



# SEA®

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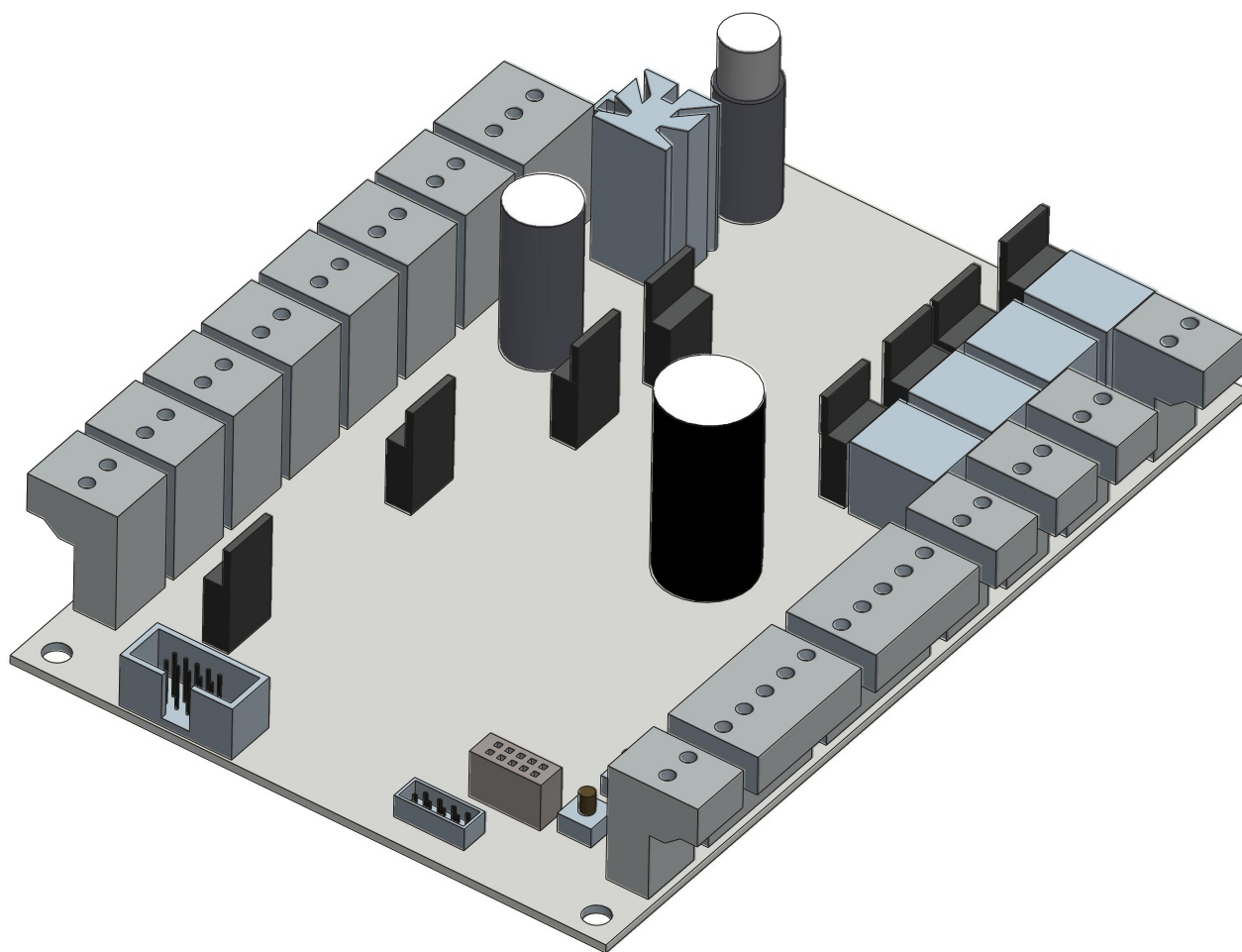


**English**

## **USER 2 - 24V / USER 2 HIDRO**

**23024015/16/17/18/19/20/21**

***ELECTRONIC CONTROL UNIT FOR SWING OPERATORS 24V ===***



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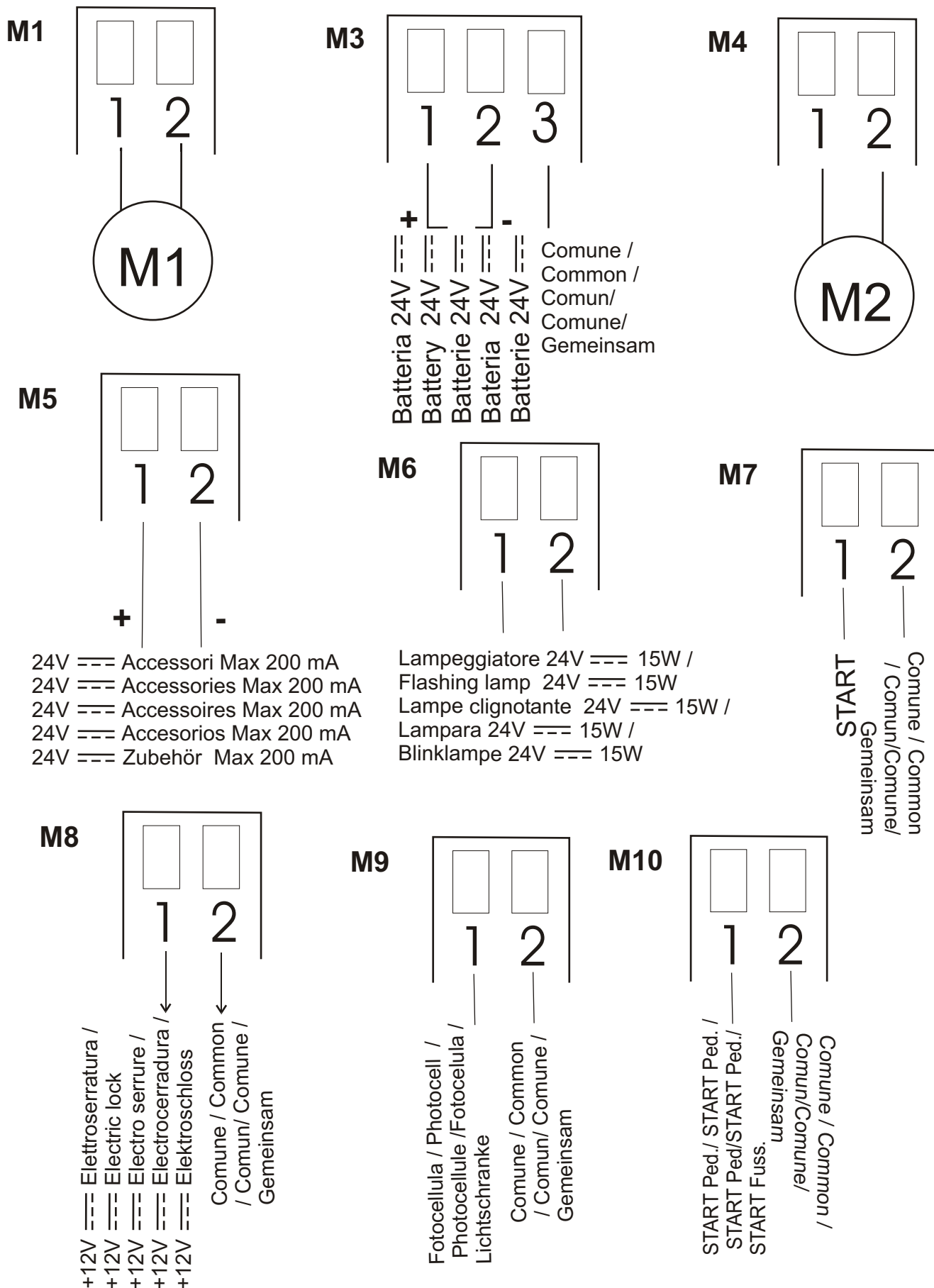
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## **CONNESSIONI / CONNECTIONS / CONNEXIONS**

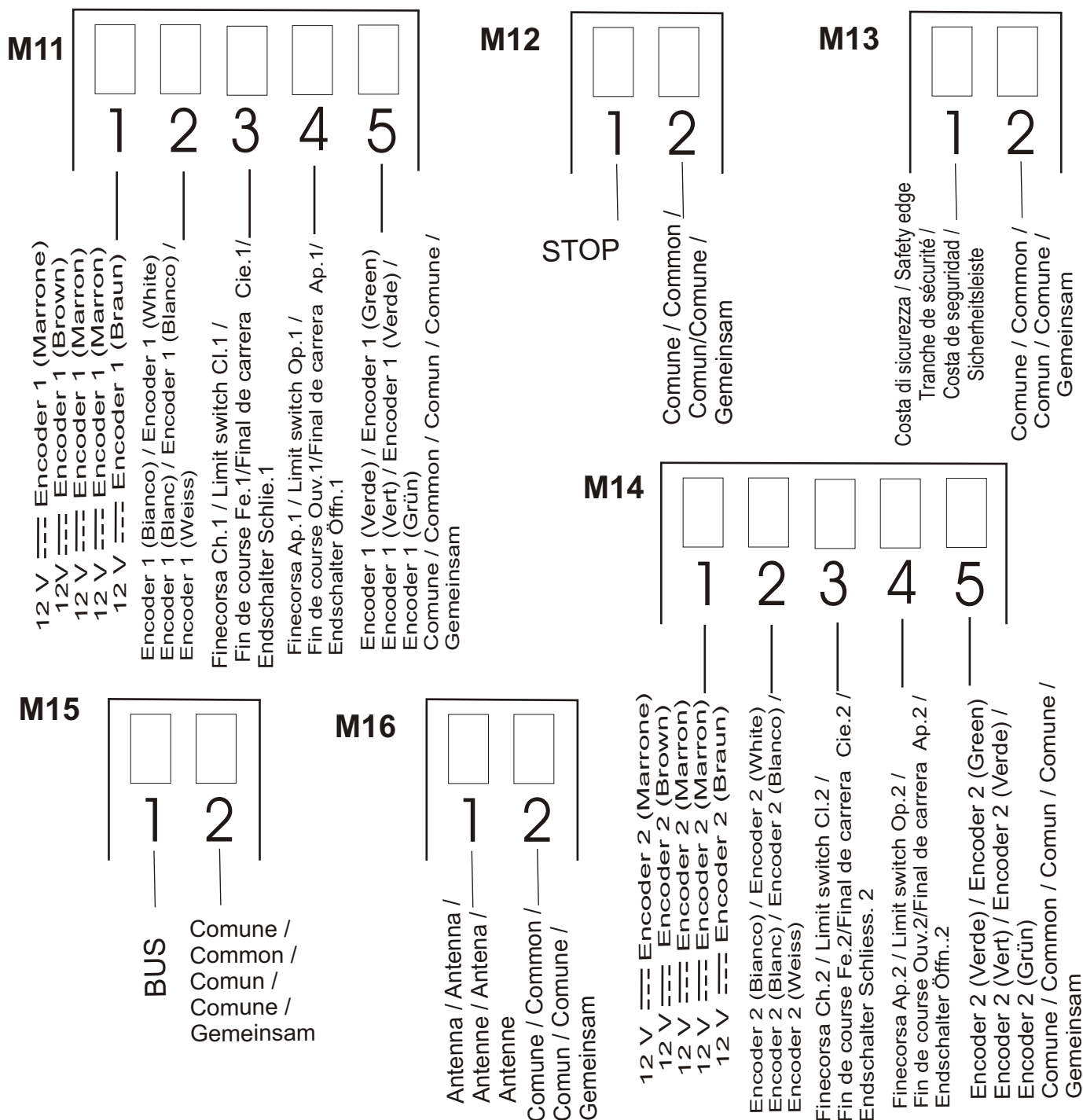
### **CONEXIONES / VERBINDUNGEN**



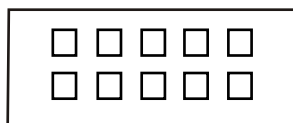


# CONNESSIONI / CONNECTIONS / CONNEXIONS

## CONEXIONES / VERBINDUNGEN

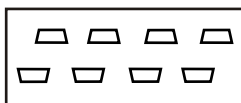


### CMD



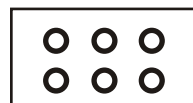
Connettore modulo display /  
Display module connector /  
Connecteur module display /  
Conector modulo display /  
Verbindungsmodul Bildschirm

### CMR



Connettore modulo ricevente /  
Receiver module connector /  
Connecteur module récepteur /  
Conector modulo receptor /  
Verbindungsmodul Empfänger

### CALM



Connettore alimentazione 24V --- /  
24V --- feed connector /  
Connecteur alimentation 24V --- /  
Conector alimentaciùn 24V --- /  
Speisungsverbindung 24V ---

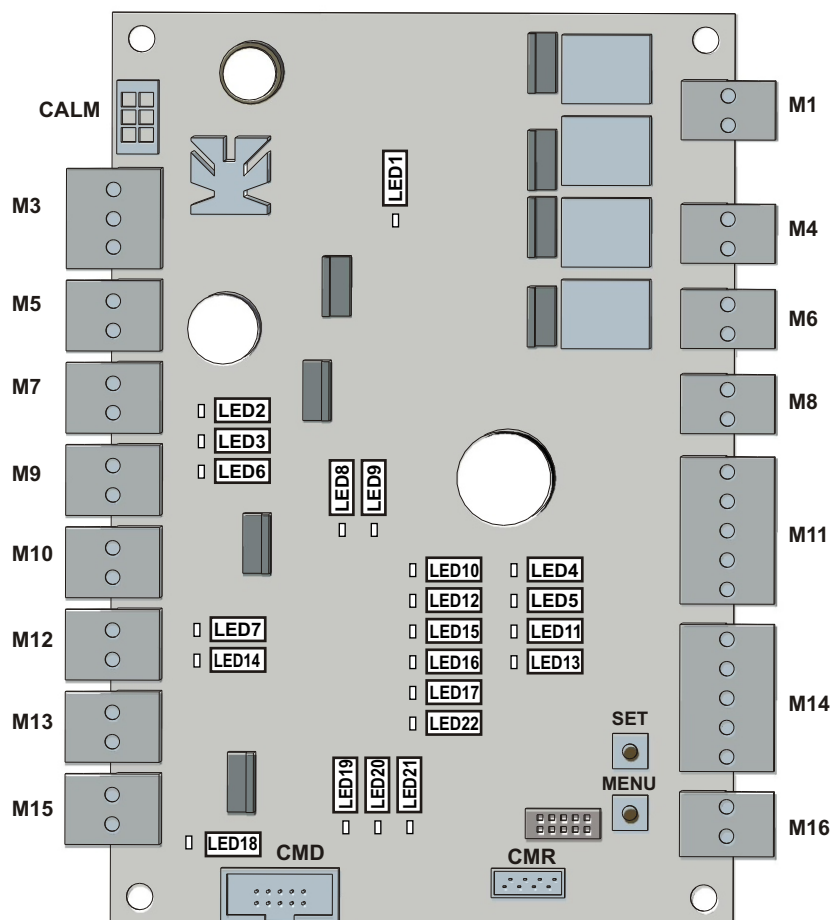


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## **DESCRIPTION OF THE COMPONENTS**



**LED1** = Fuse breaking signal  
**LED2** = Start  
**LED3** = Photocell  
**LED4** = Limit switch opening M1  
**LED5** = Limit switch closing M1  
**LED6** = Pedestrian Start  
**LED7** = Stop  
**LED8** = Battery  
**LED9** = 24V === Power supply  
**LED10** = Using modality  
**LED11** = Limit switch opening M2  
**LED12** = Time of pause  
**LED13** = Limit switch closing M2  
**LED14** = Safety edge  
**LED15** = TX Programming  
**LED16** = Leaf delay adjustment  
**LED17** = Functioning logics  
**LED18** = BUS Indicator  
**LED19** = Function indicator  
**LED20** = Function indicator  
**LED21** = Function indicator  
**LED22** = Motors' speed adjustment  
**SET** = Setting  
**MENU** = Selection

**M1** = Motor 1 power supply  
**M3** = Battery card connection  
**M4** = Motor 2 power supply  
**M5** = 24V === exit  
**M6** = 24V === 15W Warning lamp  
**M7** = Start  
**M8** = Electric lock exit  
**M9** = Photocell connection  
**M10** = Pedestrian start  
**M11** = Encoder / Limit switch M1  
**M12** = Stop  
**M13** = Security edge  
**M14** = Encoder / Limit switch M2  
**M15** = BUS accessories connection  
**M16** = Antenna  
**CMD** = Display module connection  
**CMR** = Receiver module connection  
**CALM** = 24V === power supply connection



## **GENERAL INFORMATION**

*The information in this section of the manual are only for technicians or for qualified or authorized installers.*

### **GENERAL CHARACTERISTICS**

The USER 2 24V control unit has been designed to manage one or two low voltage swing gate operators with or without electronic limit switches.

It is of very small dimensions and besides the possibility to adjust motor speed, amperemetric anti squeezing sensitivity, leaf delay in closing, pausing time, it is also possible to manage a display, through which it is possible to control a lot of management functions and the maintenance of the control unit. The most important change however concerns the presence of a BUS connector with two wires, through which it is possible to connect accessories as photocells, flashing lamp, key switch and so on,... connecting only two cables with the control unit. The self-learning of working time can be done automatically.

### **TECHNICAL SPECIFICATIONS**

|                                             |                                                                                                                                                 |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control unit power supply</b>            | 24 V ---                                                                                                                                        |
| <b>Absorption in stand by</b>               | 100 mA                                                                                                                                          |
| <b>Max. motor charge</b>                    | 90 W x 2                                                                                                                                        |
| <b>Max. accessories charge</b>              | 24V --- 250mA                                                                                                                                   |
| <b>Max. Flash light charge</b>              | 24V --- 15W max.                                                                                                                                |
| <b>Environment temperature</b>              | -20°C ↕ +50°C ↕                                                                                                                                 |
| <b>Protection fuse (24V accessories)</b>    | 1 (1,6mA)                                                                                                                                       |
| <b>Function logic</b>                       | Automatic / Manual / Security / Semiautom.                                                                                                      |
| <b>Opening/closing time</b>                 | In selflearning in programming phase                                                                                                            |
| <b>Time of pause</b>                        | Adjustable with push button                                                                                                                     |
| <b>Thrust</b>                               | Adjustment with pushbutton and display                                                                                                          |
| <b>Slow down</b>                            | Adjustable on display                                                                                                                           |
| <b>Input on connecting terminal</b>         | Battery power supply / Total opening / Pedestrian opening adjustable / Edge/ Stop / Limit switch opening and closing / Encoder/ BUS accessories |
| <b>Output on connecting terminal</b>        | Power supply accessories 24V --- / Motors 24V --- / Flashing lamp 24V --- / Electric lock 12V ---                                               |
| <b>Board dimensions</b>                     | 156 x 100 mm                                                                                                                                    |
| <b>Specifications of optional batteries</b> | 24V Pb 2Ah min.                                                                                                                                 |
| <b>Specifications of external enclosure</b> | 305 x 225 x 125 mm - Ip55                                                                                                                       |

### **ARRANGEMENTS**

Read attentively the installation manual as it gives important indications concerning safety, installation, use and maintenance.

Installation, maintenance, reparation, controls and eventual putting out of function of the product must be executed by qualified staff only.

**For the security of people it is important to follow with attention all the advises and instructions in this manual. A wrong installation or a wrong use of the product can cause sever damages to people.**

**The max. length of the power supply cable between control unit and motors is 10m, use cables with 2,5 mm<sup>2</sup> section.**

Use wirings with double insulated cables (cables with sheath) up to the immediate proximities of the terminals especially for the power supply cable (230V~).



The control unit must not be used by people (including children) whose physical, sensory or mental ability is reduced, or with lack of experience or knowledge, unless they are guarded or have been instructed on how to use the control unit by a person responsible for their safety. Children must be guarded to make sure that they don't play with the control unit.

Foresee on the power supply net of the automation a device that assures the complete omnipolar disconnection from the net, with a distance of opening of the contacts on each pole of at least 3mm. Those devices of disconnection have to be foreseen on the power supply net accordingly to the rules of installation, and they have to be directly connected to the power supply terminals.

It is necessary to keep in adequate distance (at least 2.5 mm in the air) the low tension conductors (230V~) from the very low tension conductors (SELV) or to use a suitable sheath of at least 1 mm which supplies an additional insulation.

Make sure that during installation the power supply and interconnection cables cannot come into contact with pointed or sharp extremities.

Dispose of the package materials (plastics, carton, polistirene, etc.) respecting the laws in order. Keep nylon and polistirene bags out of the reach of children.

Save these instructions for further information attaching them to the technical documents.

This product has been projected and built exclusively for the use described in this instruction manual.  
Uses not indicated in this manual could damage the product and be source of danger.

SEA declines all responsibility for improper or different use from the one for which it has been planned and described in the present manual.

Don't install the product in explosive atmospheres.

SEA declines all responsibility for the non-observance of the good technique in the construction of closings (doors, gates, etc.), as well as for the deformations which could occur during the use.

Remove the power supply before any intervention on the installation. Disconnect also possible battery buffers if present.

Make sure that the earth installation has been correctly made: connect all the metallic parts of the closing (doors, gates, etc.) and all the components of the installation provided with earth terminals.

Apply all the safety devices (photocells, sensitive edges, etc.) which are necessary to protect the area from dangers of crushing, conveying, cutting.

SEA declines all responsibility for safety and for the correct functioning of the automation if parts of other producers are used.

Use only original parts for any maintenance or reparation.

Do not modify the parts of the automation if not explicitly authorized by SEA.

Instruct the user of the installation on the applied command systems and how to manually open the gate in case of emergency.

**What is not explicitly contained in these instructions is not permitted.**



# START - STOP - PEDESTRIAN START - ANTENNA - PHOTOCELL

## Photocell 1 Connection

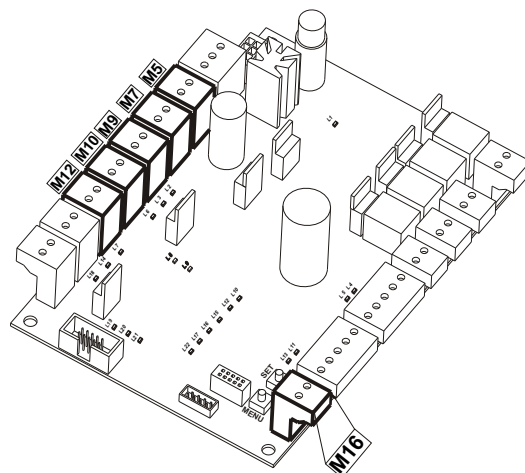
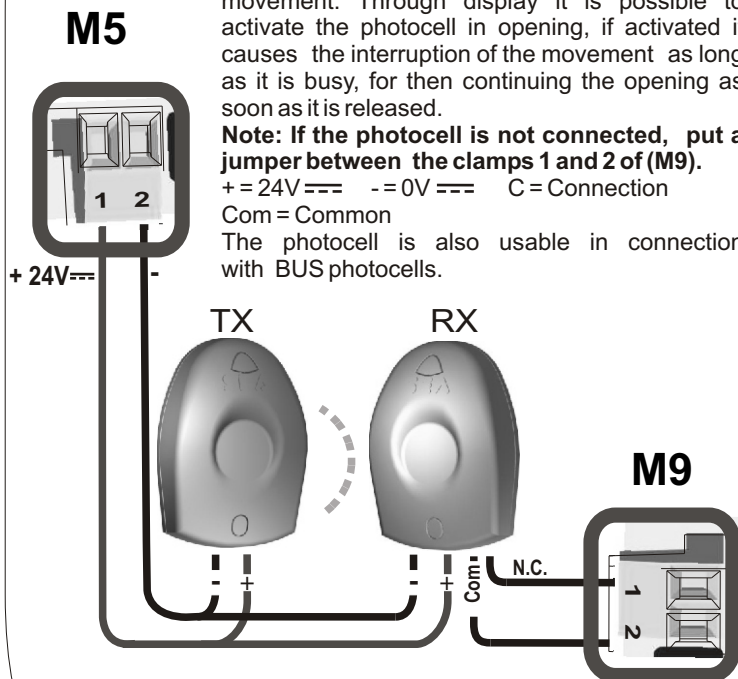
When the ray of the photocell is crossed, and the automation is in phase of closing it reverses its movement. Through display it is possible to activate the photocell in opening, if activated it causes the interruption of the movement as long as it is busy, for then continuing the opening as soon as it is released.

**Note: If the photocell is not connected, put a jumper between the clamps 1 and 2 of (M9).**

+ = 24V === - = 0V === C = Connection

Com = Common

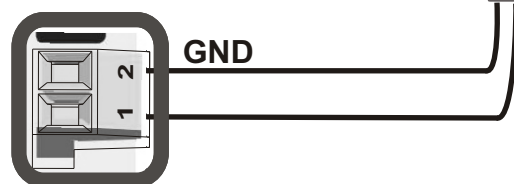
The photocell is also usable in connection with BUS photocells.



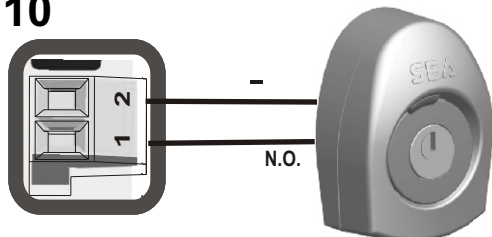
## ANTENNA

Connect the antenna as in the picture.

**M16**



**M10**



## PEDESTRIAN START (N.O.)

To obtain a partial opening (only one leaf opening) connect the key-button wires as in the picture. It is possible to connect other command devices (push button board, radio receiver, keypad).

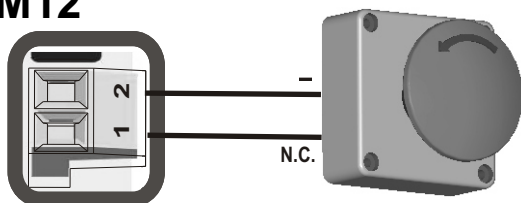
From the display it is possible to adjust the pedestrian opening space: 30%, 50%, 100%.

Note1: The contact for partial opening is a N.O. Contact (Normally open)

Note2: Partial opening will always operate the **M1** motor.

Nota3: In manual logic it is necessary to keep pressed the Start ped for the reclosing of the leaf.

**M12**



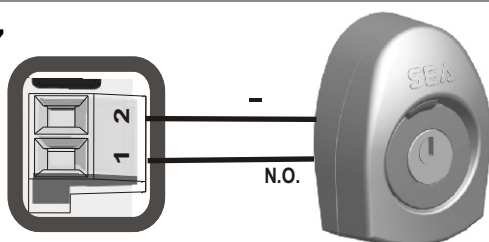
## STOP (N.C.)

The pressure on this button immediately stops the motors in any condition /position. A start command is needed to re-start movement.

After a stop the motors always re-start in closing.

Notice: If stop button is not used make a jumper between terminals n° 1 and 2 of M12.

**M7**



## START (N.O.)

An impulse given to this contact opens and closes the automation depending on logic selected. It can be given by a key switch, a keypad, etc.

To connect the other devices refer to the related instructions leaflets. (ie. loop detectors and proximity switches)

Note1: In manual logic it is necessary to keep pressed the Start for the opening of the leaf.



## ENCODER - LIMIT SWITCH

### Encoder (Function not activated)

The encoder is a device that allows to reveal possible obstacles during the opening and the closing of the gate.

When this device intervenes in opening it causes the inversion of the movement for around a second, if it intervenes in closing it causes the total reopening.

**Note 1:** Such function is active through an amperemetric sensor on the control board. It is not necessary to mount any external devices for the respect of the normative.

**Nota2:** The amperemetric sensitivity is adjustable through the Palmuser modifying the motor torque parameter for every single leaf. On the control unit the torque can be adjusted in 4 steps: low, middle, middle high, high and contemporarily on both the motors. With high torque the gate reverses after 5 seconds.

**Attention:** after every intervention of the ammeter sensor it is necessary to give a start impulse to restore the movement.

### PHOTOCELLS

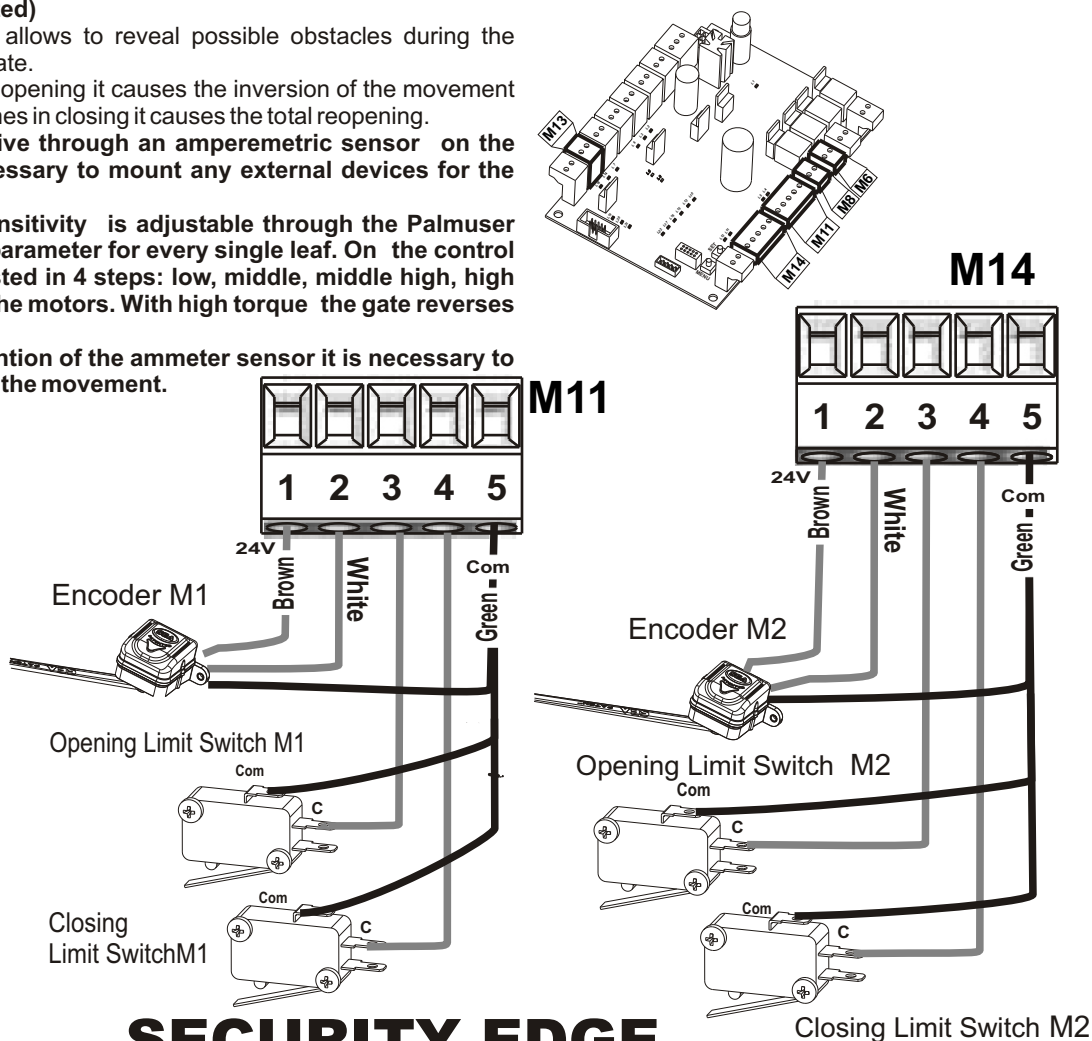
If not connected they don't have to be bridged.

For the limit switch function the presence of the limit switches in both closing and opening is necessary. In case of single leaves it is not necessary to bridge the limit switch of the motor 2.

Com = Common

C = Contact

From display it is possible to activate the function anti-intrusion. Such function is tied up to the presence of at least one limit switch, that if freed, forces the motor to re-close.



## SECURITY EDGE

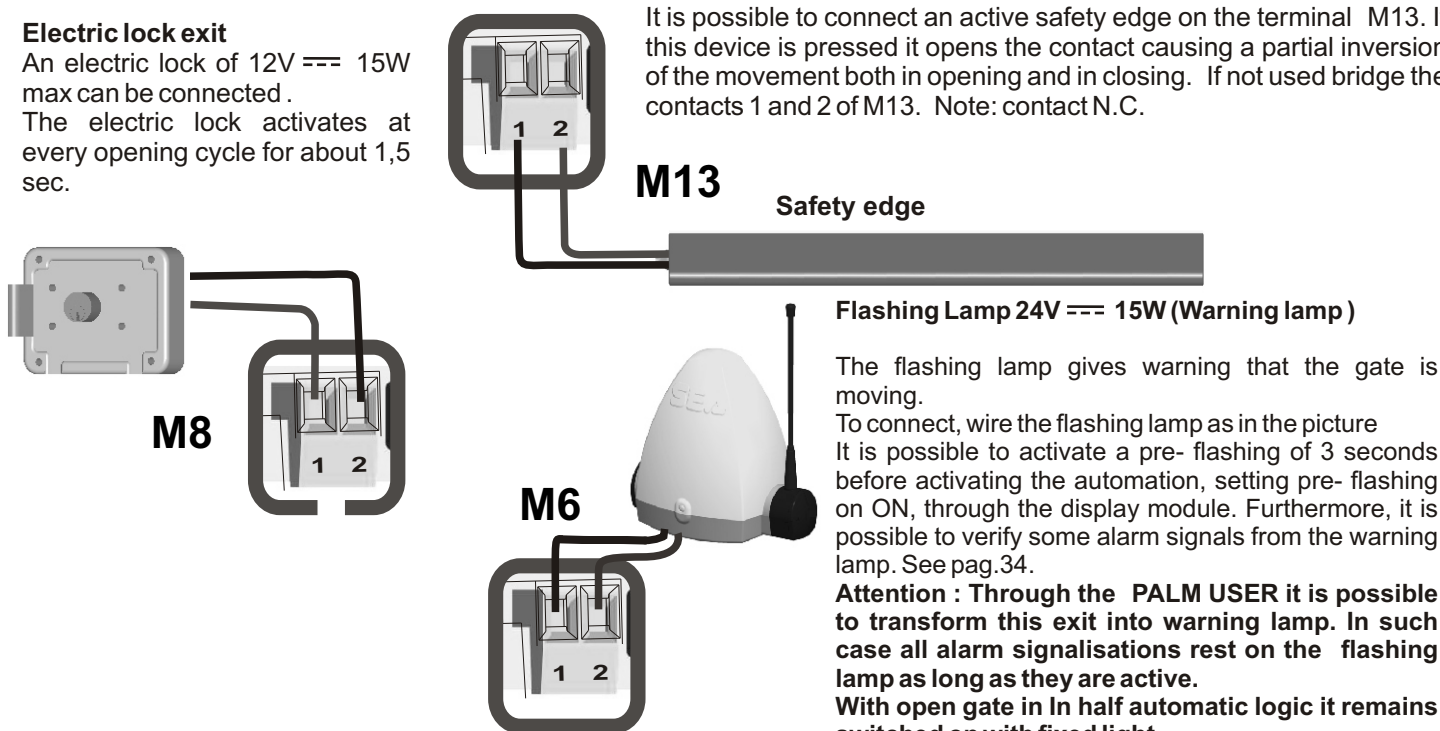
## ELECTRIC LOCK AND WARNING LAMP

### Electric lock exit

An electric lock of 12V === 15W max can be connected.

The electric lock activates at every opening cycle for about 1,5 sec.

It is possible to connect an active safety edge on the terminal M13. If this device is pressed it opens the contact causing a partial inversion of the movement both in opening and in closing. If not used bridge the contacts 1 and 2 of M13. Note: contact N.C.



### Flashing Lamp 24V === 15W (Warning lamp)

The flashing lamp gives warning that the gate is moving.

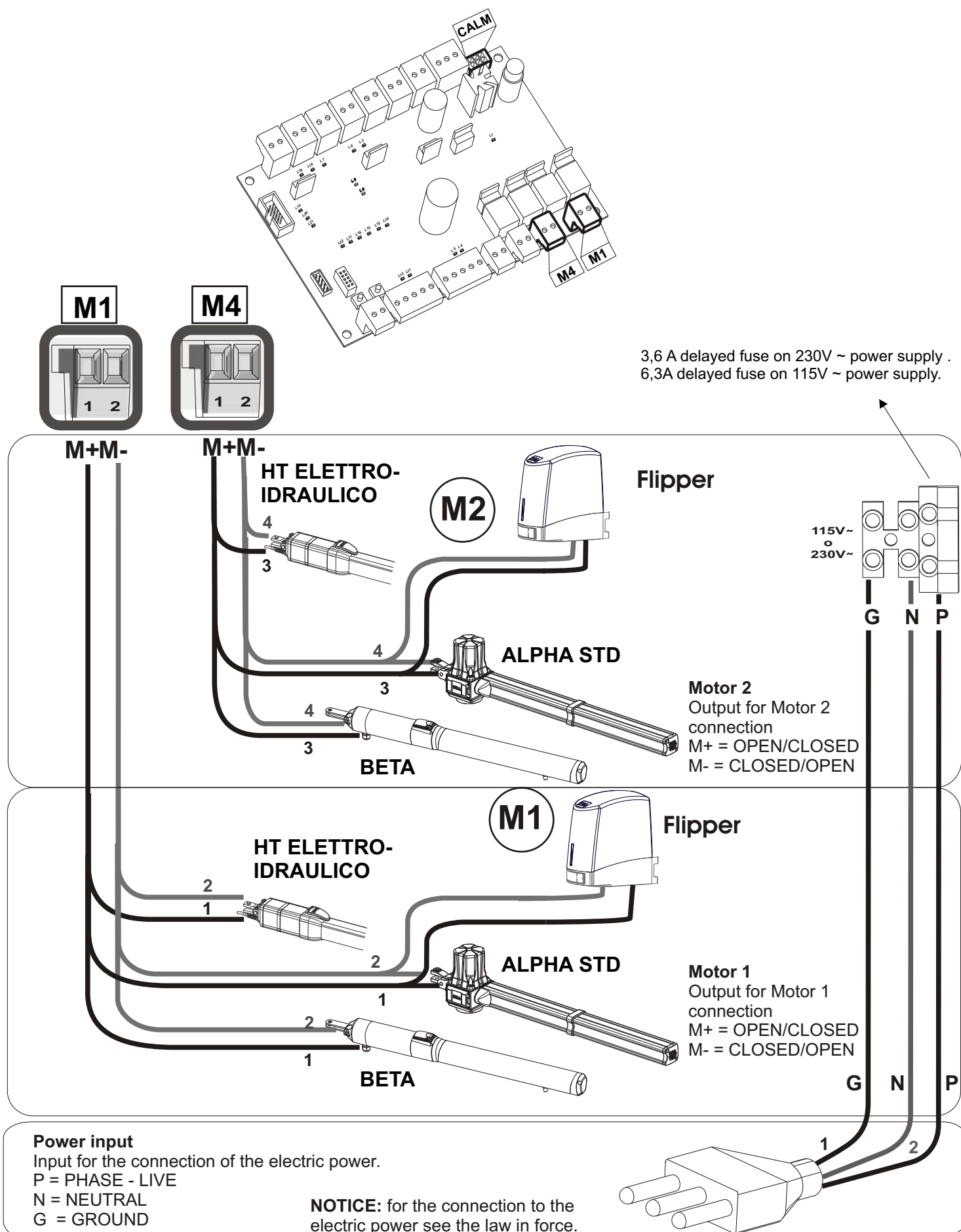
To connect, wire the flashing lamp as in the picture. It is possible to activate a pre-flashing of 3 seconds before activating the automation, setting pre-flashing on ON, through the display module. Furthermore, it is possible to verify some alarm signals from the warning lamp. See pag.34.

**Attention :** Through the PALM USER it is possible to transform this exit into warning lamp. In such case all alarm signalisations rest on the flashing lamp as long as they are active.

With open gate in In half automatic logic it remains switched on with fixed light.



# POWER SUPPLY - MOTORS ARM-ALPHA-BETA





## SELFLEARNING WITH DEFAULT PARAMETERS

To learn the times with the default settings, it is sufficient to press the Menu button once and to hold pressed the SET button until the motors start in closing.

The settings of **DEFAULT** are: SEMIAUTOMATIC LOGIC, DOUBLE LEAF ENCODER OFF, MIDDLE SPEED, LEAF DELAY 3 S., PAUSE 2 S., AVERAGE TORQUE, SLOWDOWN SPEED 30%, LEARNING SPEED 50%, ACCELERATION 70%, DECELERATION 30%, LEAF STROKE OFF, ANTI-INTRUSION OFF, SELFTEST OFF, PEDESTRIAN 100%, PHOTO OPENING OFF, MAX CYCLES 100000, MOTOR TYPE: FLIPPER.

## WORKING TIMES SELF LEARNING

**Note1:** it is not necessary to put a jumper between the STOP, PHOTOCELL and SECURITY EDGE (N.C.) contacts if they are not used. If they are used during selflearning phase they must stay (N.C.).

**Note2:** For the electro-hydraulic it is recommended to set the learning and the functioning speed on the same value.

**Nota3:** If accessories are connected on the BUS, align the photocells before programming, as shown on pag.31

1) Make sure that each accessory (photocells, push buttons, and so on) works properly and eventually adjust the leaf delay.

2) If necessary adjust the self-learning speed through the palm user.

3) Disconnect the power supply (Fig. 1), release the motors (Fig. 2-3) and put the leaves manually next to the stop in closing (Fig. 4). Reset the mechanical lock (Fig. 5-6)

4) Connect the control board to the power supply (Fig.7).

5) Press the selection button "MENU" so to switch on LED10

6) Press the button "SET" until the led of the color corresponding to the type of application (single leaf, double leaf, Encoder ON, Encoder OFF) switches on.

7) Hold pressed the button "SET" until the motors start in closing and then release the button.

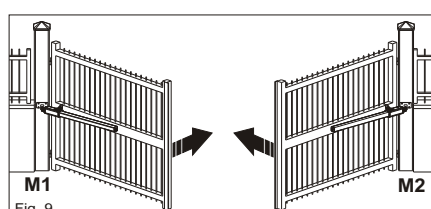
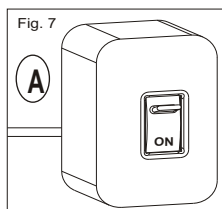
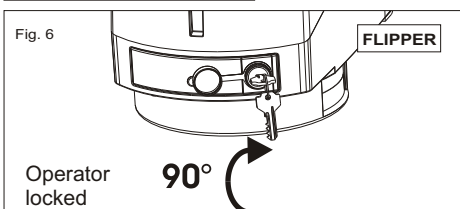
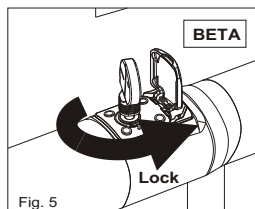
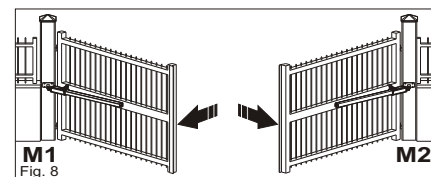
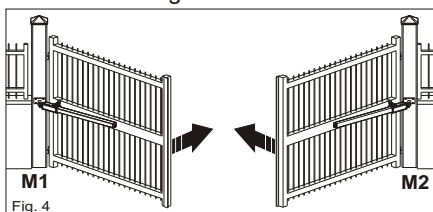
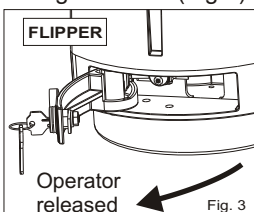
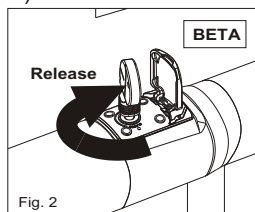
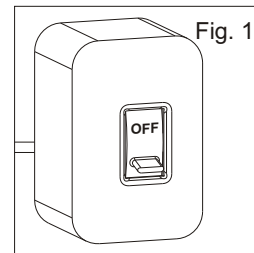
**Note:** If the motors do not start check the alignment of the FOTOBUS and give an impulse on SET.

8) Both leaves will start the closing with reduced speed (Fig.4).

9) At the attainment of the stops they will automatically execute an opening cycle with reduced speed (Fig.8).

After having reached the stop in opening they will automatically perform a closing cycle.

10) Wait for the end of the closing of the leaf (Fig.9). The self-learning is done.



A) Select LED 10 of the self-learning through the MENU button, with LED 10 turned on press button SET to choose the function modality:

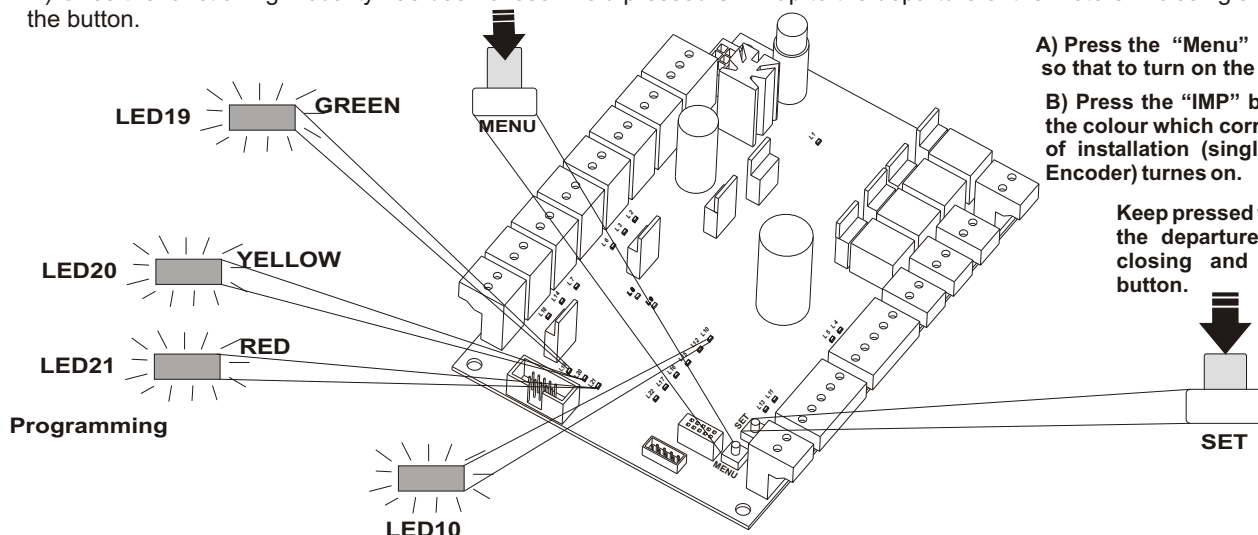
- led L20 yellow = double leaf Encoder OFF

- led L19 and 20 green and yellow = double leaf Encoder ON

- led L21 red ON = single leaf Encoder OFF

- led L19 and 21 green and red = single leaf Encoder ON

B) Once the functioning modality has been chosen hold pressed SET up to the departure of the motors in closing and then release the button.



A) Press the "Menu" button so that to turn on the LED10

B) Press the "IMP" button till the Led of the colour which corresponds to the type of installation (single leaf, double leaf, Encoder) turns on.

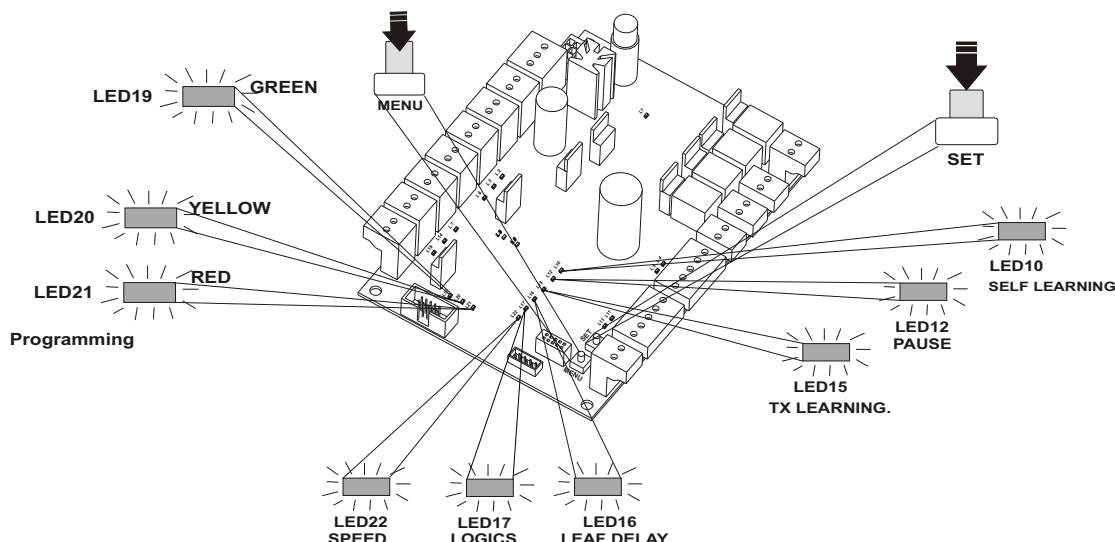
Keep pressed the button "SET" till the departure of the motors in closing and then release the button.



## **SELECTION OF THE SETTINGS**

The adjustments of the control unit are executed through the buttons "MENU" and "SET".

Pressing the "MENU" button you select the Leds corresponding to the various functions to be set, pressing the "SET" button you select the leds corresponding to the desired values inside every single function.



Selecting **LED 12** with the "MENU" button you enter into pausing time regulation, with **LED 12** turned on, hold pressed the selected button "SET" for the desired time of pause. According to the colour that the leds 19, 20 and 21 will assume it will be possible to have an order of the length of the set time of pause. If the button is released and pressed again the time of pause will be annulled.

**Led L19 green turned on Time of pause <15 S.**

**Led L20 yellow turned on Time of pause <45 S.**

**Led L21 red turned on Time of break >45 S. up to 180 S.**

Selecting **LED 16** with the "MENU" button you enter into the opening leaf delay adjustment, with **LED 16** turned on, press the button "SET" till to select the desired leaf delay, observing the colour of the leds 19, 20 and 21.

**Led L19 green turned on leaf delay OFF**

**Led L20 yellow turned on leaf delay <4 S.**

**Led L21 red turned on leaf delay >4 S. up to 7 S.**

Selecting **LED 17** with the "MENU" button you enter into the choice of the functioning logics, with **LED 17** turned on, press the button "SET" till to select the desired logic, observing the colours of the Leds 19, 20 and 21.

**Led L19 green turned on manual logic**

**Led L20 yellow turned on automatic logic**

**Led L21 red turned on security logic**

**Led L19 and L20 green and yellow turned on semi-automatic logic.**

Selecting **LED 22** with the "MENU" button you enter into the choice of the motors' speed, with **LED 22** turned on, press the button "SET" till to select the desired speed, observing the colours of the leds 19, 20 and 21.

**Led L19 green turned on slow speed**

**Led L20 yellow turned on middle speed**

**Led L21 red turned on high speed**

**Hold pressed "SET" for more then 5 seconds to annul the executed number of cycles**

Selecting **LED 10 and LED 12** (with alternate flashing) with the "MENU" button you enter into the motor torque adjustment. With **LED 10** and **LED 12** flashing alternatively keep pressed the button "SET" while selecting the desired torque observing the color of the **LEDS 19, 20, 21.**

**Led L19 green turned on, torque = Low**

**Led L20 yellow turned on, torque = Middle**

**Led L21 red turned on, torque = Middle high**

**Led L19, L20 and L21 turned on, troque = High**

Selecting **LEDs 22 and 17** (with alternate flash) with the "MENU" button you enter into the choice of the type of motor that you are using.

Note: In default the control unit is set on the **FLIPPER** motor.

**Led 19 green Alpha and Field**

**Led 20 yellow Beta**

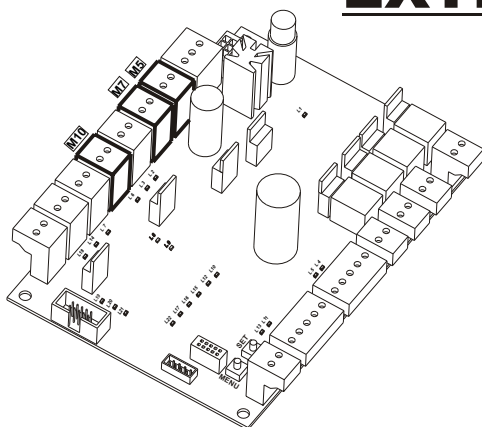
**Led 21 red Flipper**

**After 30 seconds without having pressed any button, the parameters' adjustment function will be automatically left.**

**If the control unit turns on when holding pressed the buttons "MENU" and "SET" contemporarily, the control unit will start with the DEFAULT parameter (see preceding page).**

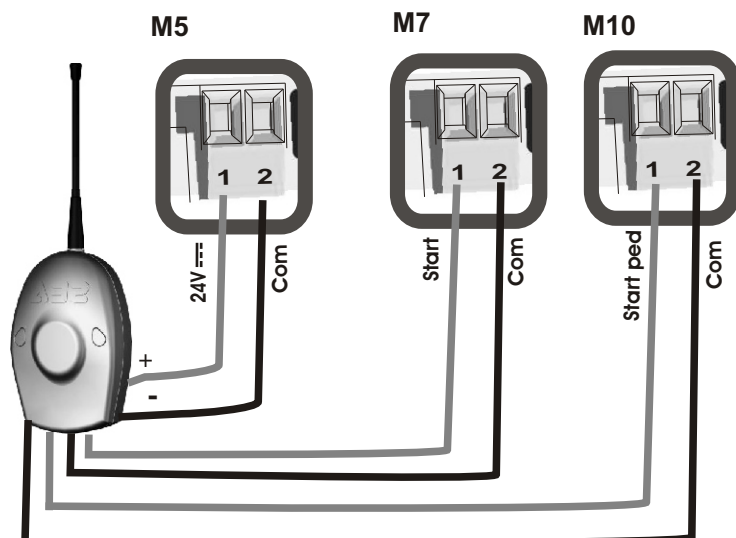


## EXTERNAL RECEIVER



### Connection of a radio receiver

For the connection of the receiver refer to the relative instructions manual.



## RADIO TRANSMITTER SELF LEARNING

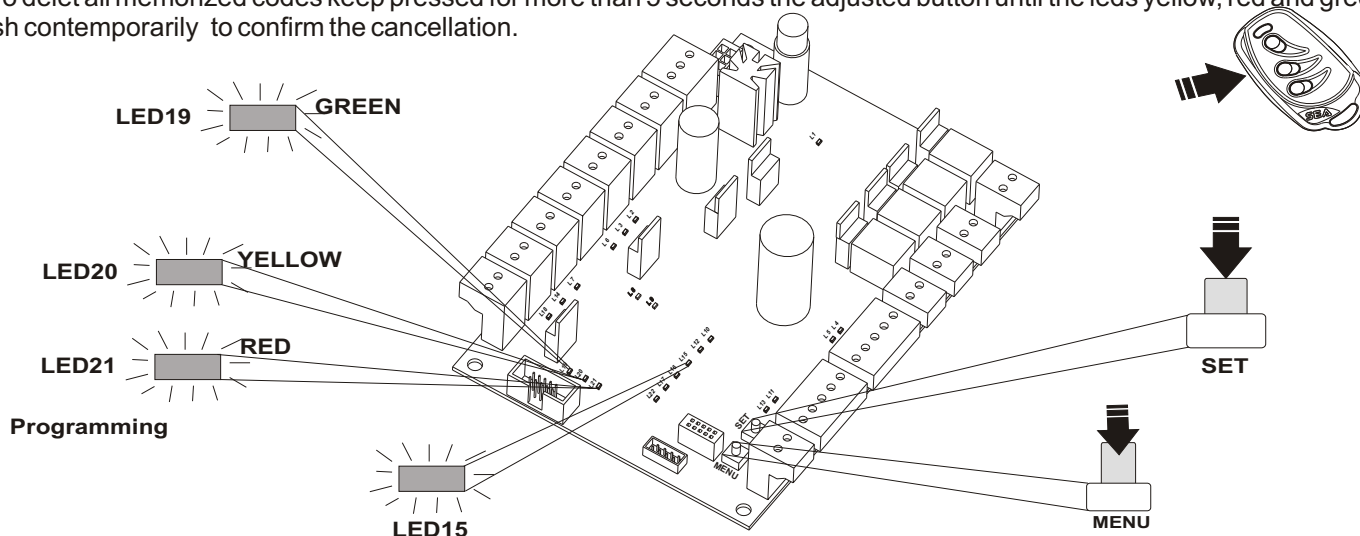
### WITH RECEIVER ON BOARD OF CONTROL UNIT

**Note:** The first memorized radio transmitter determines all the others.

Ex.: If a Ladybird Rolling Code is inserted, afterwards it will be possible to insert only radio transmitters of the same type.

**WARNING:** Make the radio transmitters programming before you connect the antenna and insert the receiver into the special CMR connector (if available) with turned off control unit.

1. Press repeatedly the button "MENU" till to select the led 15 (red), at this point press the button "SET" and the led15 will flash together with the led 19 (green) to signal that it waits for a code to be associated to the total opening;
2. Press the desired button of the radio transmitter, the led19 (green) will turn off to signal the memorisation of the data;
3. If it is desired to also associate a command to the pedestrian start, press **SET** again, the led 20 (yellow) will flash for signalling that it is waiting for a code to be associated to the **pedestrian opening**;
4. Press the desired button of the radio transmitter, LED 20 will turn off to signal the memorisation of the data.
5. At this point it is possible to press the desired button of the radio transmitter and the leds 19,20, 21 (green, yellow, red) will show the available memory, led19 (green) shows the occupied memory, less than 50%, led 20 (yellow) shows the occupied memory, more than 50%, led 21 (red) full memory.
6. To delet all memorized codes keep pressed for more than 5 seconds the adjusted button until the leds yellow, red and green will flash contemporarily to confirm the cancellation.



### Notes:

- Enter radio transmitters learning only when the working cycle stops and the gate is closed.
- It's possible to memorize up to 800 codes (buttons).
- If all available codes have already been memorized and you try to memorize a further code, the led 21 (red) will flash for signalling the error.
- If the board receives a code which was already associated to another function it will be updated with the new function.



## **FUNCTION LOGIC**

### **SEMI AUTOMATIC LOGIC**

A start impulse opens the gate. A second impulse during opening stops the movement.

With the gate opened a start impulse is necessary for its re-closing. A start commande during the closing reverses the movement.

### **SECURITY LOGIC**

A start impulse opens the gate. A second impulse during opening reverses the movement. A start impulse during closing reverses the movement. A start commande during pause causes the immediate re-closing.

### **MANUAL LOGIC**

The gate opens when the **Start** push button for opening is pressed and held; releasing it stops the gate. The gate re-closes as long as the button connected to the **pedestrian START** will be pressed; releasing it stops the gate. To execute complete opening and/or closing cycles it is necessary to keep the relative push buttons constantly pressed.

### **AUTOMATIC LOGIC**

A start impulse opens the gate. A second impulse during the opening will not be accepted. An impulse during the pause won't be accepted. An impulse during the closing reverses the movement.

## **DESCRIPTION OF THE BUS SYSTEM**

The BUS is a connecting system through which it is possible to connect different accessories among which: photocells, key switches, warning lamps, numerical keyboards and key selectors, all in parallel on the same entry and all through two only threads. This system therefore allows to eliminate the two threads of the power supply for the accessories, therefore every accessory will be equipped with only two threads. Every accessory is equipped with a rotating changer, which allows to join the various devices according to a numerical sequence which defines the particular function assigned to that accessory.

### **Photocells' alignment**

If photocells are connected on the BUS it is necessary to line up the same before programming. To do the alignment it is necessary to start a self-learning cycle of the times. At this point, the gate will stand still, as long as the photocells are not lined up. Once the photocells have been lined up, push the SET button to restart the self-learning of the times.

### **Photocells BUS addressing**

Rotating Changer on TX and RX on 0 or 1 = photocell active only in opening Rotating Changer on TX and RX on 2 or 3 = photocell active only in closing Rotating changer on TX and RX on 4 = photocell both in opening and in closing.

The positions from 6 to 9 are interpreted as active photocells both in closing and in opening.

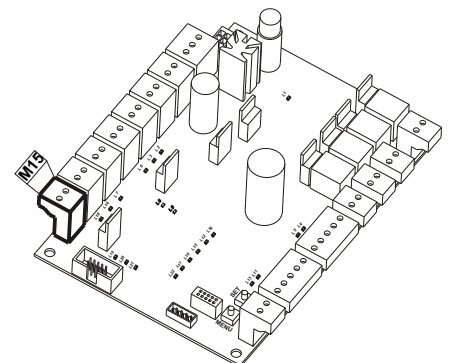
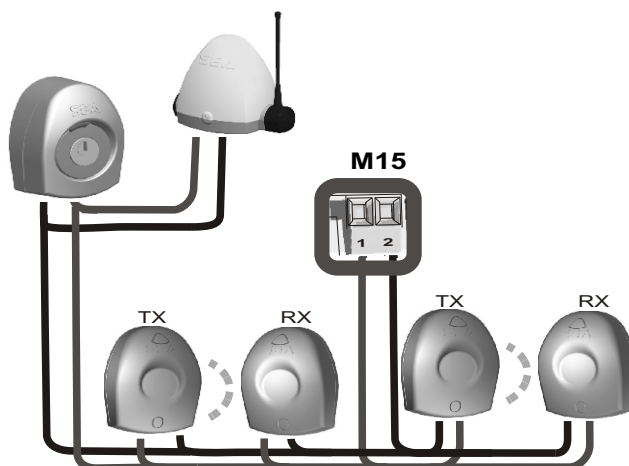
Note: Two couples of photocells with the same function have to have a different number. For ex. on two couples in closing TX and RX of the first one will have the number 2, TX and RX of the second couple will have the number 3.

### **Initialization BUS**

Connect all the devices in parallel on the clamp M15 or in parallel between them.

At the lighting of the control unit make sure that the LED18 (red) performs some fast flashes, at this point, if the red led remains turned on this means that there is an error on the BUS, signalled from the display or by 8 flashes on the warning lamp, but if the red led will keep on flashing slowly the BUS is perfectly working.

**NOTE: To repeat the search of the peripheral BUS in case of BUS error, press contemporarily the buttons + and - of the display, or press the button until led 20 turns on. At this point keep pressed SET as long as led 20 does not turn off and led 19 turns on.**





# DISPLAY PARAMETERS ADJUSTMENT

The accessory PALM USER allows to keep under control all the parameters of the control unit and it results essential for the initial setting of some parameters, which are: pre-flashing, photocell self-testing, photocell in opening, anti-intrusion, torque motore1 and 2, deceleration speed, learning speed, acceleration, deceleration, leaf stroke, number of cycles, pedestrian opening.

| Screen 1           |                                                 |
|--------------------|-------------------------------------------------|
| Cycle              | Semiaut./manual/automatic/security              |
| Double/single leaf | Select double or single leaf                    |
| Encoder            | on/off (function with encoder, not implemented) |
| Time of pause      | [0÷120]s (time of pause in seconds)             |

Shows the working logic adjusted on board of the control unit.

| Screen 2    |                                                                               |
|-------------|-------------------------------------------------------------------------------|
| Cicli exec. | [0÷2 <sup>32</sup> ] (number of executed cycles)                              |
| Mem. free   | [0÷100]% (percentage of available memory for the learning of remote controls) |
| Learning    | on/off (signalling of the execution of the learning)                          |
| Motor       | (Field/Alpha) (Flipper) (Beta)                                                |

Indicates the type of motor set

| Screen 3     |                                       |
|--------------|---------------------------------------|
| Speed        | [30÷100 ] adjusts the motors' speed   |
| Sl. speed    | [30÷100 ] adjusts the slow down speed |
| Lear. Speed. | [30÷100 ] adjusts the learning speed  |

Adjustment with the buttons + and - of the PALM USER

| Screen 4      |                                           |
|---------------|-------------------------------------------|
| Photocell Tx1 | [OK-NP] (peripheral reveal - not present) |
| Photocell TX2 | [OK-NP] (peripheral reveal - not present) |
| Photocell TX3 | [OK-NP] (peripheral reveal - not present) |
| Photocell TX4 | [OK-NP] (peripheral reveal - not present) |

The screens 4, 5, 6, 7, 8 and 9 show the type of accessory on the BUS.

| Screen 5      |                                           |
|---------------|-------------------------------------------|
| Photocell TX5 | [OK-NP] (peripheral reveal - not present) |
| Photocell RX1 | [OK-NP] (peripheral reveal - not present) |
| Photocell RX2 | [OK-NP] (peripheral reveal - not present) |
| Photocell RX3 | [OK-NP] (peripheral reveal - not present) |

| Screen 6      |                                             |
|---------------|---------------------------------------------|
| Photocell RX4 | [OK-NP] (peripheral reveal - not present)   |
| Photocell RX5 | [OK-NP] (peripheral reveal - not present)   |
| Proximity n°1 | [OK-NP] (peripheral reveal - not present) * |
| Proximity n°2 | [OK-NP] (peripheral reveal - not present) * |



# DISPLAY PARAMETERS ADJUSTMENT

**NOTE:** For the respect of the valid European rules on the safety of the electric gates, it is recommended to not adjust the parameters **torque Max 1** and **torque Max 2** on the value 100%.

| Screen 7           |                                             |
|--------------------|---------------------------------------------|
| Proximity n°3      | [OK-NP] (peripheral reveal - not present) * |
| Pushbutton board   | [OK-NP] (peripheral reveal - not present) * |
| Num. Push b. Board | [OK-NP] (peripheral reveal - not present) * |

| Screen 8         |                                             |
|------------------|---------------------------------------------|
| Interf.Photo     | [OK-NP] (peripheral reveal - not present) * |
| Interf. commands | [OK-NP] (peripheral reveal - not present) * |

| Screen 9      |                                             |
|---------------|---------------------------------------------|
| Flashing lamp | [OK-NP] (peripheral reveal - not present)   |
| Sel. Key      | [OK-NP] (peripheral reveal - not present) * |

| Screen 10      |                                                    |
|----------------|----------------------------------------------------|
| Accelerat.     | [0÷100]% (inclination of the ramp of acceleration) |
| Decelerat.     | [0÷100]% (inclination of the ramp of acceleration) |
| Leaf delay     | [0÷7] S. (adjusted leaf delay)                     |
| Pedestrian op. | [30,50,100]% (percentage pedestrian opening)       |

It allows to regulate the duration of the acceleration of the motors on the start. If on 100% the gate will immediately depart at the max. adjusted speed.

It allows to regulate the duration of the deceleration of the motors at the end of opening and closing. If on 0% the gate won't effect the phase of deceleration.

It regulates the duration of the leaf delay. Adjustable with the buttons + and - of the PALM USER or on the control unit.

Regulates the pedestrian opening space. Adjustable with the buttons + and - of PALM USER.

| Screen 11        |                                                |
|------------------|------------------------------------------------|
| Torque max1      | [10÷100]% (max. current of the motors)         |
| Torque max2      | [10÷100]% (max. Current of the motors)         |
| Photo in opening | on/off (attivazione fotocellula in apertura)   |
| Leaf storke      | on/off ( leaf stroke to release/lock the lock) |

Allows to regulate and to visualize the sensitivity of the anti-squeezing. With value 100% the gate in presence of obstacle will reverse the movement after 5 seconds.

Activates a leaf stroke at the beginning of opening and at the end of closing

| Screen 12       |                                                                                                                              |
|-----------------|------------------------------------------------------------------------------------------------------------------------------|
| Anti-intrusion  | on/off (in ON it implicates the presence of a contact N.C. on the limit switch that, if freed, forces the motors in closing) |
| Pre- flashing   | on/off (activation of the pre-flashing)                                                                                      |
| Autotest photo. | On/off (activates autotest photocell)                                                                                        |
| Max cycle       | 0÷100000 (indicates the number of cycles after which it is necessary to follow up the maintenance)                           |

Activates or disactivates the pre-flashing.

Activates or disactivates the leaf delay.

| Screen 13    |                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------|
| Warning lamp | ON/OFF (while on ON the alarm signalisation will rest on the flashing light until they are eliminated) |

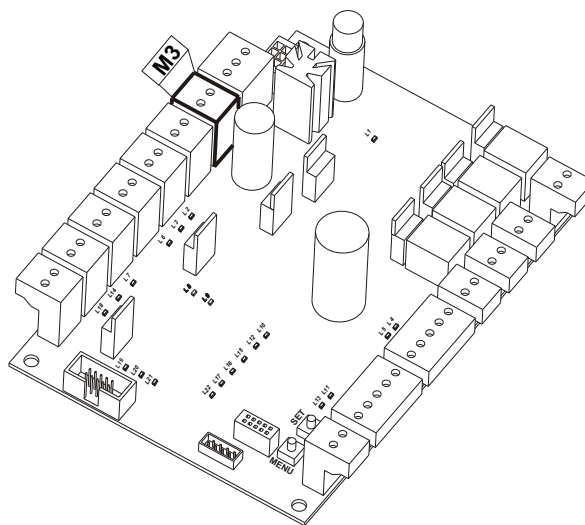
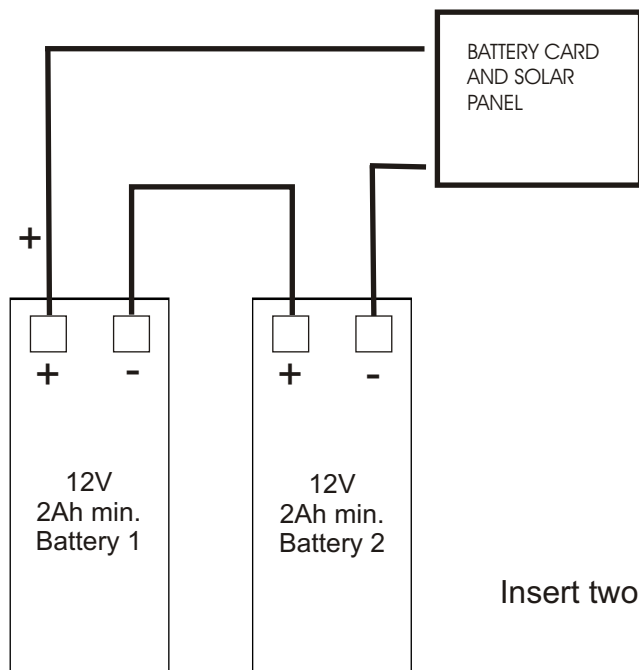
**Note:**

The indications for the peripheral marked with \* are not possible because not implemented. The presence of "Interf. Commands" depends on the adjustment of the changer of the interface I/O.



## CONNECTION OF BATTERIES

FUNCTION NOT YET AVAILABLE



Insert two 12V batteries connected in series.

## ALARMS INDICATIONS

The flashing sequence is signalled at every opening and closing of the automation on the warning lamp. The warning lamp will send a flashing every second in opening and two flashings in closing, while it will remain turned on fixed in pause.

| Flashings Number | Kind of alarm        |
|------------------|----------------------|
| 2                | Photocell            |
| 3                | Photocell in opening |
| 4                | Safety edge          |
| 5                | Stop                 |

| Flashings Number | Kind of alarm          |
|------------------|------------------------|
| 6                | Collision on obstacle  |
| 7                | Reached maximum cycles |
| 8                | Alarm BUS              |
| 9                | Motor failure          |

## ALARM SIGNALS

The damages with 2,3, 4 and 5 flashings, refer to normally closed contacts, therefore verify if such are the connections and/or the correct working of the photocells, of the Stop button and/or of the safety edge.

2. The failure with 6 flashes refers to a collision with an obstacle which has been revealed by the ammeter sensor, therefore it is necessary either to replace the motor or to verify the conditions of the connections.

3. Periodically, in relation to the number of manoeuvre and the type of gate, it is recommended to execute, if the gate has modified the attritions and it doesn't work, **the re-programming of the times of learning on the electronic board.**

The damage with 7 flashes refers to the attainment of the established maximum cycles for the maintenance of the control unit, therefore it is necessary to perform the maintenance and to put on zero the number of cycles, according to the following procedure: Through the button SEL select the led 22 of the motors' speed, keep pressed the chosen button for more than 5 seconds.

4. The damage with 8 flashes indicates a generic error on the BUS, this means that there is a short circuit on one of the connected devices to the BUS, and it is necessary to verify the connections and the functionality of the connected devices or the connected devices are not correctly joined between them (see paragraph on the BUS management)

5. The failure with 9 flashes refers to a shortcut on the motor, therefore it is necessary either to replace the motor or to verify the conditions of the connections.



## **TROUBLE SHOOTING**

### **Advices**

**Make sure all Safety LED are turned ON**  
**All not-used N.C. contacts must have jumpers**

| <b>Problem Found</b>                                   | <b>Possibile Cause</b>                                                                                                                                                          | <b>Solution</b>                                                                                                                                                                                    |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Motor doesn't respond to any START impulse             | <b>a.)</b> Jumper missing on one of the N.C. Contacts<br><b>b.)</b> Burnt fuse                                                                                                  | <b>a.)</b> Check the connections or the jumpers on the connections of the safety edge, of the stop and of the photocell<br><b>b.)</b> Replace the burned fuse on the control unit led 1 turned on. |
| Gate doesn't move while the motor is running           | <b>a.)</b> The motor is in the released position<br><b>b.)</b> The electronic clutch are not set<br><b>c.)</b> There is an obstacle                                             | <b>a.)</b> Re-lock the motor<br><b>b.)</b> Electronic friction adjustment on display, through point anti-squeezing<br><b>c.)</b> Remove obstacle                                                   |
| Gate doesn't reach the complete Open / Closed position | <b>a.)</b> Wrong setting of the limit switches<br><b>b.)</b> Error on programming<br><b>c.)</b> Gate is stopped by an obstacle<br><b>d.)</b> The fitting geometry is inadequate | <b>a.)</b> Set limit switches<br><b>b.)</b> Repeat programming<br><b>c.)</b> Remove obstacle<br><b>d.)</b> Check fitting geometry following the operator installation manual                       |
| The gate opens but doesn't close                       | <b>a.)</b> The photocell contacts are not closed                                                                                                                                | <b>a.)</b> Check LED and jumpers or the signals indicated on the warning lamp                                                                                                                      |
| The gate doesn't close automatically                   | <b>a.)</b> Pause time set to high<br><b>b.)</b> Control unit in semi-autom. logic                                                                                               | <b>a.)</b> Adjust pause time<br><b>b.)</b> Adjust the automatic or security logic                                                                                                                  |



# **WARNINGS, MAINTENANCE AND WARRANTY**

**This section of the manual is dedicated both to the technician and to the end user.**

Don't allow people and children to stop in the area of function of the automation.

Don't leave transmitters or other devices of command in the reach of children to avoid unintentional activations of the automation.

The user has to avoid any attempt of intervention or reparation of the automation and must turn to qualified personal only.

## **MAINTENANCE**

Considering the number of working cycles and the kind of gate, if the gate has changed the clutches and doesn't work it's necessary to periodically proceed, with **the learning times reprogramming on the electronic control unit**.

Periodically clean the optical systems of the photocells.

## **REPLACEMENTS**

Any request for spare parts must be sent to:

**SEA s.r.l. - Zona Ind.le, 64020 S.ATTO - Teramo - Italia**

## **USE DESTINATION**

The electronic equipment 23024015/16 has been designed to be used exclusively as management equipment for automations of sliding gates, swing gates, sectional doors, overhead doors, barriers.

## **SAFETY AND ENVIRONMENTAL COMPATIBILITY**

Disposal of the packaging materials of products and/or circuits should take place in an approved disposal facility.



### **REGULAR PRODUCT DISPOSAL (electric and electronic waste)**

(It's applicable in EU countries and in those ones provided with a differential waste collection)

The brand that you find on the product or on documentation signals that the product must not be disposed off together with other domestic waste at the end of life cycle. In order to avoid any possible environmental or health damage caused by irregular waste disposal, we recommend to separate this product from other forms of waste and to recycle it in a responsible way in order to provide the sustainable re-use of material resources. Domestic users are invited to contact the retailer where the product has been purchased or the local office in charge of all the information related to differential waste collection and recycling of this kind of product.

## **STORING**

| <b>WAREHOUSING TEMPERATURES</b> |                        |                               |                               |
|---------------------------------|------------------------|-------------------------------|-------------------------------|
| <b>T<sub>min</sub></b>          | <b>T<sub>Max</sub></b> | <b>Dampness<sub>min</sub></b> | <b>Dampness<sub>Max</sub></b> |
| - 40°C                          | + 85°C                 | 5% <i>Not condensing</i>      | 90% <i>Not condensing</i>     |

Materials handling must be made with appropriate vehicles..

## **REPLACEMENT AND MAINTENANCE**

The replacement and/or putting out of service and/or maintenance of the electronic equipment 23024015/16 must be made only and exclusively by authorised and qualified staff.

## **WARRANTY LIMITS**

The warranty form of the electronic equipment 23024015/16 is valid for 24 months starting from the printed date on the product. The mentioned product will be considered under warranty if it doesn't show any damage caused by an irregular use or by any modification or breaking. The warranty is valid only for the original buyer.

**NOTE:THE MANUFACTURER IS NOT CONSIDERED RESPONSIBLE FOR ANY DAMAGE CAUSED BY IRREGULAR, WRONG OR UNREASONABLE USE.**

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*SEA reserves the right to make any required modification or change to the products and/or to this manual without any advanced notice obligation.*

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## **TERMS OF SALE**

**EFFICACY OF THE FOLLOWING TERMS OF SALE:** The following general terms of sale shall be applied to all orders sent to SEA srl. All sales made by SEA to all customers are made under the prescription of this terms of sales which are integral part of the sale contract and cancel and substitute all opposed clauses or specific negotiations present in the order or in other documents received from the buyer.

**GENERAL NOTICE** The gate automation systems must be assembled exclusively with SEA components, unless specific agreements apply. Non-compliance with the applicable safety standards (European Standards EN 12453 EN12445 and others) and with good installation practice releases SEA from any responsibilities. SEA shall not be held responsible for any failure to execute a correct and safe installation under the above mentioned standards.

**1) PROPOSED ORDER** The proposed order shall be accepted only prior SEA approval of it. By signing the proposed order, the Buyer shall be bound to enter a purchase agreement, according to the specifications stated in the proposed order and always under those Terms of sale. On the other hand, failure to notify the Buyer of said approval must not be construed as automatic acceptance on the part of SEA.

**2) PERIOD OF THE OFFER** The offer proposed by SEA or by its branch sales department shall be valid for 30 solar days, unless otherwise notified.

**3) PRICING** The prices in the proposed order are quoted from the Price List which is valid on the date the order was issued. The discounts granted by the branch sales department of SEA shall apply only prior to acceptance on the part of SEA. The prices are for merchandise delivered ex-works from the SEA establishment in Teramo, not including VAT and special packaging. SEA reserves the right to change at any time this price list, providing timely notice to the sales network.

**4) PAYMENTS** The accepted forms of payment are each time notified or approved by SEA. The interest rate on delay in payment shall be 1.5% every month but anyway shall not be higher than the max. interest rate legally permitted.

**5) DELIVERY** Delivery shall take place, approximately and not peremptorily, within 30 working days from the date of receipt of the order, unless otherwise notified. Transport of the goods sold shall be at Buyer's cost and risk. SEA shall not bear the costs of delivery giving the goods to the carrier, as chosen either by SEA or by the Buyer. Any loss and/or damage of the goods during transport, are at Buyer's cost.

**6) COMPLAINTS** Any complaints and/or claims shall be sent to SEA within 8 solar days from receipt of the goods, proved by adequate supporting documents as to their truthfulness.

**7) SUPPLY** The concerning order will be accepted by SEA without any engagement and subordinately to the possibility to get its supplies of raw material which is necessary for the production; Eventual completely or partially unsuccessful executions cannot be reason for complains or reservations for damage. SEA supply is strictly limited to the goods of its manufacturing, not including assembly, installation and testing. SEA, therefore, disclaims any responsibility for damage deriving, also to third parties, from noncompliance of safety standards and good practice during installation and use of the purchased products.

### **8) WARRANTY.**

**SILVER:** The mechanical components of the operators belonging to this line are guaranteed for 24 months from the date of manufacturing written on the operator.

**GOLD:** The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator.

**PLATINUM:** The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator. The base warranty (36 months) will be extended for further 24 months (up to a total of 60 months) when it is acquired the certificate of warranty which will be filled in and sent to SEA s.r.l. within 30 days from the purchase date. The electronic devices and the systems of command are guaranteed for 24 months from the date of manufacturing. In case of defective product, SEA undertakes to replace free of charge or to repair the goods provided that they are returned to SEA repair centre.

The definition of warranty status is by unquestionable assessment of SEA. The replaced parts shall remain propriety of SEA. Binding upon the parties, the material held in warranty by the Buyer, must be sent back to SEA repair centre with fees prepaid, and shall be dispatched by SEA with carriage forward. The warranty shall not cover any required labour activities. The recognized defects, whatever their nature, shall not produce any responsibility and/or damage claim on the part of the Buyer against SEA. The guarantee is in no case recognized if changes are made to the goods, or in the case of improper use, or in the case of tampering or improper installation, or if the product label of the manufacturer with the registered SEA trademark n° 804888 has been removed. Furthermore, the warranty shall not apply if SEA products are partly or completely coupled with non-original mechanical and/or electronic components, and in particular, without a specific relevant authorization, and if the Buyer is not making regular payments. The warranty shall not cover damage caused by transport, expendable material, faults due to non-conformity with performance specifications of the products shown in the price list. No indemnification is granted during repairing and/or replacing of the goods in warranty. SEA disclaims any responsibility for damage to objects and persons deriving from non-compliance with safety standards, installation instructions or use of sold goods. The repairs of products in warranty and out of warranty is accepted only if the procedure of SEA are fully respected by the customer.

**9) RESERVED DOMAIN** A clause of reserved domain applies to the sold goods; SEA shall decide autonomously whether to make use of it or not, whereby the Buyer acquires the property of the goods only after full payment of the invoice.

**10) COMPETENT COURT OF LAW** In case of disputes arising from the application of the agreement, the competent court of law is the tribunal of Teramo. The official language for the interpretation of the catalogue, the manuals, the terms of sale and any other is the Italian language. SEA reserves the faculty to make technical changes to improve its own products, which are and are not included in this price list at any moment and without notice.

SEA declines any responsibility due to possible mistakes contained inside the present price list caused by printing and/or copying. The present price list cancels and substitutes the previous ones. The Buyer, according to the law No. 196/2003 (privacy code) consents to put his personal data, deriving from the present contract, in SEA archives and electronic files, and he also gives his consent to their treatment for commercial and administrative purposes.

**Industrial ownership rights:** with the purchase, the buyer accepts in full the present Terms of Sale and recognizes that SEA has the exclusive legal ownership of the registered SEA International trademark n° 804888 which is attached on each products label, and/or on manuals, packaging and/or in any other documentation, and he will commit himself to use it in its marketing and/or installation activity in a way which does not reduce the value of these rights; he won't also remove, replace or modify the trademark or any other particularity from the products. Any kind of replication or use of SEA brand is forbidden as well as of any change of signs-brands on the products, unless preventive and expressed authorization by SEA.



**Dichiarazione di conformità**  
**Declaration of Conformity**

La SEA s.r.l. dichiara sotto la propria responsabilità e, se applicabile, del suo rappresentante autorizzato che il prodotto:

*SEA srl declares under its proper responsibility and, if applicable, under the responsibility of its authorised representative that the product:*

| Descrizione / Description      | Modello / Model            | Marca / Trademark |
|--------------------------------|----------------------------|-------------------|
| Centrale di comando User 2 24V | 23024015/16/17/18/19/20/21 | SEA               |
| Control Unit User 2 24V        | 23024015/16/17/18/19/20/21 | SEA               |

è conforme a tutte le norme tecniche relative al prodotto entro il campo di applicabilità delle Direttive Comunitarie 2006/95/CE, 2004/108/CE e 99/5/CEE:

*satisfies all the technical regulations applicable to the product within the scope of Council Directives 2006/95/CE, 2004/108/CE and 99/5/CEE:*

EN 61000-6-3 (2007)

EN 61000-6-2 (2005)

EN 60335-1 (2002) + A1 (2004) + A2 (2006) + A11 (2004) + A12 (2006)

EN 50366 (2003) + A1 (2006)

**COSTRUTTORE o RAPPRESENTANTE AUTORIZZATO:**  
**MANUFACTURER or AUTHORISED REPRESENTATIVE:**

SEAS.r.l.  
DIREZIONE E STABILIMENTO:  
Zona industriale 64020 S.ATTO Teramo - (ITALY)  
Tel. 0861 588341 r.a. Fax 0861 588344  
[Http://www.seateam.com](http://www.seateam.com)

I test sul prodotto sono stati effettuati in configurazione standard e in riferimento alle norme specifiche per la sua classe d'utilizzo.

*The products have been tested in standard configuration and with reference to the special norms concerning the classe of use.*

(Luogo, data di emissione)  
(Place, date of issue)

07/01/2009

L'Amministratore  
The Administrator  
Ennio Di Saverio







**SEA s.r.l.**  
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