# CONTROL UNIT

The card has been designed in consideration of the following EU standards:

Electro Magnetic Compatibility (89/336/EEC), Machinery Safety Directive (89/392/EEC),

Costruction Product Directive (89/392/EEC).

The manufacturer declares that the equipment bears the CE mark, The manufacturer issues, upon request, the Conformity Declaration to Standard UNI 8612.

#### SAFETY CRITERIA

A) Every time the control unit is connected to the power supply wait at least 2 seconds before giving commands. In order to avoid disturbance during the start-up phase, the microprocessor rejects every type of command for the first 2 seconds.

B) After every START command to the microprocessor, carry out the following checks before starting movement of the gate:

- 1 Central control unit functionality
- 2 Functionality of all the signals on the input circuits
- 3 Presence and functionality of motors
- 4 Functionality of motor control Triac
- 5 Functionality of safety devices
- 6 Cut-off of the power to safety devices and check that:

All contacts have made the exchange

7 Restoration of power to safety devices and check that:

All contacts have made the exchange

If one or more of the above criteria has not been met, the microprocessor will not accept the START command.

- C) All connections must be made with the power supply off.
- D) The Stop (emergency) button provided for by UNI 8612 must be easily accessible and be of the rotation hook/unhook type. In an emergency it stops the gates instantly.
- E)Supply power to the motors paying attention that the direction of rotation is the one 1.8 | Start control normally open (NA) for button, key selector and radio indicated.
- F) Always protect the power supply using a 6A automatic switch or a 16A single-phase switch with fuse

#### ATTENTION:

For the reasons listed above and to swiftly and correctly execute programming, it is most important that the following procedure is observed:

- 1. Read this manual completely
- 2. Carefully observe the installation sequence
- 3. Make the connections, and definitive or temporary bridges indicated, to the various points.

#### INSTALLATION ADVICE

- Before opening the central control unit cabinet ensure that the power supply is off using the switch before the system.
- Even though the cabinet is IP 55 it is best to protect at least the upper part if exposed to weather conditions.

#### Electrical system:

- The electrical system must be fitted in accordance with the standards in force in the country of installation and by qualified fitters.
- Always use different cables which comply to standards to make the electrical connections for the various power, control (inputs) and auxiliary circuits in order to prevent the tension induced by the power supply cables and by the motors from issuing incorrect commands or even causing failure.
- A section of 0.25 mm2 is more than sufficient for the control circuits given their exceptionally low absorption.
- With lines longer than 50 m it is best to uncouple them using relays in the control panel. Connections:
- · Make the connections as described above and install all the safety devices provided for by the standards in force before connecting power to the central control unit.
- All the safety device (photocells, Stop buttons and coasts) contacts normally closed must be connected to the corresponding inputs on the central control unit. If it is necessary to use two safety devices in one input, connect the related contacts

If the standards in force allow for the exclusion of one or more safety devices, bridge the unused Stop contact (terminal 2) ) with the common one (terminal 8) and the photocell contacts (terminals 3 and/or 4) with terminal 9 in the central control unit.

Foresee a omnipolar breaking device near to the apparatus (the contact must measure at least 3 mm)

#### Installation:

- · In order to correctly use the product and to exclude the possibility of injury or damage, refer to the "Generals" page enclosure, which is an integrated part of this manual.
- The use of this equipment must be in observance of the safety standards in force in the country where it is installed, as well as the standards governing proper installation.

## Warranty:

- The warranty supplied by the manufacturer becomes void in the event of interference, carelessness, improper use, lightening damage, power surges or use by unqualified
- The warranty will also become void in the event of the following: Failure to observe the instructions given in the manuals supplied with the product. The application of any part in a manner differing from that provided for current legislation or the use of spare parts which are unsuitable and/or not approved by Proteco.
- The manufacturer cannot be held responsible for damages due to improper or unreasonable use.

#### INSTALLATION INSTRUCTION SEQUENCE

- Fasten the cabinet using only the fastening holes outside the container.
- Lay the cables for the system following the instructions in the "INSTALLATION ADVICE" chapter.
- Connect terminals 2 3 in sequence.
- Prepare the programming dip-switch for the functions required.
- See the "DIP-SWITCH PROGRAMMING" table.

- Check the power supply system, ensuring that the power line is protected by a magnet-thermal differential switch with suitable characteristics and gauging for the system and in compliance with the standards in force.
- Connect terminal 4 (Power supply).
  - Connect the central control unit and the motors to earth using the faston located above the fuse.
- 8 Check that:
- a) The photocells are perfectly aligned;
- b) All the connections have been made in accordance with the procedure above.
- c) The green power led (Led 1) is on;
- d) The green work signal led (Led 2) is off;
- e) The green led (Led 3) on indicates that the central control unit constantly receives a Start impulse:
- f) The red leds (Leds 4/5/6) is on. Signal normally closed inputs if on and open inputs if off (breaking contact they must switch off);
- 10 Program the running times.
- 11 Regulate the motor trust to a maximum stopping force of 150N. (approximately 15Kg)
- 12 Perform a few manoeuvres simulating various situations and checking perfect performance of the safety devices.
- 13 Check and complete the technical file (list of components and list of cables used).
- 14 Perform the risk analysis.
- 15 Fill in the conformity certificate.

#### TERMINAL BLOCK CONNEC

All the connections must be made in absence of electricity.

## TERMINAL HOLDFAST TO EARTH

Connect the green/yellow cable of the motors to the respective ground terminal T1/T2 and the feeding cable to the ground terminal T2

#### TERMINAL HOLDFAST 2

1-8	connection. The Start control starts the programmed running cycle.				
2-8	Stop control normally closed (NC). Emergency button. When pressed the gate stops immediately. Opening / Break. Riarming at first impulse the gate closes. Closing: Riarming at first impulse the gate opens. If, temporarily, the Stop contact has not been used, bridge terminal 2 with terminal 8.				
3-8	Input 1 closure safety photocell. Input coasts plus closure safety photocell. Input of several closure safety photocells. The receiver contacts must be connected in series. Normally closed (NC). Opening: does not function Closure: Stops movement, pauses for 2 seconds, begins opening movement again. If, temporarily, the photocell contacts have not been used, bridge terminal 3 with terminal 9.				
3-9	IInput solely for closure safety coasts. The receiver contacts must be connected in series. Normally closed (NC). Opening: does not function. Closure: Stops movement, pauses for 2 seconds, begins opening movement again.				
4-8	Input opening safety photocell for wing gate.  Normally closed (NC).  During opening stops the movement until the obstacle has been removed.  During closure stops movement and inverts direction when the obstacle has been removed.  If the coasts are included the contacts must be connected in series with those of the photocell.  If, temporarily, the photocell contacts have not been used, bridge terminal 4 with terminal 9.				
4-9	Input solely for opening safety photocell for wing gate. Normally closed (NC). During opening stops the movement until the obstacle has been removed. During closure stops movement and inverts direction when the obstacle has been removed. The contacts must be connected in series.				
8-7	It Starts the opening of one leaf only.				
8-10	Power output for photocell receiver. Power output for extra 24V dc accessories. With all Standard accessories included 100 m A are still available for the supply of power to extra accessories.				
9-10	Power output for photocell transmitter.				
11 -12	Intermittent output for flashing light or courtesy lights				

## **TERMINAL HOLDFAST 3**

- Flap which opens first and has delayed closure or sliding or swivel gate.
- With a gate with just one flap, connect the motor to output M1 and bridge terminal 13 with 16 and terminal 15 with 18.
- 16 Output for motor 2 M2 (16=Black - 17=Blue - 18=Brown)
- Flap which opens second.
- Condenser between terminals 16 and 18.

## TERMINAL HOLDFAST 4

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

#### **DIP-SWITCH SW3 PROGRAMMING**

All programming operations must be carried out in absence of electricity.

Dip	Function		Description
1	Condominium		During opening and pause does not accept further Start commands.
		Off	It is possible to intervene during opening and pause. Condominium excluded.
2	Connectable	On	The flashing light starts about 2 seconds before the
	pre-warning flash		movement.
		Off	Flashing light and movement start together.

#### JAMPER SW4 PROGRAMMING

		The opening and closing cycles take place maintaining the Start					
		engaged input, every activation of the Start input instigates one					
		movement (open-pause-close). Normal function					

#### RADIO RECEIVER PROGRAMMING

#### MEMORISING CODES

- 1 Disconnect the power supply to the central control unit.
- Extract the Jumper from position SW1 SW2 (Work) and connect it in the CODE LEARN - SW1 position.
- 3 Reconnect the power supply to the central control unit.
- Set the personal code into the transmitter with the 10 Dip-Switches. Avoid placing all the Dip-Switches in the OFF position or in the ON position.
- 5 Transmit a signal by pressing one of the buttons on the handset. The flashing light and led 2 respond with a number of flashes equal to the position in which the code has been memorised. Code 1 has been memorised. The receiver is ready to receive the second code.
- 6 Proceed to memorise the subsequent codes as indicated at points 4 and 5. The card will respond with 2 flashes for the 2nd code, 3 for the 3rd code and so on. When there are no more free positions the card responds with a series of rapidly successive flashes
- 7 Disconnect the power supply to the central control unit.
- 8 Extract the Jumper from the CODE LEARN- SW1 position and connect it in position SW1 - SW2 (Work).

The receiver programming procedure is complete and the codes programmed have been digitally memorised inside the microprocessor, eliminating the possibility of changes due to the variation of the components or power failure.

ATTENTION: The third code memorised will be used exclusively for PEDESTRIAN openina.

#### DELETING CODES

- 1 Disconnect the power supply to the central control unit.
- 2 Extract the Jumper from position SW1 SW2 (Work) and connect it in the CODE LEARN - SW1 position.
- 3 Reconnect the power supply to the central control unit.
- 4 Give a Start impulse. (not with the remote control)

The memorised codes will be displayed.

The led will flash a number of times equal to the number of codes memorised. A flash lasting 1 second indicates that the position is occupied. A quick double flash indicates that the position is free. This display procedure is repeated three times.

- 5 Give a Start impulse while an occupied position is flashing and maintain it. When the led flashes three times the corresponding code is deleted. The position is free for memorising a new code.
- 6 Proceed to memorise a new code, if necessary following the procedure indicated in the previous paragraph.
- 7 Disconnect the power supply to the central control unit.
- 8 Extract the Jumper from the CODE LEARN- SW1 position and connect it in position SW1 - SW2 (Work).

#### **PEDESTRIAN**

The pedestrian passage is only active on the 3rd receiver code.

It only works on the leaf of the motor connected to the output M1 (terminal board 3) with the same programmed functions.

#### PROGRAMMING RUNNING TIMES

The control unit is pre-programmed for standard 90° opening for 2 leafs swing gates. Give a pulse with the transmutter and verify the gate opening an closing if you need further programmation please follow following instructions.

Using the Start control or the handset (in this case we must have already carried out the Sself-code learning procedure) it is possible to sequentially program the running, slowing, phase difference and automatic re-closure times.

- Disconnect the power supply to the central control unit.
- Check that Dip-Switch 1 is in the ON position (leaf gate).
- Extract the Jumper from position SW1 SW2 (Work) and connect it in the TIME LEARN - SW1 position.
- If, temporarily, the Stop contact has not been used, bridge terminal 2 with terminal 8.
- If, temporarily, the photocell contacts have not been used, bridge terminal 3 and/or 4 with terminal 9.
- If during the first feeding, the control unit shows the presence of the travel ends, it put automatically in the function "Swing gate with travel end". So the point 10 of the programmation deleted and you have to go derectly to the 11 from the point 9, for the stop to the motors it will be given from the travel ends.
- Reconnect the power supply to the central control unit.
- 1st Start impulse

With the gate closed the 1st motor (M1) starts running and after two seconds the second motor (M2 delayed) starts running.

If the electrical locking module is installed the water hammer is activated before the motors begin to open the gate.

2<sup>nd</sup> Start impulse

The motors switch to low speed (SLOWING).

If this function is not required, wait for both flaps of the gate to open fully and give the 2rd and 3rd consecutive Start impulses.

10 3<sup>rd</sup> Start impulse

To be given when the opening manoeuvre is terminated.

The central control unit memorises the running and slowing times.

Wait please minimum 4 secods between the 3<sup>th</sup> end 4<sup>th</sup> impulse.

11 4<sup>th</sup> Start impulse

The central control unit begins to calculate the pause time before AUTOMATIC CLOSURE.

If this function is not required, give a further Start impulses within 2 seconds to confirm acquisition. The flashing will stop. In this way the STEP-BY-STEP function is engaged.

With the STEP-BY-STEP function connected, the sequence at every impulse is the following: OPEN-STOP-CLOSE.

Wait please minimum 4 secods between the 4th end 5th impulse.

12 5<sup>th</sup> Start impulse

Begin the closure manoeuvre.

The pause time is memorised and the phase difference of the flaps is calculated. If the gate is of the wing type, give immediately the 6th impulse to one flap.

13 6<sup>th</sup> Start impulse

Memorises the phase difference time between the closing flaps.

- 14 Wait for the manoeuvre to end, including the slowing phase (where programmed).
- 14 Disconnect the power supply to the central control unit.

15 Extract the Jumper from the CODE LEARN- SW2 position and connect it in position SW1 - SW2 (Work).

The programming of the running times is terminated and the times programmed are digitally memorised inside the microprocessor, eliminating the possibility of changes due to the variation of the components or power failure.

TIME MEMORY

If a safety device is activated or a Start impulse is given to invert movement during opening or closure, the central control unit automatically calculates the time that has not been used for the original manoeuvre and decreases the time of the second manoeuvre so that the slowing is always efficient. Subsequent inversion manoeuvres result in the temporary deletion of the memory and the manoeuvres are performed in the times normally memorised.

#### THRUST CONTROL

All the control unit have the possibility to set the thrust from the 40% to the 100% of the total available power.

If you cut the card track between the pad in the back part of the board "W2" it will be possible to set the thrust from the 25% to the 75% of the total available power.

#### SPARE PARTS

#### TIMER:

It is possible to connect parallely to the Start control a switch or a timer contact. The timer control controls the opening of the gate. As long as this control is active the gate remains opened.

The end of this programming provokes the automatic re-closing (if this one is inserted), after the established pause.

#### ELECTRIC LOCK (MEL)

The electric lock module is automatically detected by the central control unit as soon as it is inserted onto the card and it programmes the central control unit for the water hammer function.

#### SAFETY PHOTOCELLS (RF 24 A)

The Kit contains a pair of photocells which must be positioned as close as possible to the gate (5 to 10cm maximum) on the outer side of the two posts (safe closure).

Fix the photocells at a height of about 40-60cm from the ground.

We recommend the installation of a second set of photocells inside the gate (safe opening) using special posts. For the entry of wires from the rear, push in the pre-hole on the base and insert the plug in the lower part of the cover.

For the entry of wires from below, where using only the wire, remove the plug; where there is also a protective sheath, use the special connection piece provided.

NB: All holes to allow the passage of wires, even those not in use, must be sealed with silicon putty.

Safe opening photocells: (optional)

These must be installed inside the gate on stable supports and must protect the entire area of action of the gate wing.

Connecting photocells

- Where only one set of photocells is used, connect them as indicated in.
- If two sets are used, connect them as indicated in the control unit functional layout,

## BLINKER (RL 11)

The blinker is available in two versions, oval or round, and must be positioned at the top of the post where it can be seen from all angles.

- Fasten the power cable to the tongues of the lamp holder, slotting it through the hole on the bottom of the plastic base.
- Introduce and screw in the bulb.
- Having completed this operation, fasten the blinker to the post using the special bolts provided. Then fasten the yellow or orange plastic dome onto the black base.
- Seal all the wire passages with silicon.

## KEY SELECTOR (RS 15)

The key selector is an added comfort which enables the use of the system using the same methods as a radio transmitter. Install using the two plugs and screws provided in the pre-holes on the rear.

- To open the selector insert the key and turn it a quarter either to the left or the right, then incline and lift the upper part of the mobile plaque away (as indicated above).
- We recommend passing the wires through the rear of the selector and sealing all the holes with silicon putty.
- Having completed these operations, fasten the selector to the post or where required, then close the front repeating the operations used to open it in reverse order.

#### CONNECTING EXTERNAL CONTROLS

It is possible to connect a control panel, an intercom, etc., to the control unit.

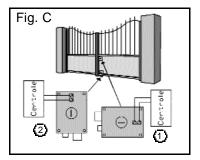
Before connecting one of these controls, make sure that the device in question does not transmit a 12V signal.

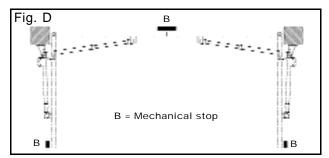
If this is the case, contact our nearest service centre.

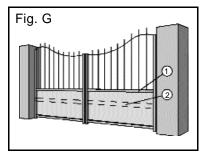
## **FAULTS**

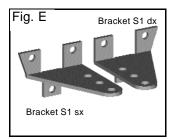
## SUGGESTIONS

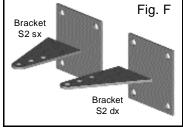
When the START impulse is given the	Check that all the opening safety contacts and the STOP button are in use and connected, and that the photocells are per-
motors are not activated or the gate opens	fectly in line and functioning.
but does not close.	To check whether the fault is due to an accessory (e.g. photocell) or the central control unit, disconnect the accessory, remem-
	bering that the safety contacts that are not connected must be bridges as follows: Stop to common (terminal 8) and the pho-
	tocells to the input of the photocell transmitter (terminal 9).
The gate does not reach the end stroke or	Check the times set.
does not begin moving again on time.	Reprogram the central control unit.
One or both motors do not start or turn in	Remember that the first START impulse, after supplying power to the central control unit, always activates the opening cycle.
the wrong direction.	Check the motor connections.
The electrical lock buzzes	Check the gate structure.
but does not work.	Check that the power supply to the central control unit is never, even temporarily, lower that 190V.
Led 1 off	Lack of power. Connect power supply.
Work led 2 flashing slowly	Photocell failure. Check the connections to the photocell or bridge.
Work led 2 flashing quickly	Triak or motor failure. Check the motor connections.
Start led 3 on	Identifies the continuous presence of a Start impulse. Check all the accessories that may perform this function.
Stop led 6 off	Check the emergency button.
Led 4 - Led 5. Photocell 1 - 2 when off	Photocell failure. Check the power supply and their efficiency.

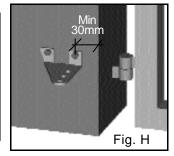


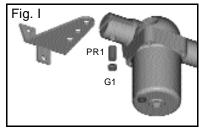


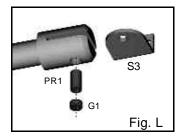


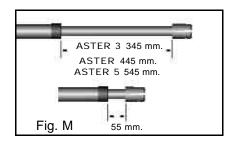


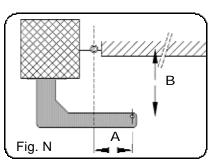


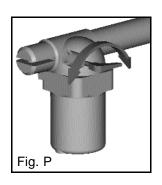


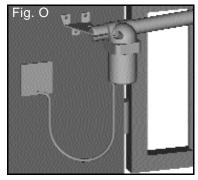


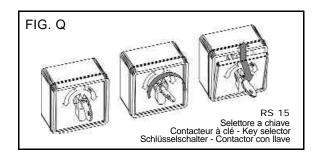




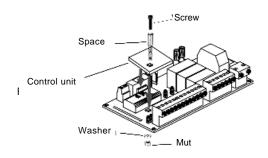








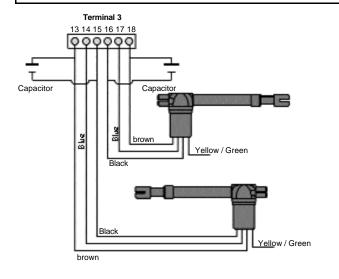
1 INSERT THE DEVICE FOR ELECTRIC LOCK (MEL) IF YOU WISCH THIS FONCTION

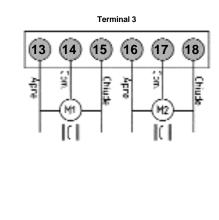


2 CONNECT THE MOTORS AND CONTROL UNIT

MOTOR 1
WING WITH ELECTRIC-LOCK OR WING WICH OPENS FIRSTLY
13 APEN + CONDENSER
14 COMUNE (blue WIRE OF THE MOTOR)
15 CLOSE + CONDENSER

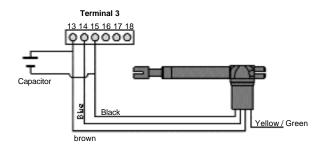
MOTOR 2
WING WICH OPENS SECONDLY
16 APEN + CONDENSER
17 COMUNE (bLUE WIRE OF THE MOTOR)
18 CLOSE + CONDENSER

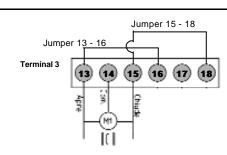




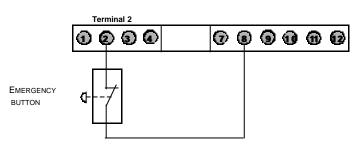
SEIF YOU CONNECT ONLY ONE MOTOR

BRIDGE BTWEEN TERMINALS 13 AND 16 AND TERMINALS 15 AND 18

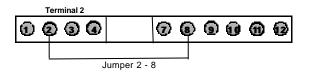




3 CONNECT THE EMERGENCY PUSHBUTTO STOP CONTACT

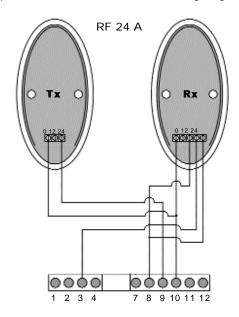


 $\underline{N.B.:}$  Jump terminals 2 and 8 if, temporarily, the STOP contacts is not used.

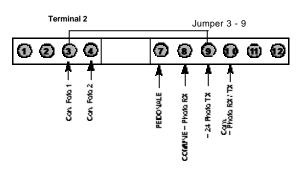


### 4 CONNECT THE PHOTOCELL

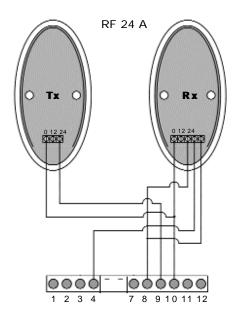
Connect the photocell in CLOSURE as the following diagram.



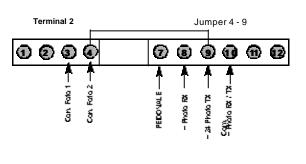
N.B.: Jump terminals 3 and 9 if the photocell in CLOSING has not been installed.



Connect the photocell in OPENING as the following diagram.



N.B.: Jump terminals 4 and 9 if the photocell in OPENING has not been installed



## 5 DIP-SWITCH PROGRAMMING

• DIP SWITCH 1 COLLECTIVE

IN OFF = LEFT DISCONNECTED FUNCTION IN ON = RIGHT CONNECT FUNCTION



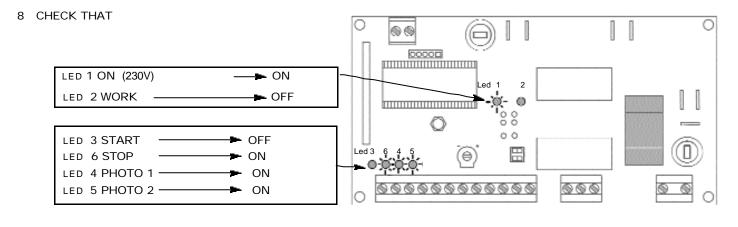
DIP SWITCH 2 PRE-WARNING FLAS IN OFF = LEFT DISCONNECTED FUNCTION IN ON = RIGHT CONNECT FUNCTION



6 JAMPER SW4 PROGRAMMING (FUNCTION)

JAMPER SW4 MAN PRESENT TO PUT THE JAMPER FOR CONNECT FUNCTION

#### 7 RECONNECT THE POWER SUPPLY IT THE CONTROL UNIT



### 9 DISCONNECT THE POWER SUPPLY TO THE CONTROL UNIT

10 DEPLACE THE JAMPER FROM THE VERTICAL POSITION TO THE HORIZONTAL POSITION IN HEIGHT



- 11 RECONNECT THE POWER SUPPLY IT THE CONTROL UNITE
- 12 CUSTOMIZE THE RADIO TRASMITTER DEPLACING SOME DIP-SWITCH
- 13 GIVE 1 PULSE WITH RADIO TRASMITTER
- 14 DISCONNECT THE POWER SUPPLY TO THE CONTROL UNIT
- 15 DEPLACE THE JAMPER FROM THE HEIGHT HORIZONTAL POSITION TO THE VERTICAL POSITION ONE

☐ Jamper position ☐ ☐ Jamper position ☐ ☐ in codes learning ☐ ☐ in timing learning

#### 16 RECONNECT THE POWER SUPPLY IT THE CONTROL UNITE

17 TO GIVE THE 1<sup>ST</sup> IMPULSE BY RADIO TRASMITTER START RUNNING THE FIRST WING AND THEN THE SECOND

18 TO GIVE THE 2<sup>ST</sup> IMPULSE BY RADIO TRASMITTER BEGIN THE SLOWING-DOWN

(give the impulse when the first wing open for 80 - 85 / 100)

19 TO GIVE THE 3<sup>ST</sup> IMPULSE BY RADIO TRASMITTER STOP TO THE MOTORS (give the impulse 1 sec. when the two wings will be completely open)

20 TO GIVE THE 4<sup>ST</sup> IMPULSE BY RADIO TRASMITTER BEGINS OF THE PAUSE TIME IN OPENING (see point 30 if you do not want to use this function)

21 TO GIVE THE 5<sup>ST</sup> IMPULSE BY RADIO TRASMITTER END OF THE PAUSE TIME IN OPENING AND/OR BEGINNING OF CLOSING

22 TO GIVE THE 6<sup>ST</sup> IMPULSE BY RADIO TRASMITTER PHASE DISPLACEMENT OF THE WIGS IN CLOSING (give the minimun time of phase displacement)

23 WAIT THE COMPLETE CLOSING OF THE GATE AND THE POWER DOWN OF THE BLINKER IF INSTALLED

# 24 DISCONNECT THE POWER SUPPLY TO THE CONTROL UNIT

25 DEPLACE THE JAMPER FROM THE HORIZONTAL DOWN POSITION DOWN THE VERTICAL RIGHT POSITION



Jamper position in timing learning



Final Jamper position for opening mode

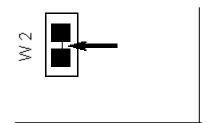
## 26 RECONNECT THE POWER SUPPLY IT THE CONTROL UNITE

27 GIVE THE IMPULSE BY RADIO TRASMITTER TO CONTRAL THAT ALL THE TIMES HAVE BEEN MEMORIZED INTHE RESTED WAYS.

#### 28 TRUST CHECKING AND SETTING - POWER POTENTIOMETER

It is possible tostop the leaf stroke during its working raising a POWER of max. 150N ( about 15  $\,\mathrm{Kg.}$ )

Using the potentiometer POWER. (increasing in clockwise, decreasing in anti-clockwise) Even if setting the potentiometer POWER at the minimum this condition has not been obtained, cut the card track between the pad in the back part of the board "W2", than repeat the checking and the regulation.

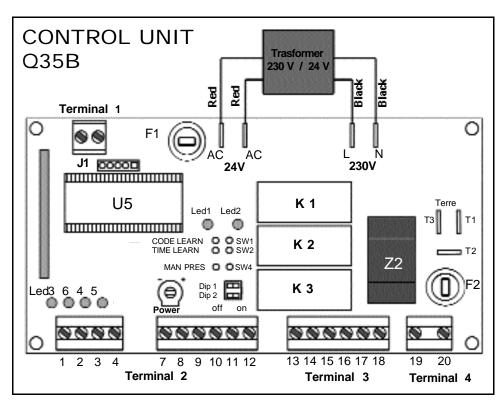


#### 29 IF YOU DON'T LIKE TO PROGRAMM THE SLOWING-DOWN

WAIT THAT THE TWO WINGS WILL BE COMPMPLETELY OPEN AND GIVE IN SEQUENCE (2 sec.) THE IMPULSE 2 AND THE IMPULSE 3.

30 IF YOU DON'T LIKE TO PROGRAMM THE PAUSE TIME IN OPENING BUT YOU THE FUNCTION STEP-BY-STEP TO GIVE THE 4th IMPULSE ( in 2 sec. ) A FURTHER IMPULSE TO GIVE AFTER SOME SECONDS THE 5 IMPULSE FOR CLOSING PHASE

31 SE NON SI DESIDERA PROGRAMMARE LO SFASAMENTO TRA LE ANTE INVIARE IN RAPIDA SUCCESSIONE (entro 2 sec.) L'IMPULSO 6 E L'IMPULSO 7.



### COMPONENTS CONTROL UNIT

F1	Fuse 24 Vac 800 mA
F2	Fuse of line 230 Vac 5A
LED 1	Present 230 V
LED 2	Work signal
LED 3	Start button present signal
LED 4	Photocell 1 present signal
LED 5	Photocell 2 present signal
LED 6	Stop button present signal
M1	Terminal holdfast for radio or aerial
M2	Terminal holdfast order for radio or aerial
M3	Terminal holdfast motor
M4	Terminal holdfast Power supply
T1 / T2 / T3	Terminal holdfast to aerth
POWER	Thrust control
DIP 1 SW3	Condominium
DIP 2 SW3	Pre-warming flash
SW4	Man present
J 1	Connection Electric lock
U5	Microprocessor
Z2	Filter
K1/ K2/ K3	Relé
SW1/SW2	Common for programming
CODE LEARN	Programming codes
TIME LEARN	Programming times

