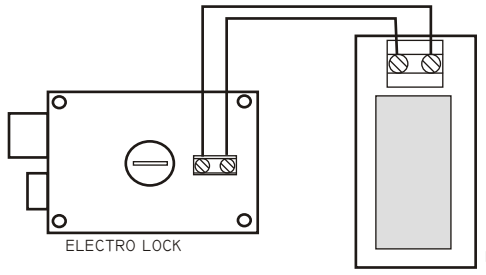
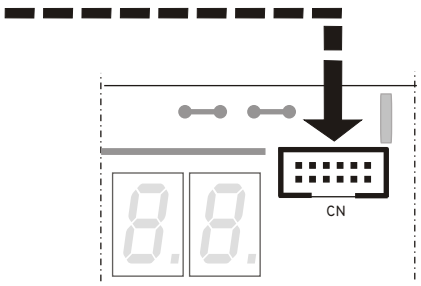
CONECTION PHOTOCELL

8 = Power supply + 24 PHOTO RX
9 = Power supply + 24 PHOTO TX
10= Power supply - COM. PHOTO TX/RX

4 - 8 = Conection photocell

4 - 9: Jump terminals 4 and 9 if the photocell in opening has not been installed.



7 ELECTRO LOCK DEVICE (MEL)

IF YOU WANT TO INSERT THE DEVICE **MEL** IN THE **CN**
• CONECT THE ELECTRO LOCK
• CHANGE THE PARAMETERS P0 - P1 AND tc