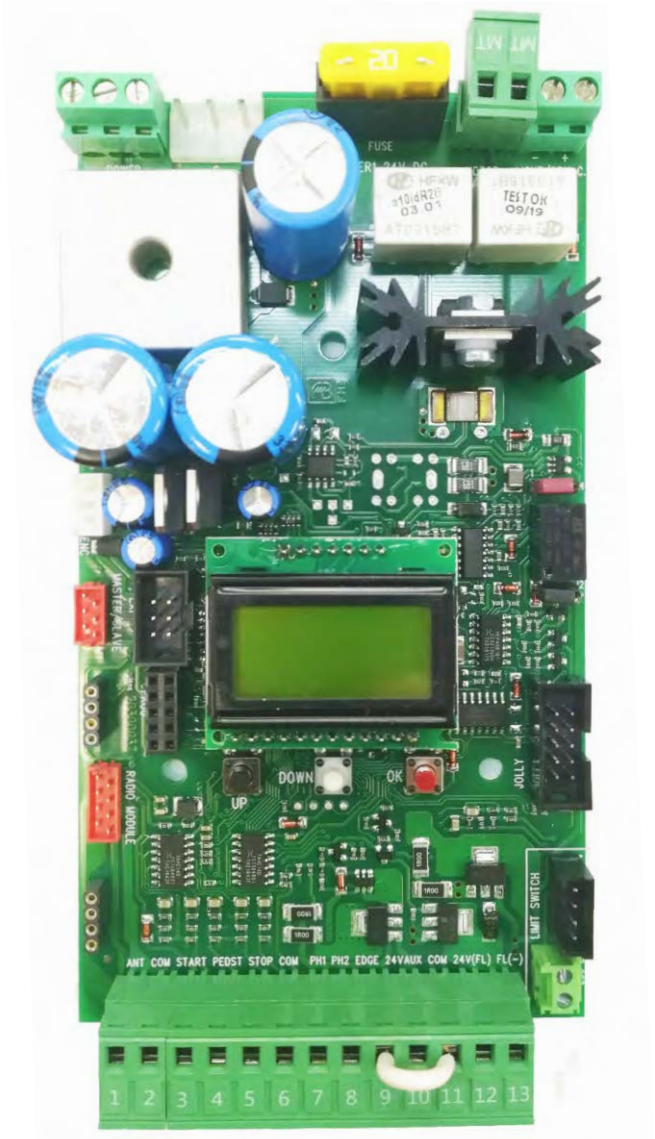
Automatic Gate Openers

International registered trademark n. 804888

English

USER 1 24V DG MAXI

24V ⎓ ELECTRONIC CONTROL UNIT FOR SLIDING GATES AND BARRIERS



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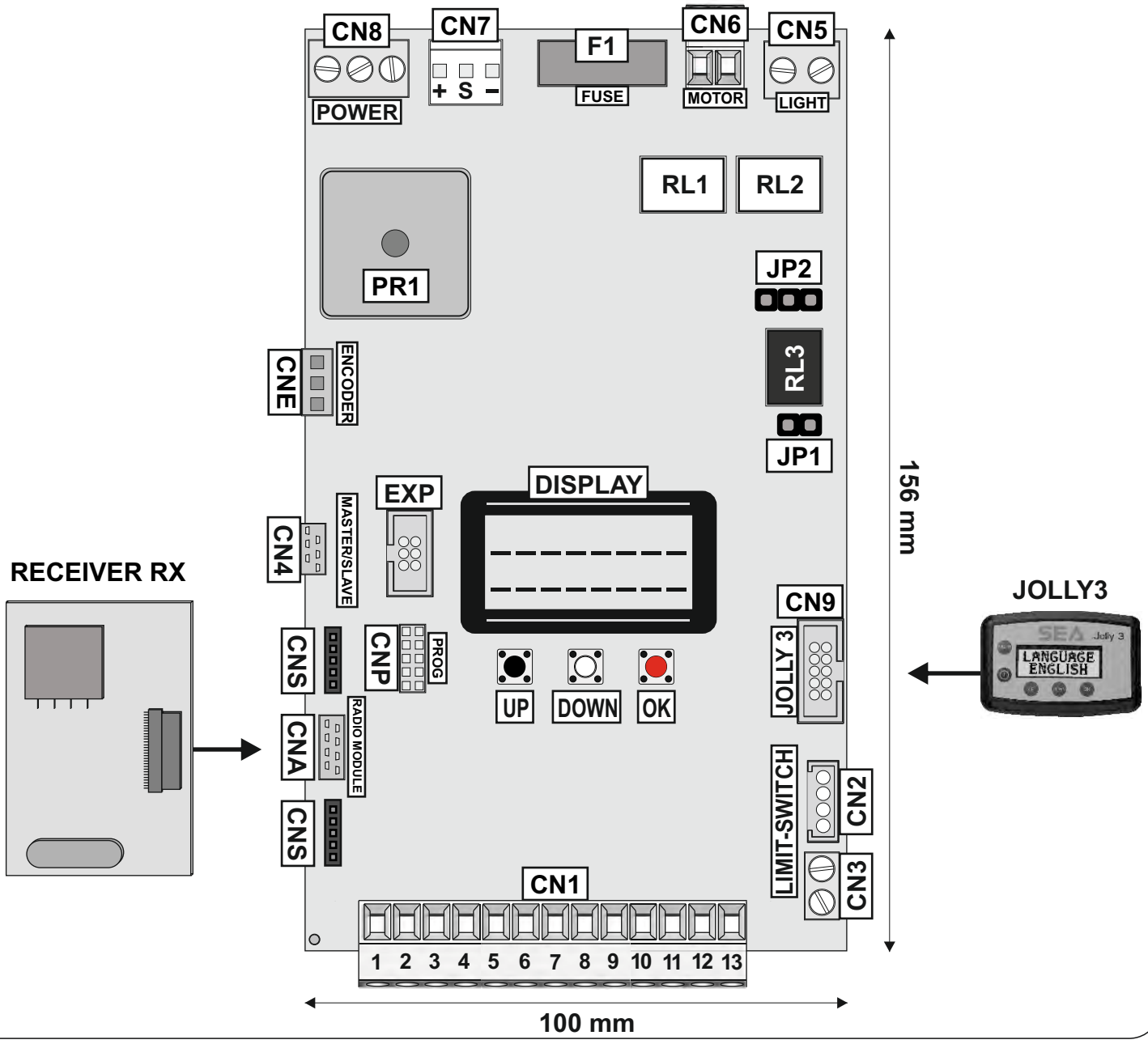
1 - COMPONENTS

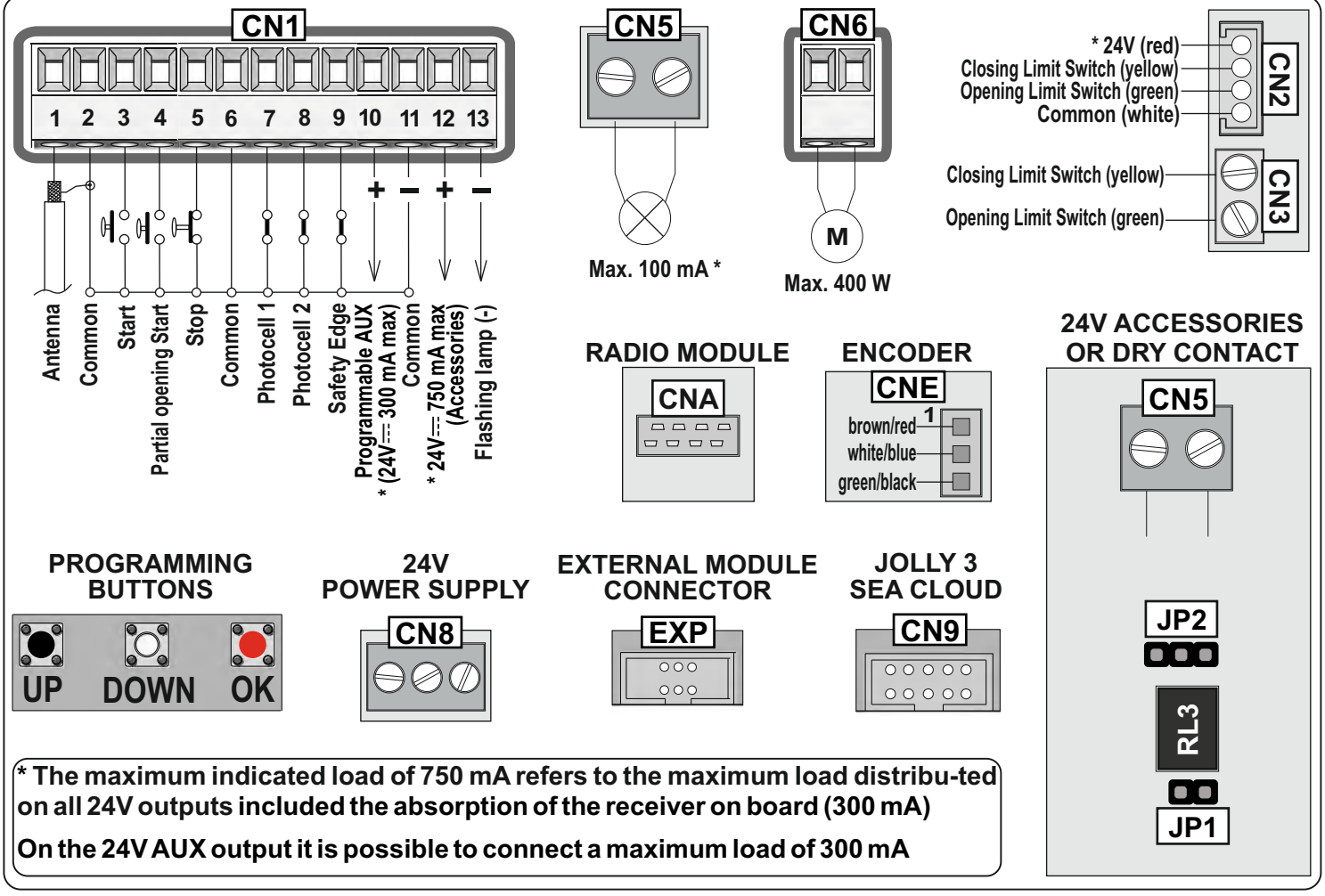
TECHNICAL FEATURES

Power supply: 24V~
Absorption in stand by: 30 mA
Operator max. current: 20 A
Environment temperature: -20°C +50°C
External box: 305 x 225 x 125 mm - IP55



CN1 = Input/Output connector
CN2 = Pre-wired limit switch connector
CN3 = Not Pre-wired limit switch connector
CN4 = Master/Slave connector
CN5 = Dry contact or 24V connector
CN6 = Motor connector
CN7 = Batteries connector - Quick connection
CN8 = Power connector
CN9 = JOLLY 3 or SEACLOUD connector
CNA = RX receiver connector
CNE = Encoder connector
CNP = Programming connector
CNS = RF FIX receiver connector
EXP = External module connector
RL1 = Motor control relay
RL2 = Motor control relay
RL3 = Light/dry contact output relay
PR1 = Rectifier jumper
F1 = 20 AT Fuse
JP1 = Relay 3 activation
JP2 = Light/dry contact selection

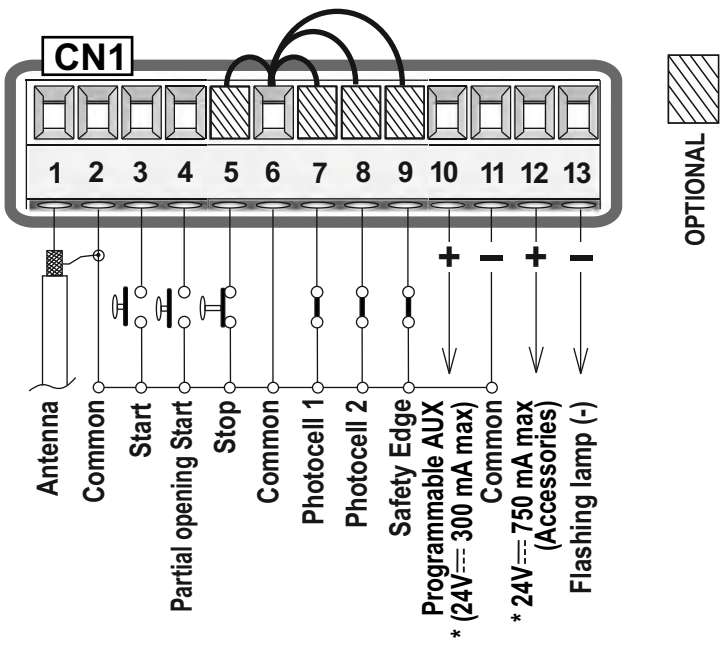
2 - CONNECTIONS



*** The maximum indicated load of 750 mA refers to the maximum load distribu-ted on all 24V outputs included the absorption of the receiver on board (300 mA)**

On the 24V AUX output it is possible to connect a maximum load of 300 mA

3 - JUMPERS

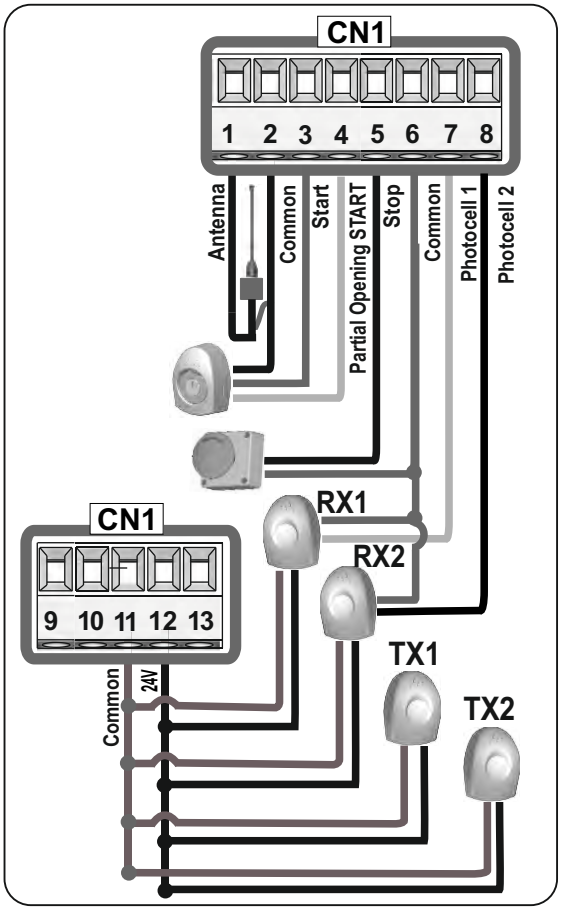


WARNING: The control unit is designed for the automatic detection of not used N.C. inputs (Photocells, Stop and Limit switch) except for the SAFETY EDGE input. The excluded inputs during the self-programming can be restored through the «INPUT STATUS CHECK» menu (chapter 19) without need to repeat the control unit programming

NOTE:

The herein reported functions are available starting from Software Revision 03.01 of this control unit and it is compatible with JOLLY 3 programmer

4 - CONNECTIONS ON CN1



4.1 - START (N.O.)

On clamps 2 and 3

The automation can be opened or closed through an impulse transmitted to this input (via key button, keyboard, etc.). To connect other Start devices (for ex. the magnetic loop) refer to the respective instructions

Note 1: In DEAD MAN logic it is necessary to hold the Start button pressed to open the automation

Note 2: In 2 BUTTONS logic the connected Start device only performs the opening

4.2 - PARTIAL OPENING START (N.O.)

On clamps 2 and 4

The input allows to obtain the partial opening. It is possible to manage the opening space through the **menu-90** or through the JOLLY 3. It is also possible to manage the partial opening pause time through the **menu- 91**

Note 1: In 2 BUTTONS logic, the connected Partial Opening Start device only performs the closing

Note 2: In DEAD MAN logic, it is necessary to hold the Partial Opening Start button pressed to close the gate

Note 3: If this contact is engaged during the pause (eg. Timer), the gate will not close until releasing

Note 4: PARTIAL OPENING START contat is normally open (N.O.)

4.3 - STOP (N.C.)

On clamps 5 and 6

If this button is pressed the engine stops immediately in whatever condition or position it is. A new Start command will be required to restore the movement.

Note: *After the Stop command, the engine will always re-start in closing*

4.4 - PHOTOCELL 1 AND PHOTOCELL 2

+ = 24V max 750mA (clamp 12) COM = 0V (clamp 11) COM = 0V (clamp 6)
Ph1 = Photocell 1(clamp 7) PH2 = Photocell 2 (clamp 8)

Note 1: To perform the self-test, connect the TX positive to the clamp 10 (AUX) and activate the Phototest function on **menu-94**; From the **95-PHOTOTEST** menu it is possible to activate the self-test also on a single photocell, choosing from the menu options.

Note 2: The default settings are: **97-PHOTOCELL 1** = «closing»; **98-PHOTOCELL 2** = «opening»; for further functions and management, see menu-97 and menu-98

4.5 - AUX 24V OPTIONS max 300mA

From **menu 94-24VAUX** or through the JOLLY 3 it is possible to choose when to have voltage on the AUX output. In case of control units with batteries and/or photovoltaic panels, it is advisable to connect the unused accessories (eg. Photocells) to the AUX output and then configure the **menu 94-24VAUX** as ***«IN CYCLE AND PHOTOTEST»*** so it will be possible to save energy by lowering the power consumption in stand-by and increasing the system autonomy

4.6 - TIMER (N.O.)

On clamp 4 (Partial Opening Start) or on clamp 8 (Photocell 2)

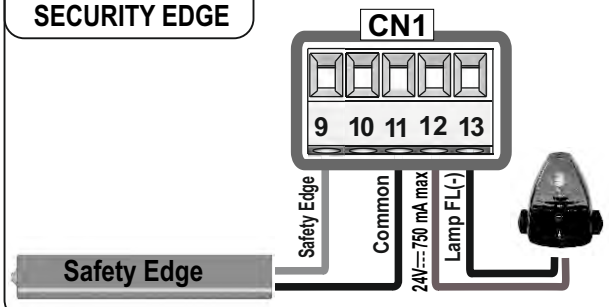
It can be enabled through **menu-92** or via JOLLY 3. It opens and keeps the automation open until it releases the contact. When released, the operator will wait for the pause set then will close again

Note 1: If connected to the Partial Opening Start, this command will also be disabled on the remote control

Note 2: When the timer is active, in the event of a safety intervention, a Start command will be required to reset the movement

Note 3: In case of a power failure and with the gate open, if the TIMER is still active it will cause the gate reclosing; if no longer active, a new Start impulse will be required

EXAMPLE OF CONNECTION LAMP AND SECURITY EDGE



4.7 - 24V⎓ FLASHING LIGHT - MAX 3W

On clamps 12 and 13

It warns of the gate movement by performing 1 blink per second on opening, 2 blinks per second on closing and remaining on steady during pause. Through the flashing light it is also possible to read the alarm signals linked to the Stop, Photocell1, Photocell2 and Edge devices. From menu **86-FLASHING LIGHT** or JOLLY3 it is possible to modify its functions.

Furthermore it is possible to manage the pre-flashing function from menu 85- PRE-FLASHING

4.8 - SECURITY EDGE

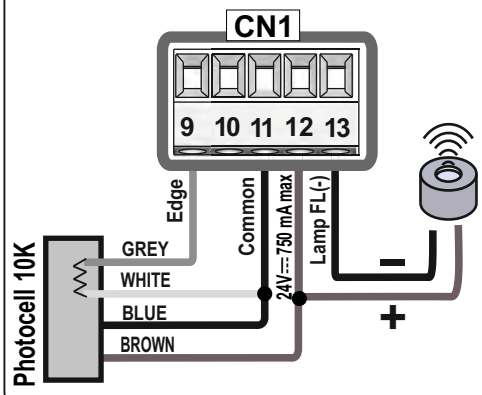
On clamps 9 and 11

If activated, the safety edge opens the contact causing a partial inversion of the motion both in opening and closing. The function can be managed from menu **100-SECURITY EDGE 1** and **102-EDGE 1 DIRECTION**

Note 1: among the **menu-100** options there is the **8K2 balanced edge** (single or double): the edge contact will be controlled by a specific resistance value which detects any possible short-circuit of the device. If the device is unbalanced, a specific alarm will appear on the display

Note 2: the safety edge functions can also be managed through the JOLLY 3

EXAMPLE OF 10K PHOTOCELL AND BUZZER CONNECTION



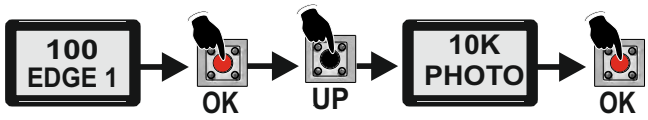
4.9 - 10K PHOTOCELL

On clamps 9 and 11

If a 10K photocell is connected, the menu **100-SECURITY EDGE 1** must be set on the respective function; 10K photocell will work according to the settings of menu **97-PHOTOCELL 1**

Note1: The 10K photocell gives additional protection even in the event of a short circuit on the cables

10K PHOTOCELL SETTINGS



4.10 - BUZZER 24V⎓

On clamps 12 and 13

The Buzzer is a sound alarm that can be used as a security device.

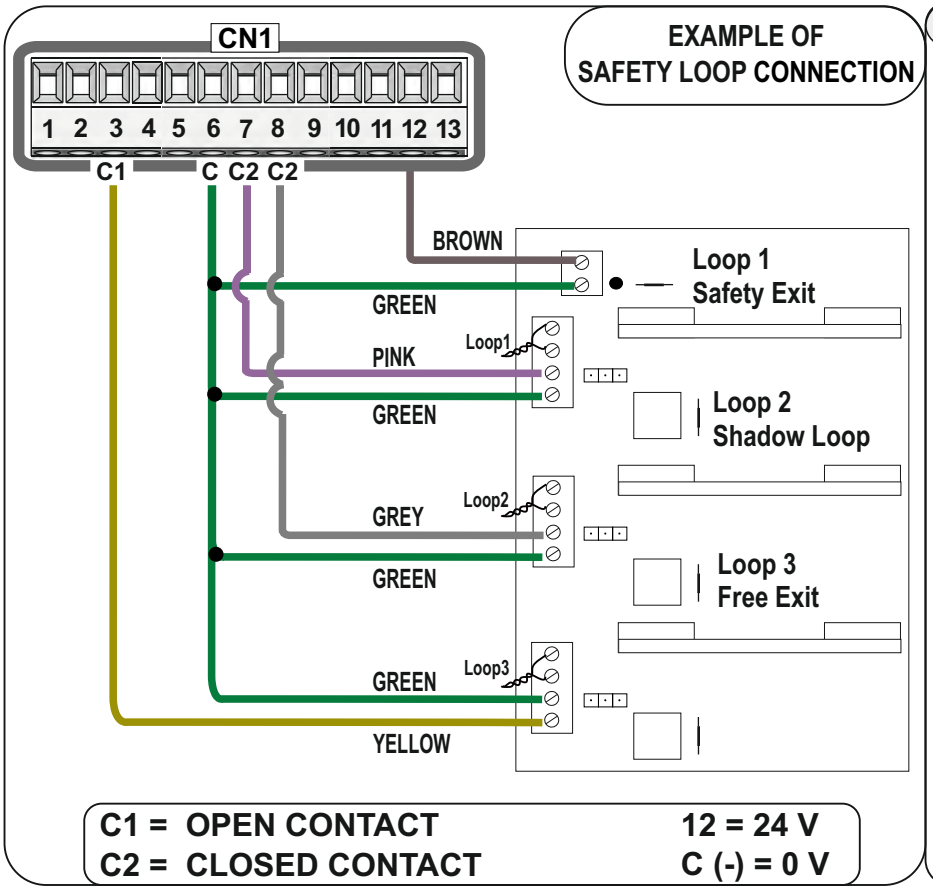
Use a self-oscillating 24V⎓ and 100 dB Buzzer

The Buzzer can be connected instead of the flashing light and it is necessary to set on «***BUZZER***» in the menu **86-FLASHING LIGHT**

The Buzzer will activate after 2 consecutive interventions of the anti-crushing protection; to reset it press the STOP button;

In any case, the sound of the Buzzer turns off automatically after 5 minutes and the automation will stand waiting for a new command

IF BUZZER DOES NOT WORK, BE SURE THAT MENU 86-FLASHING LIGHT IS SET ON «BUZZER»



4.11 - SAFETY LOOP

Safety Exit Loop (Loop 1)

Connection scheme of the
1 reader loop detector

7 = Photocell 1 contact **(N.C.)**
6 = Common

Shadow Loop (Loop 2)

Connection scheme of the
2 readers loop detector

8 = Photocell 2 contact **(N.C.)**
6 = Common

NOTE: Menu 98-PHOTOCELL 2 must be set on «SHADOW LOOP»

Free Exit Loop (Loop 3)

Connection scheme of the
1 reader loop detector

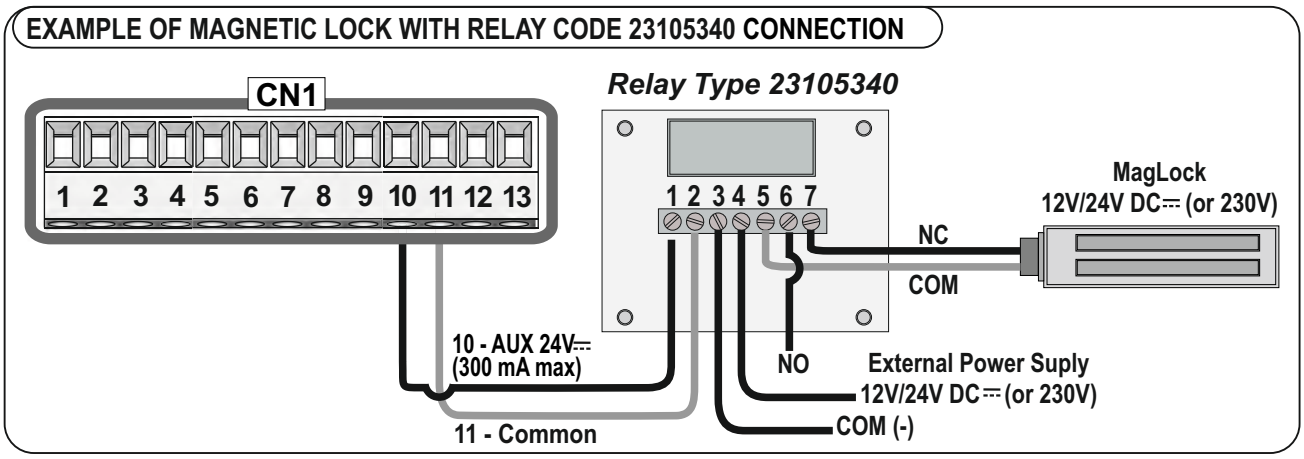
3 = Start contact **(N.O.)**
6 = Common

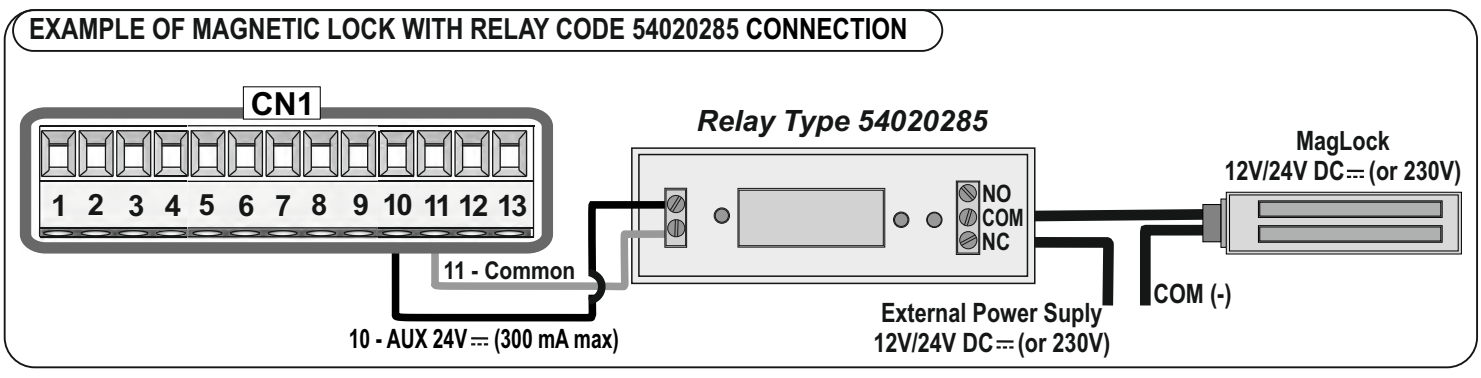
4.12 - MAGNETIC LOCK

On clamps 10 and 11

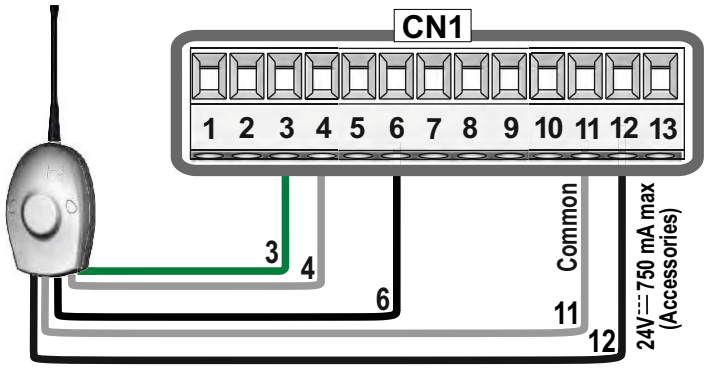
ATTENTION: set menu 94-24V AUX on «NEGATIVE BRAKE» before connecting the MagLock

It is possible to connect a magnetic lock (MagLock) through the Relay card code 23105340 (or old model code 54020285) to the control unit and to the external power supply (12V/24V DC power supply in case of 12V/24V lock or to 230V power supply in case of 230V lock)





EXAMPLE OF EXTERNAL RECEIVER CONNECTION



4.13 - EXTERNAL RECEIVER

An external receiver can be connected to the control unit according to the connection diagram. For more details on connections and functionalities of the external receiver, refer to the relative instruction manual

4.14 - LATCH OPENING OR LATCH CLOSING BUTTON

On clamps 4 and 6

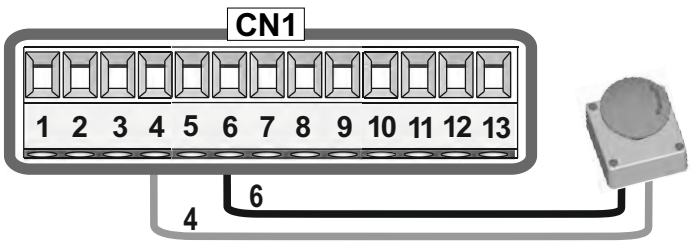
A button for the Latch Opening or Closing function can be connected to the control unit
To activate it, connect the N.O. contact on the Partial Opening Start (so this function will be disabled). Through the **menu 118-LATCH** it is possible to choose between the various Latch options.
To deactivate the Latch function, press again the button used for its activation

LATCH OPENING: opens and keeps the automation open. If active, no other type of Start command is accepted until the function is deactivated

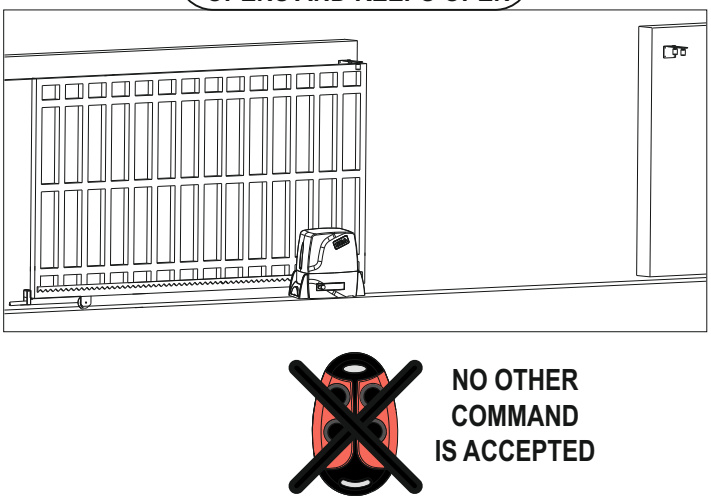
LATCH CLOSING: closes and keeps the automation closed. If active, no other type of Start command is accepted until the function is deactivated

Note 1: *The Latch function can also be enabled on the second channel of the remote control; see paragraph 20.3 for details*

Note 2: *The Latch function can also be enabled through the SEACLOUD. Please refer to the SEACLOUD instructions for more details*

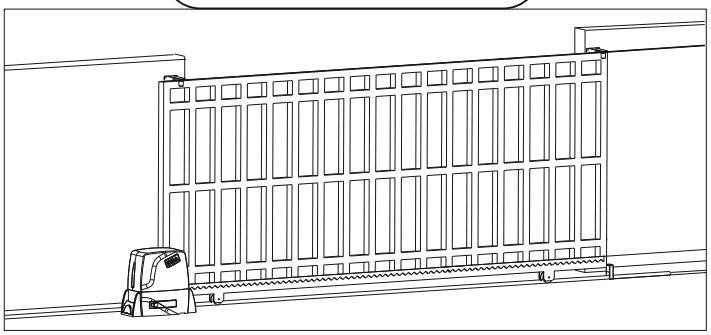


LATCH OPENING
OPENS AND KEEPS OPEN



NO OTHER COMMAND IS ACCEPTED

LATCH CLOSING
CLOSES AND KEEPS CLOSED

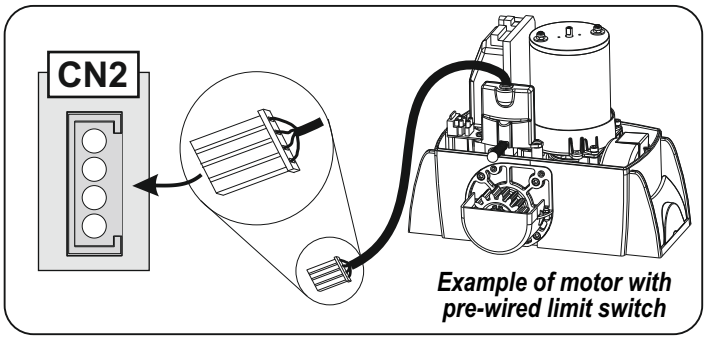


NO OTHER COMMAND IS ACCEPTED

5 - CONNECTIONS ON CN2 and CN3

5.1 - PREWIRED LIMIT SWITCH - CN2

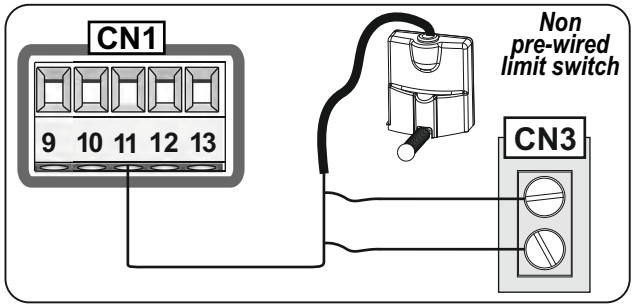
The pre-wired limit switches can be connected through the CN2 connector on the control unit, as shown in the figure beside.
The control unit can manage mechanical, inductive or magnetic limit switches; it is possible to set the type of limit switch used through menu **104-SELECT LIMIT SWITCH**



Example of motor with pre-wired limit switch

5.2 - NON PREWIRED LIMIT SWITCH - CN3

If a quick-fit connector is not present, the limit switch must be connected to connector CN3 and to terminal 11 (common) of connector CN1, as shown in the figure beside.
It is possible to set the type of limit switch used through menu **104-SELECT LIMIT SWITCH**



5.3 - ⚠ IMPORTANT NOTES

1) If not connected, the limit switches must not be bridged

2) For the limit switch function both the closing and opening limit switches are required

3) On some specific applications it will not be necessary to connect the limit switches as the control unit will automatically detect whether they are present or not.

4) It is possible to activate the **anti-intrusion function** (**menu 79-ANTI INTRUSION**): this function is linked to the presence of at least one limit switch, which, if released, forces the motor to re-close.

5) For a correct operation of the limit switches there must be a correspondence between the direction of movement of the motors and the respective limit switches involved.

6) If the motor and limit switches are not in phase with each other when programming the times, the gate will close and stop without completing the self-learning of the times; it will therefore be necessary to remove the power supply and invert the motor cables.
The first self-learning movement must always be in closing.

7) If you use the SEA magnetic limit switches, make sure that the menu **104-SELECT LIMIT SWITCH** is set on ***«N.O.»***

6 - CONNECTIONS ON CN4

6.1 - MASTER / SLAVE CIRCUITS

It is possible to use the Master / Slave configuration on **OPPOSED SLIDING GATES** moved by two sliding operators and **EACH MANAGED BY A CONTROL BOARD**

To work in Master/Slave it is necessary to use the **MASTER/SLAVE KIT** *(code SEA 23001220)* consisting of two circuits: one to be connected to the control unit that will be set as **«MASTER»** and one to be connected to the control unit that will be set as **«SLAVE»**. Both circuits must be connected to control units through the CN4 connector

Each control unit can be configured as **Master** or **Slave** through the **105-MASTER-SLAVE** menu or through the JOLLY 3 programmer

⚠ ***ATTENTION:*** *In the Master/Slave configuration it is necessary to connect all the accessory devices (photocells, key button, safety edge, etc.) on the control unit set as MASTER which will also control the operator movement linked to the control unit set as SLAVE. The latter will allow you to adjust only the functions of the following menus:*

3-MOTOR
5-REVERSE MOTOR
17-MOTOR 1 OPENING SPEED
18-MOTOR 1 CLOSING SPEED
21-MOTOR 1 SLOWDOWN SPEED IN OPENING
22-MOTOR 1 SLOWDOWN SPEED IN CLOSING
28-MOTOR 1 OPENING TORQUE
29-CMOTOR 1 CLOSING TORQUE
59-MOTOR 1 SLOWDOWN IN OPENING
60-MOTOR 1 SLOWDOWN IN CLOSING
63-DECELERATION
64-ACCELERATION
70-RECOVERY POSITION IN OPENING
71-RECOVERY POSITION IN CLOSING
94-24V AUX

6.2 CONFIGURATION OF OPERATORS IN MASTER / SLAVE

To configure a system with two operators in **Master/Slave operation**, proceed as indicated below and in the next paragraph 6.3

① Configure the two operators as if they were two independent installations, making sure they are working properly and that they read correctly the limit switches, if present

② Connect a **CIRCUIT** to the control unit that you intend to set as **MASTER** through the CN4 connector

③ Then connect the other **CIRCUIT** to the control unit that you intend to set as **SLAVE** through the CN4 connector

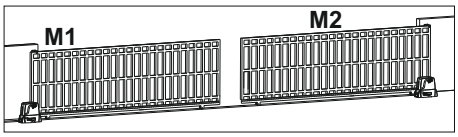
④ Using a shielded and twisted pairs transmission cable, type RS482 with a section not exceeding 0.5 mm^2, connect the two **CIRCUITS** as shown in the figure, **respecting the polarity of the cables**

⑤ In the menu **105-MASTER-SLAVE configure as MASTER** the control unit that will manage the Master operator (M1) and therefore all the commands connected to it (photocells, key button, Stop button, safety edge etc.)

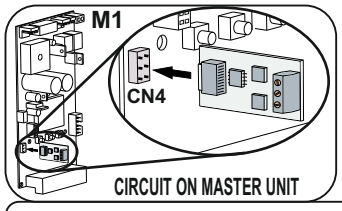
⑥ In the menu **105-MASTER-SLAVE configure as SLAVE** the control unit that will manage the Slave operator (M2) and eventually the functions it can manage: speed, torque, slowdown etc.

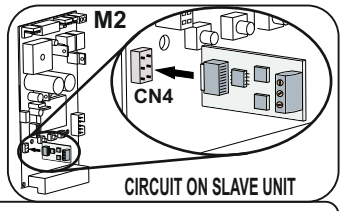
⑦ Perform the self-learning of the times on the control unit configured as MASTER
(See chapter 16 - WORKING TIMES SELF-LEARNING)

6.3 - MASTER / SLAVE SETTING

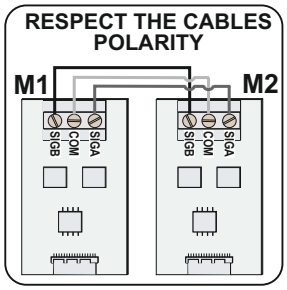


INSTALL AND SET
THE TWO OPERATORS
INDIVIDUALLY





Note: The use of a shielded and twisted pairs transmission cable type RS482 with a section not exceeding 0.5 mm^2 is recommended



① ② ③ ④

WARNING! before proceeding with the configuration on the control unit, read the chapter 14 explaining the operation of the display and the menus

M1 CONTROL UNIT CONFIGURATION AS MASTER (SEE ALSO CHAPTER 14)

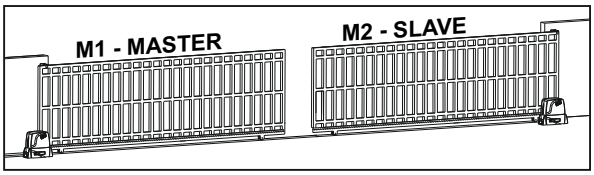
⑤ 00000000 00000000 → UP → 03.01 → UP → 1 LANGUAGE → 5 SEC. UP DOWN → 17 SPEED AP M1 → DOWN → 105 MASTER /SLAVE → OK → UP → MASTER → OK

M2 CONTROL UNIT CONFIGURATION AS SLAVE (SEE ALSO CHAPTER 14)

⑥ 00000000 00000000 → UP → 03.01 → UP → 1 LANGUAGE → 5 SEC. UP DOWN → 17 SPEED AP M1 → DOWN → 105 MASTER /SLAVE → OK → UP → SLAVE → OK

⑦ 9 PROGRAMMING

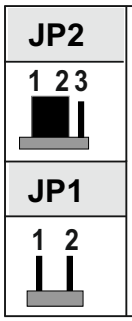
WORKING TIMES SELF-LEARNING ONLY ON MASTER CONTROL UNIT (FOLLOW THE PROCEDURE ON CHAPTER 16)



7 - CONNECTIONS ON CN5

7.1 - DRY CONTACT MANAGEMENT

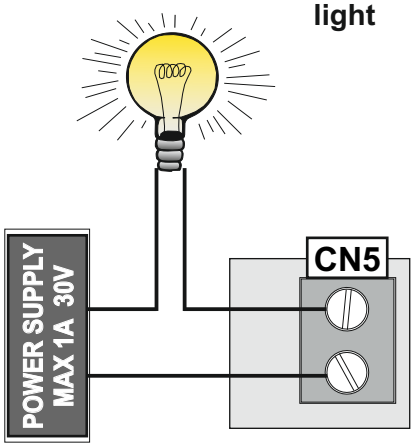
The CN5 connector can be used as a dry contact on which to connect the 24V accessories through the use of an external power supply (max. 1A and 30V) according to the aside connection diagram



JP2 = closed on 1 and 2
JP1 = open

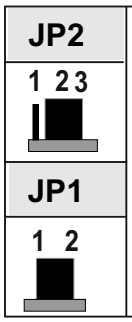
This configuration allows to have a dry contact on CN5. The connected accessories will work according to the settings of the menu 88-COURTESY LIGHT

Example: courtesy light



7.2 - 24V⎓ POWERED CONTACT MANAGEMENT

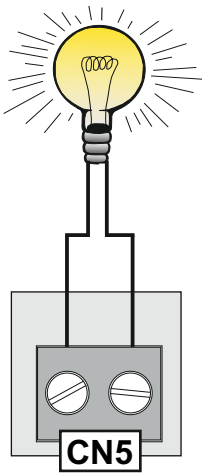
The CN5 connector can be used as a 24V powered contact on which to connect the accessories (24V⎓ max. 3W) according to the aside connection diagram



JP2 = closed on 2 and 3
JP1 = closed

This configuration allows to have a 24V powered contact on CN5. The connected accessories will work according to the settings of the menu 88-COURTESY LIGHT

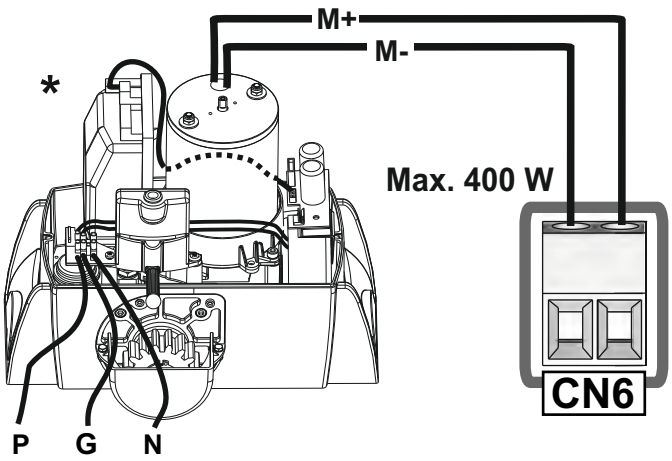
Example: 24V⎓ Max. 3W courtesy light



8 - CONNECTIONS ON CN6

8.1 - MOTOR CONNECTION ON THE CONTROL UNIT

M **Motor 1**
Motor 1 connection output
M+ = OPEN/CLOSE
M- = CLOSE/OPEN



***** *The drawing shows an external operator for sliding gate only as an exemple*

9 - CONNECTIONS ON CN7

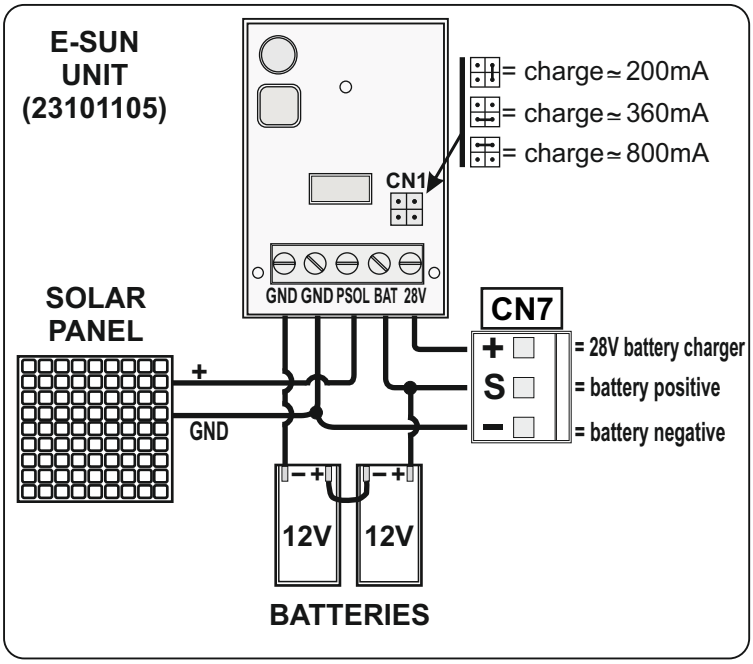
9.1 - BATTERY CONNECTION WITH BATTERIES CHARGER UNIT

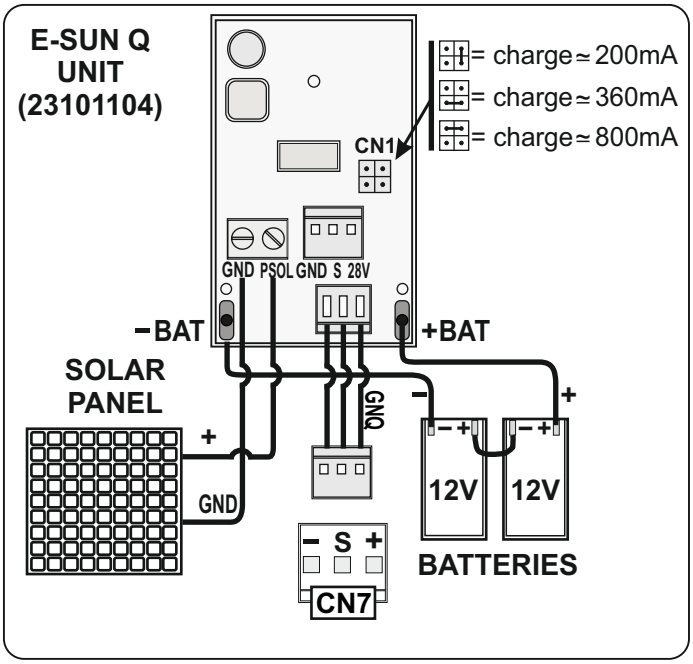
It is possible to power the control unit using **two 12V batteries connected in series (24V Pb 1.2Ah min)**, connected, in turn, to the battery charger management unit and this latter connected to the solar panel.

WARNING: Always use the batteries charger unit to connect the batteries

Note: If you use the E-SUNQ unit, you must cut the cable as shown in the figure and reconnect it on the CN5 connector, respecting the correspondences **+ S -**

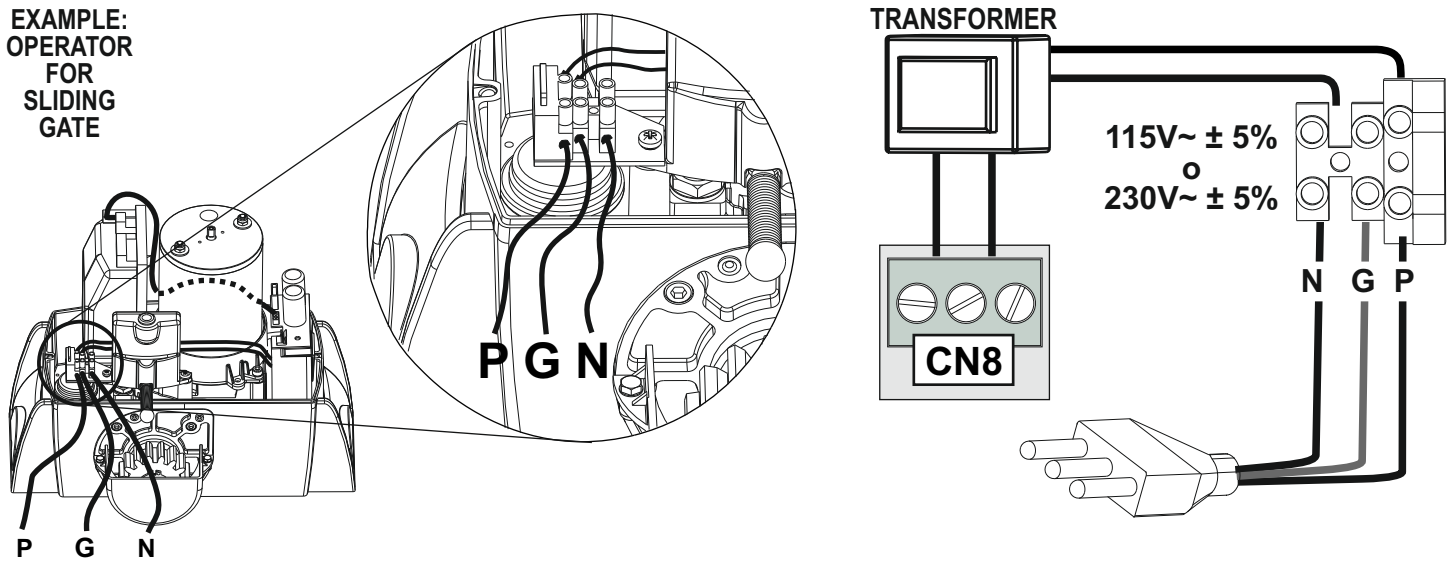
BATTERY CURRENT (mA)	BATTERY (Ah)
800	12 o 16
360	7
200	2





10 - CONNECTIONS ON CN8

10.1 - CONTROL UNIT POWER SUPPLY CONNECTIONS



Power Supply Input
Power supply connection input
P = PHASE
N = NEUTRAL
G = GROUND

Caution: for the connection to the power grid refer to the regulations in force

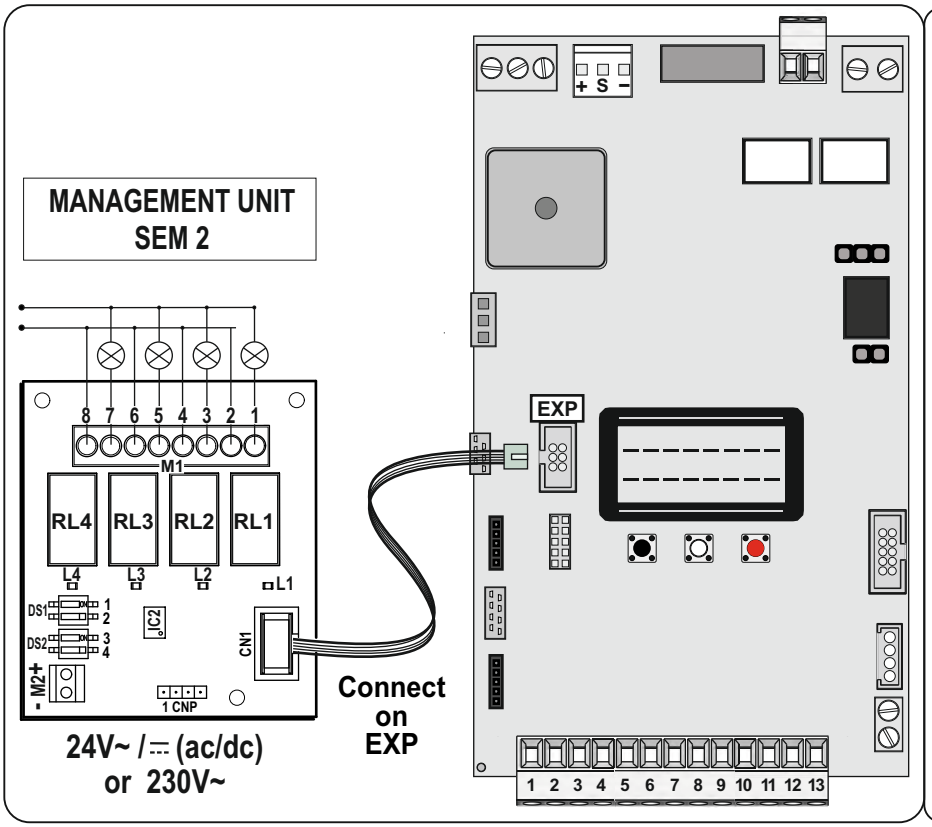
NOTE: *In case of unstable power supply the use of a power supply stabilized by min. 250VA 24Vdc is recommended*

Fuse 3,6A delayed on 230V~ power supply
Fuse 6,3A delayed on 115V~ power supply

NOTE: It is recommended to use a 10A differential switch to protect the power supply system

11 - CONNECTIONS ON EXP

11.1 - «SEM 2» MANAGEMENT UNIT CONNECTIONS



The **«SEM 2»** management unit can be connected through the **EXP** connector

The SEM 2 unit manages:

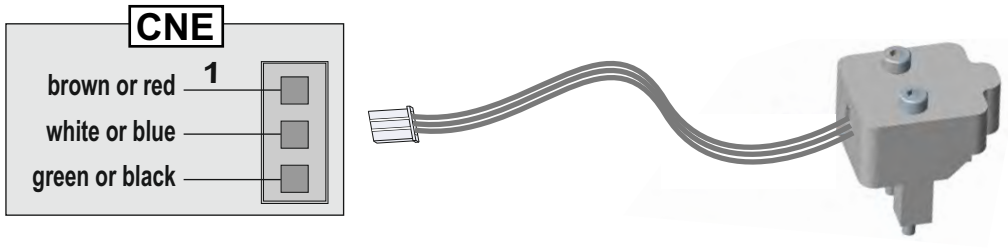
- The **TRAFFIC LIGHT** functions
- The **COURTESY LIGHT** functions
- The **VERTICAL ELECTRIC LOCK** functions
- The **POSITIVE AND/OR NEGATIVE ELECTRIC BRAKE** functions
- The **LIMIT SWITCH** status

For further details on connections, functions or specifications of the «SEM 2» unit, refer to the relevant TECHNICAL INSTRUCTIONS

12 - CONNECTIONS ON CNE

12.1 - ENCODER CONNECTION

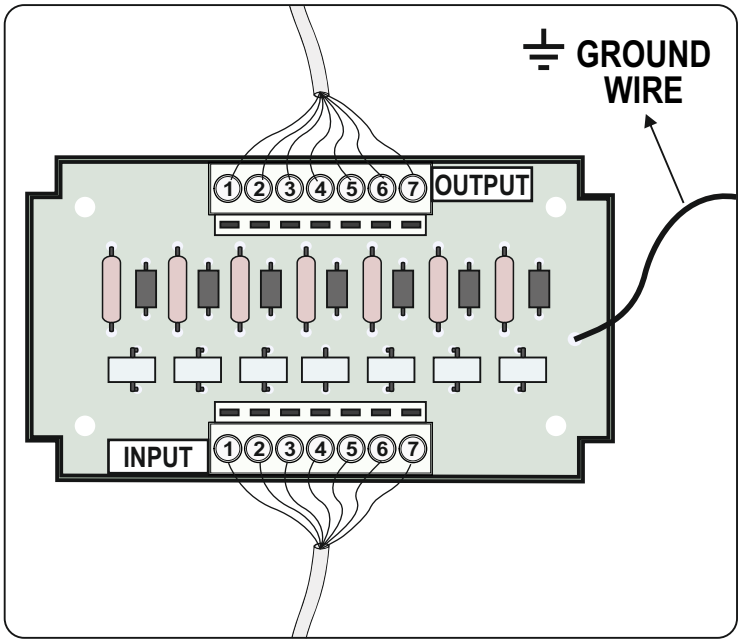
The **ENCODER** on board can be connected on CNE through the special pre-wired cable.
In case of non pre-wired Encoder use an appropriate adapter respecting the cable colors
OLD TYPE ENCODER ⟶ BROWN - WHITE - GREEN
NEW TYPE ENCODER ⟶ RED - BLUE - BLACK



The stroke and the slowing-down of the operator can be managed in a much more precise way through the Encoder; to enable set the menu 32-ENCODER in «ON»

13 - ADDITIONAL FUNCTIONS

13.1 - «I/O SURGE PROTECTOR» CIRCUIT CONNECTION



OUTPUT CONNECTIONS ON CONTROL UNIT	
1	24V DC ACCESSORIES
2	CONTACT 1 (Eg. PHOTOCELL)
3	CONTACT 2 (Eg. SECURITY EDGE)
4	CONTACT 3 (Eg. START)
5	CONTACT 4
6	CONTACT 5
7	CONTACT 6

INPUT ACCESSORIES CONNECTIONS	
1	24V DC ACCESSORIES
2	CONTACT 1 (Eg. PHOTOCELL)
3	CONTACT 2 (Eg. SECURITY EDGE)
4	CONTACT 3 (Eg. START)
5	CONTACT 4
6	CONTACT 5
7	CONTACT 6

It is possible to connect the «**SURGE PROTECTOR**» device, to protect up to 6 inputs + 24V power supply from overvoltages due, for example, to the lightning strikes. Simply connect the cable of the accessory to be protected to the **INPUT** of the SURGE PROTECTOR circuit and then, from the corresponding number on the **OUTPUT** terminal block, connect the cable to the control unit

NOTE: connect the common and the power supply negative directly on the control unit

13.2 - AMPEROMETRIC MANAGEMENT

The control unit is equipped with an obstacle detection system, which allows reversing in opening and closing; If the obstacle detection system intervenes in opening, it causes a reverse of the motion for about 1 second; If the obstacle detection system intervenes in closing, it causes the partial or total reopening of the gate depending on the settings on menu **46-CLOSING INVERSION**
NOTE: If the «automatic reclosing» function is active, in the event of an obstacle the operator will attempt closing for 3 times, afterwards a Start will be necessary to reset the motion

It is possible to adjust the torque value, i.e. the inversion force on obstacle, through the menus:

28-MOTOR 1 OPENING TORQUE
29-MOTOR 1 CLOSING TORQUE
NOTE: with high torque values (max.100%), the force required to reverse in case of obstacle will be greater

It is possible to adjust the sensitivity for each direction (opening or closing) through the menus:

33-MOTOR 1 OPENING SENSITIVITY
34-MOTOR 1 CLOSING SENSITIVITY
NOTE: with high sensitivity values (max.100%), the inversion on obstacle will occur after 5 seconds

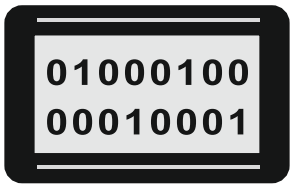
ATTENTION: In the event of a power failure, when the power returns, the first maneuver will be at the speed set by default on menu 25-LEARNING SPEED to search for the mechanical stop at the limit of the run

14 - PRELIMINARY

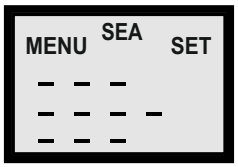
WARNING

Starting from the software revision 03.00, the electronic control unit is equipped with ***the new BINGO display*** with different ***DIAGNOSTIC symbols*** than the previous version. If you have a control unit with the **old version display, consult the manual of the previous revision**

NEW BINGO DISPLAY
STARTING FROM SOFTWARE REVISION 03.01

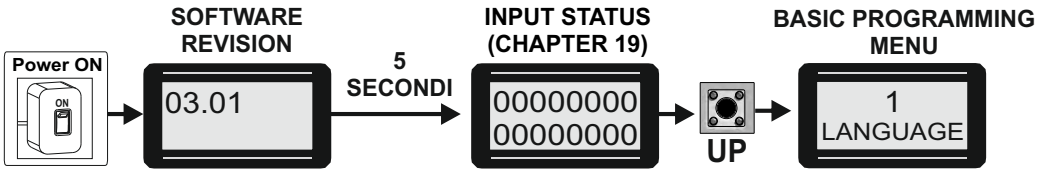


OLD DISPLAY
CONSULT PREVIOUS MANUAL REVISION

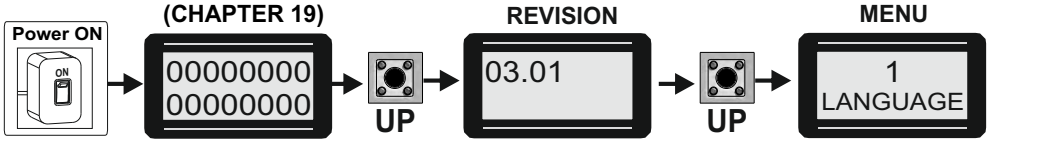


When a new control unit is powered on, the display shows the software revision first and the **INPUT STATUS** after 5 seconds.
If a control unit is already programmed, the display immediatetly shows the **INPUT STATUS** view

NEW CONTROL UNIT OR AFTER RESET



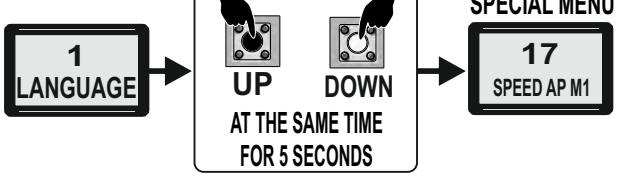
ALREADY PROGRAMMED CONTROL UNIT



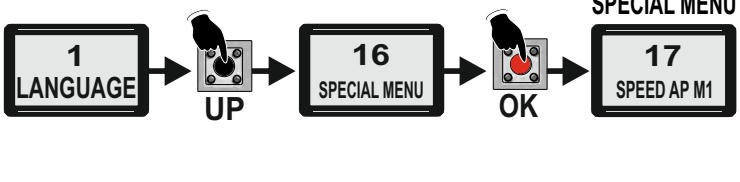
14.1 - BASIC PROGRAMMING MENU AND SPECIAL MENU

The control unit is equipped with a **basic programming menu** which can be accessed through the procedure above indicated when a control unit is switched on
The control unit is also equipped with a **special menu** that allows the setting of various parameters and the configuration of the accessories.
To access **THE SPECIAL MENU** choose one of the following 2 procedures:

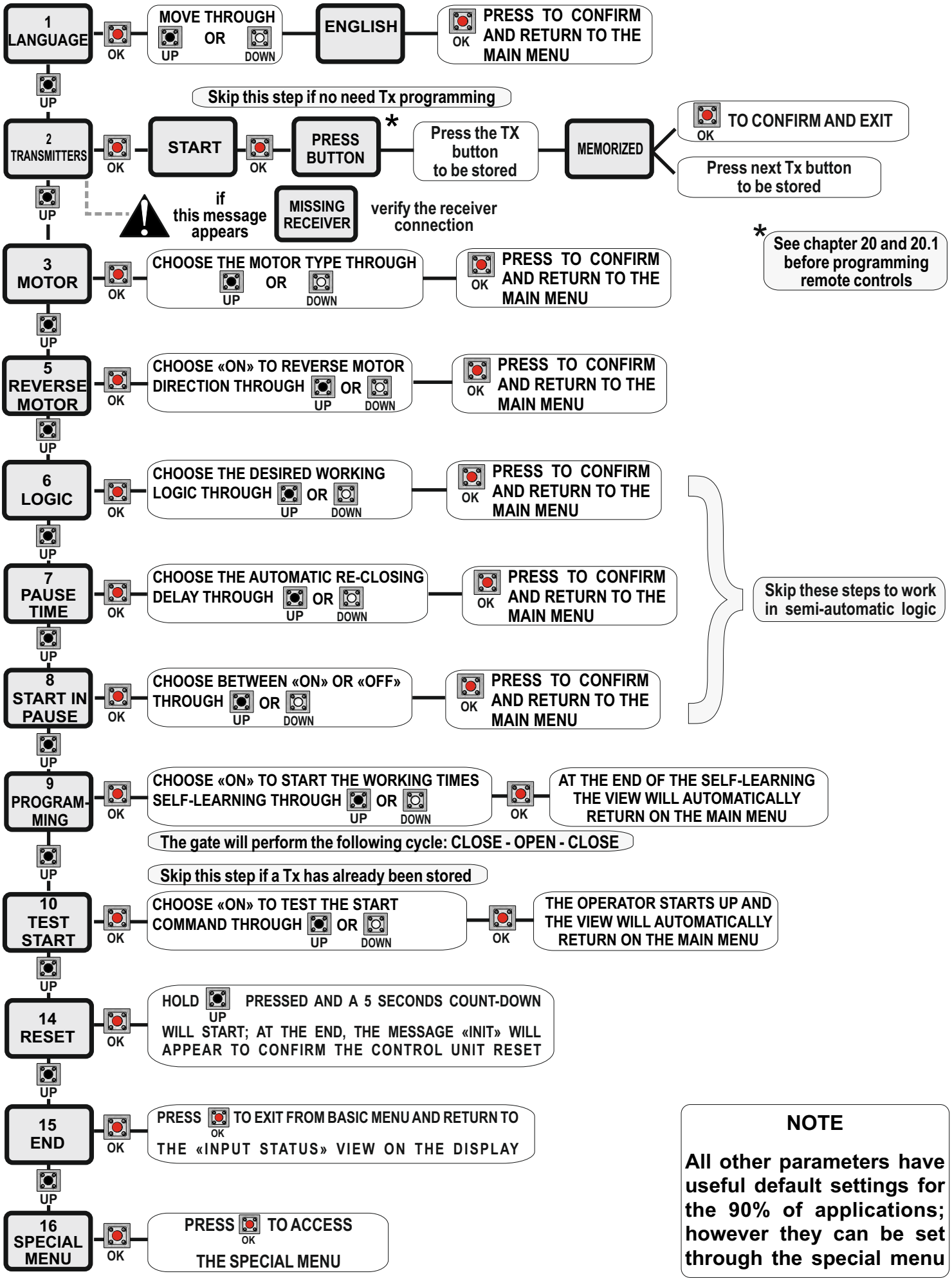
1



2



15 - BASIC MENU FUNCTIONS



NOTE

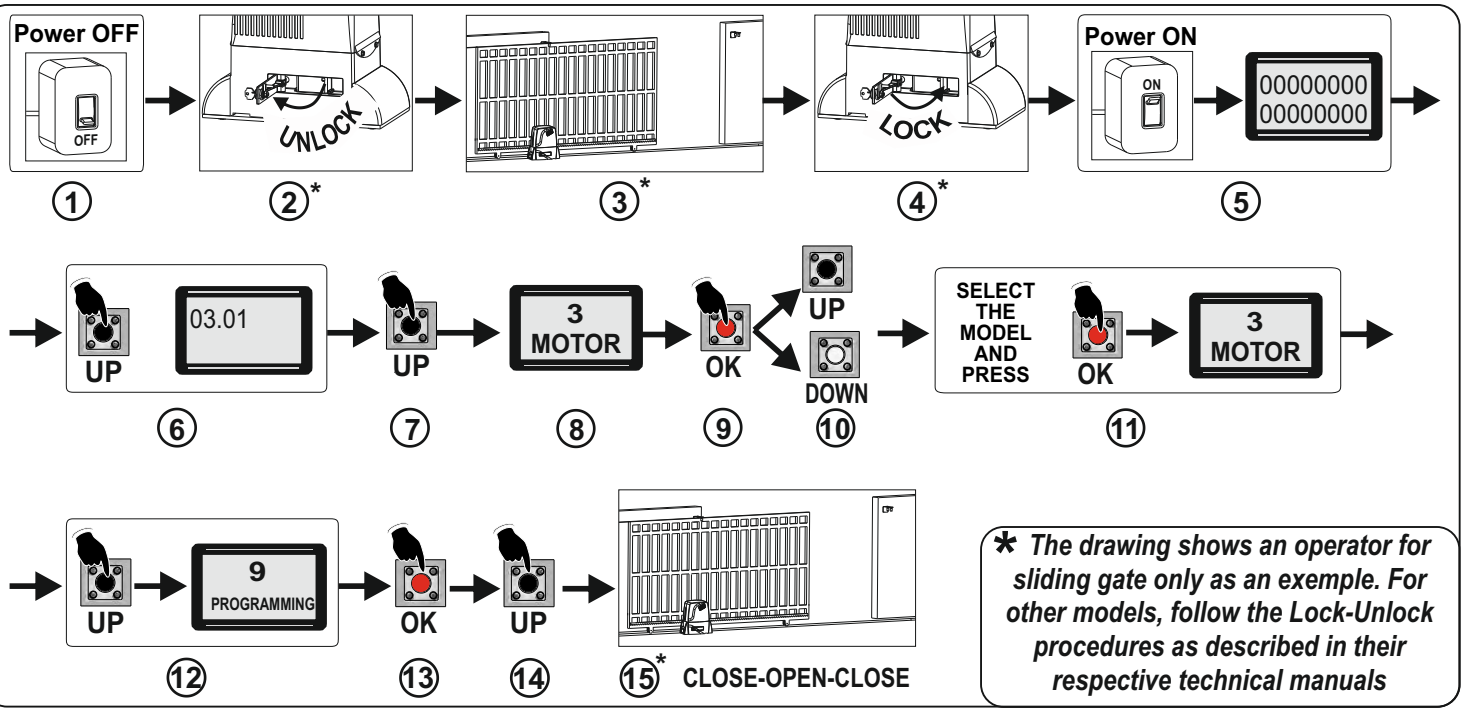
All other parameters have useful default settings for the 90% of applications; however they can be set through the special menu

16 - WORKING TIMES SELF-LEARNING

- Use a jumper wire on SAFETY EDGE contact if it not used (see chapter 3)
- It is not necessary to use jumper wires on Limit switch, Photocells or Stop if they are not used
- Check the correct operation of all accessories (Photocells, Push buttons etc.)

PRELIMINARY NOTES:

- Set leaf delay if necessary
- Adjust the self-learning speed if necessary
- ***If a motor performs the first learning starting in opening, then remove the power supply and reverse the cables (or, through control unit, select ON on menu 5-REVERSE MOTOR) then repeat the procedure***



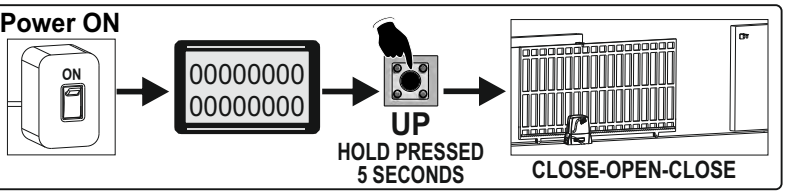
** The drawing shows an operator for sliding gate only as an exemple. For other models, follow the Lock-Unlock procedures as described in their respective technical manuals*

① Turn off the power supply
② Unlock the operator
③ Manually move the gate on halfway
④ Restore the mechanical lock
⑤ Power the control unit and the input status will be shown on the display
⑥ Press UP and the current software version will be shown
⑦ Press UP againg and access the programming menu
⑧ Pressing UP scrolls to the 3-MOTOR menu
⑨ Press OK to select the 3-MOTOR menu and enter the menu
⑩ Use UP or DOWN to scroll through the options
⑪ Select the model by pressing OK and the display returns to the 3-MOTOR menu
⑫ Use the UP button to scroll to menu 9-PROGRAMMING
⑬ Press OK to access the menu
⑭ Press UP to start programming
⑮ The gate automatically performs the cycle: **CLOSE - OPEN - CLOSE**

Self-learning completed

16.1 - QUICK SELF-LEARNING PROCEDURE

In SEA sliding operators the control unit is already set by default on the respective operator model, therefore it is possible to proceed with the **quick working times self-learning procedure:**

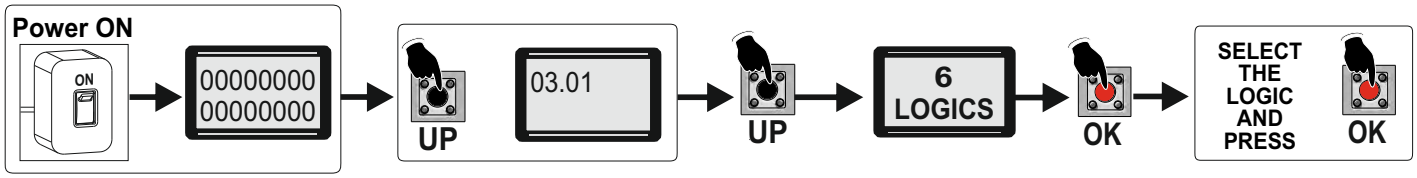


17 - OPERATING LOGICS

PRELIMINARY NOTES

1) For the automatic closing it is necessary to set a pause time; through the **menu 7-PAUSE TIME** set a time between 1 second and 240 seconds.
By default this parameter is OFF (semi-automatic logic)

2) It is possible to choose whether or not to accept the Start in pause; on **menu 8-START PAUSE** select ON
By default this parameter is OFF



AUTOMATIC LOGIC
A **START** impulse opens the gate.
A second **START** impluse during the opening will not be accepted.
A **START** impulse during closing reverses the movement

SAFETY LOGIC
A **START** impulse opens the gate.
A second **START** impulse during opening reverses the movement.
A **START** impulse during closing reverses the movement

STEP BY STEP TYPE 1 LOGIC
The **START** impulse follows the **OPEN-STOP-CLOSE-STOP-OPEN** logic

STEP BY STEP TYPE 2 LOGIC
The **START** impulse follows the **OPEN-STOP-CLOSE-OPEN** logic

DEAD MAN LOGIC
The gate will open as long as the **START** opening button is held pressed;
when released the gate stops.
The gate closes as long as the **PARTIAL OPENING START** button is held pressed;
when released the gate stops.
To carry out the complete opening and/or closing cycles it is necessary to hold the respective buttons constantly pressed

2 PUSH-BUTTONS LOGIC
One **START** opens, one **PARTIAL OPENING START** closes.
A closing input will not be accepted during opening.
A **START** command reopens during closing movement while the **PARTIAL OPENING START** (to close) will be ignored

18 - PASSWORD MANAGEMENT

By default the password is disabled. To set a password proceed as follows:

① Go on any basic menu number

② Press UP and DOWN simultaneously for 5 seconds and access the Special Menu SP

③ Scroll using the UP or DOWN buttons to the **112-PASSWORD menu**

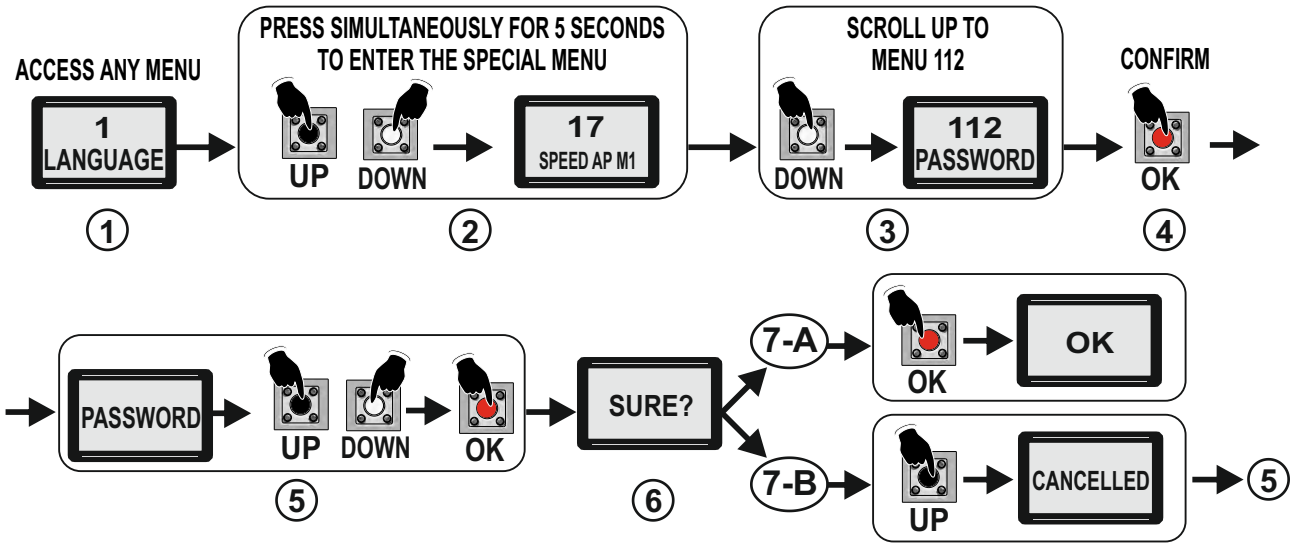
④ Press OK

⑤ Enter a 4-digit password ***(WARNING: it is not allowed to set 0000 as a password)*** using the UP and DOWN buttons to increase or decrease the digits
Once the first digit has been chosen, confirm with OK then set the next one

⑥ Once the last digit has been set, the word ***«SURE?»*** will appear

⑦-A To confirm press OK and the confirmation message ***«OK»*** will appear on the display; The password will be active as soon as the display shut-down time-out expires or the electronic unit is turned OFF and ON again

⑦-B Press UP to cancel the operation; the message ***«Cancelled»*** will appear on the display; then repeat the procedure from the point ⑤



Once the password is activated, **the menu cannot be adjusted**;
To unlock the control unit enter the correct password in the 112-PASSWORD Special Menu.
If the password is wrong, the message ***"ERROR"*** will be displayed

To change the password it is necessary to unlock the control unit first, then repeat the procedure above to set a new password.

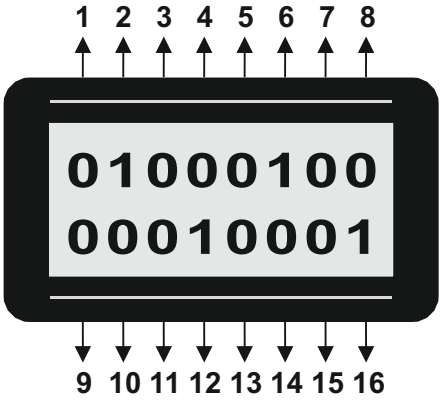
If You forgot the password, contact the SEA technical assistance;
SEA will evaluate whether or not to provide the procedure for the control unit unlocking

NOTE: *Password CAN NOT be set through the JOLLY 3 programmer*

19 - INPUT STATUS CHECK AND MANAGEMENT

The input status check menu is displayed at the start of the control unit (for more details see chapter 14). Each input corresponds to a fixed position on the display, according to the diagram below and can be **NORMALLY OPEN (N.O.)** or **NORMALLY CLOSED (N.C.)**

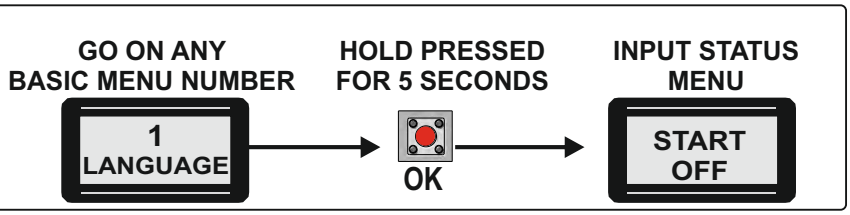
0 = NORMALLY OPEN (N.O.) **1 = NORMALLY CLOSED (N.C.)**



1	START	9	OPENING LIMIT SWITCH MOTOR 1
2	PARTIAL OPENING START	10	CLOSING LIMIT SWITCH MOTOR 1
3	STOP	11	OPENING LIMIT SWITCH MOTOR 2
4	PHOTOCELL 1	12	CLOSING LIMIT SWITCH MOTOR 2
5	PHOTOCELL 2	13	NOT IN USE
6	SAFETY EDGE 1	14	NOT IN USE
7	SAFETY EDGE 2	15	NOT IN USE
8	NOT IN USE	16	NOT IN USE

The symbol «1» lit indicates that, during self-learning, the input status is closed or disabled

19.1 - ACCESS TO THE INPUTS STATUS MENU AND MANAGEMENT



Access the input status menu and scroll forward or backward through UP and DOWN; by scrolling through the inputs, these are shown in their current state: in ON or OFF

example: START OFF or STOP ON

Within this management menu it is possible to enable or disable the inputs; for the procedure see the table in the next paragraph (19.2);

The LIMIT SWITCHES inputs and the battery status (0.0V) cannot be managed, but only their current status (ON or OFF) is displayed

WARNING

START and **PARTIAL OPENING START** must be **NORMALLY OPEN (N.O.)** contacts:

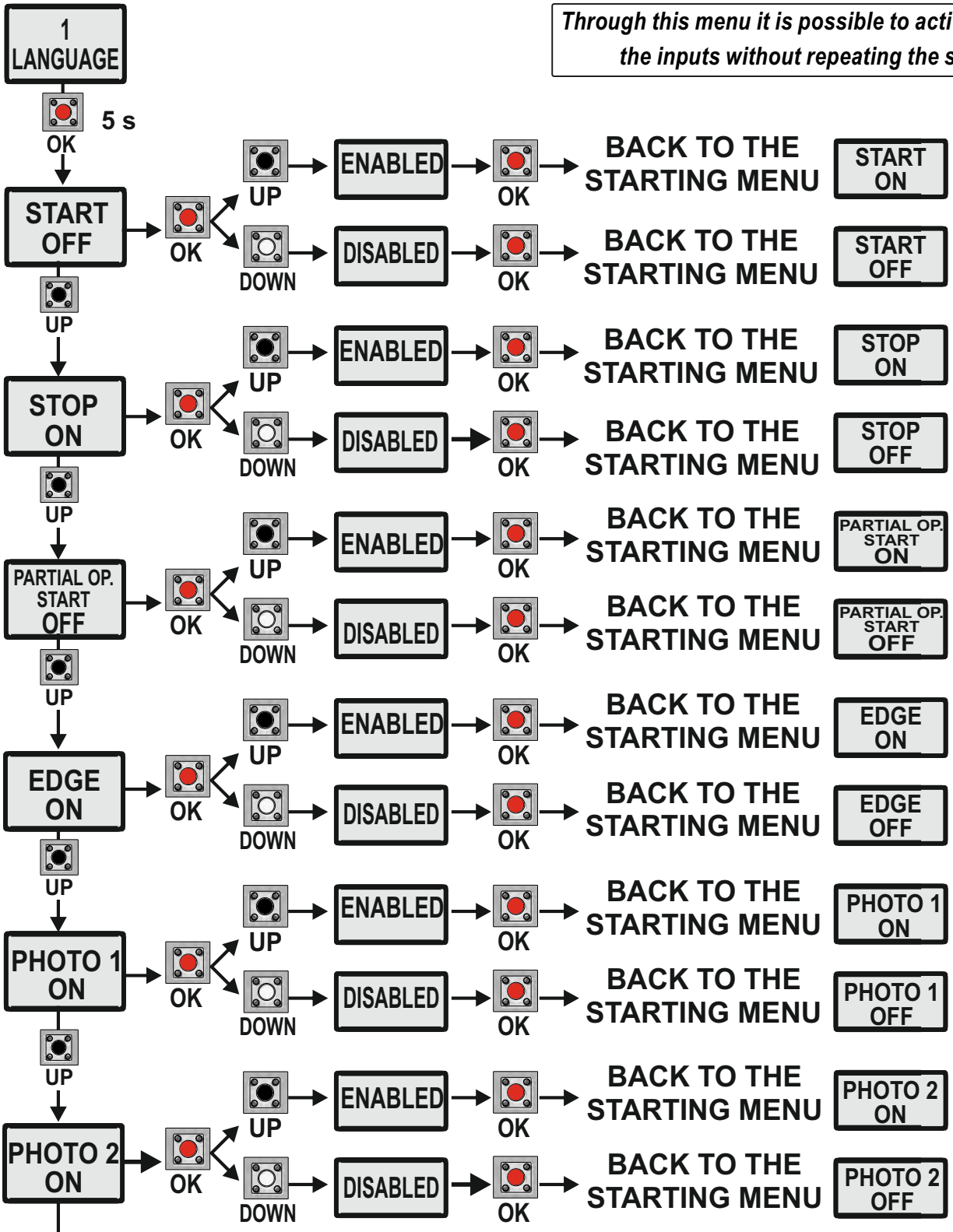
If «ON» appears on the display when one of the two command is activated, the input is working
If «OFF» is displayed even after the command activation, then it is advisable to check the wirings

ALL OTHER CONTACTS ARE NORMALLY CLOSED (N.C.):

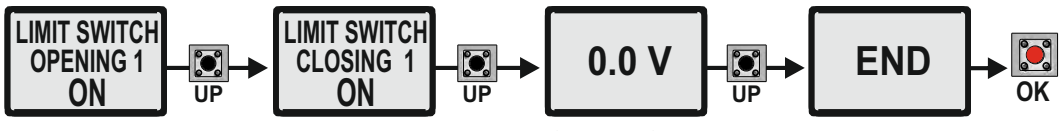
If «OFF» appears on the display when a command is activated, the input is working
If «ON» is displayed even after the command activation, then it is advisable to check the wirings

19.2 - USER 1 24V DG MAXI INPUT MANAGEMENT MENU

Through this menu it is possible to activate or deactivate the inputs without repeating the self-learning



THE FOLLOWING MENUS ONLY DISPLAY THE CURRENT INPUT STATUS;
IT IS NOT ALLOWED TO MAKE CHANGES

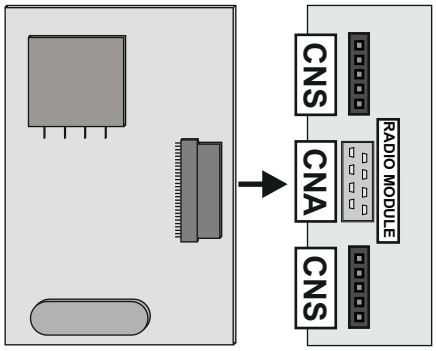


DISPLAYS THE BATTERY TENSION

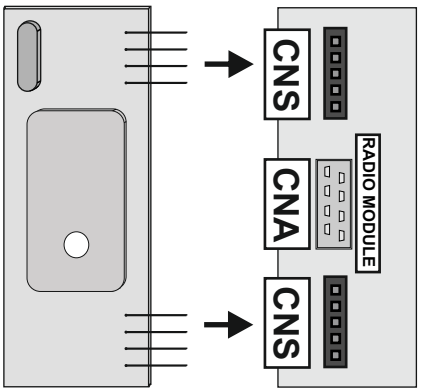
EXIT THE INPUT MANAGEMENT MENU

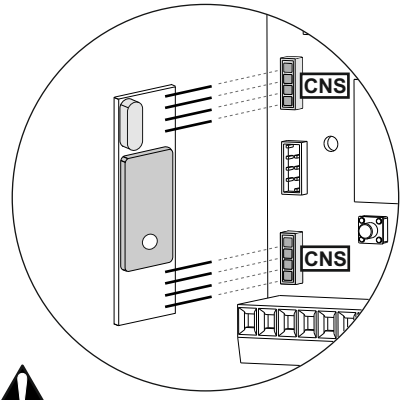
20 - RECEIVERS AND REMOTE CONTROLS

RF UNI - RF UNI PG RECEIVERS



RF FIX RECEIVER





CONNECT RESPECTING THE WAY SHOWN IN THE FIGURE

SEA PLUG-IN RECEIVERS	MAX NUMBER OF USERS
RF UNI	**16 USERS** Without additional memory **800 USERS** With MEMO RF additional memory
RF UNI PG ***(Old Model)*** ***(non-extractable memory)***	**100 USERS** Fix Code **800 USERS** Roll Plus
RF UNI PG ***(New Model)*** ***(extractable memory)***	**800 USERS** Fix Code **800 USERS** Roll Plus
RF FIX	**16 USERS** Without additional memory **496 USERS** With MEMO RF additional memory

PRELIMINARY NOTES:

- **With the control unit OFF**, check if the RECEIVER module is correctly connected to the connector

- Power up the control unit and program the radio transmitters before connecting the antenna

- The **RF UNI** and **RF UNI PG** modules allow the use of both **ROLL PLUS SERIES** and **FIX CODE** radio transmitters

- The **RF FIX** module allows the use of **FIX CODE** radio transmitters

- Perform the radio transmitters learning ***only with closed gate and stopped motor***

- It is possible to store up to 2 of the available functions

- The START function must ALWAYS be assigned

- If the second function assigned will be modified later, then all the radio transmitters will acquire this last function on the second channel

20.1 - REMOTE CONTROLS PROGRAMMING

WARNING

The first stored radio transmitter will determine the coding of the following ones: if the first radio transmitter is stored as ROLLING CODE, then all the following radio transmitters must be stored as ROLLING CODE (FIX CODE storing will not be accepted). Vice versa, if the first radio transmitter is stored as a FIX CODE, then all the following radio transmitters must be stored as FIX CODE (ROLLING CODE storing will not be accepted)

*With **RF FIX** receiver the remote controls can be memorized only with **FIX CODE***

STORING OF A ROLLING CODE RADIO TRANSMITTER:

Follow the procedures on the next paragraph (20.3) for programming the remote control different buttons. When choosing the remote control button to be programmed, it is required to *«Press the Button»*; anyway **to store THE FIRST REMOTE CONTROL in ROLLING CODE the button must be pressed TWICE; for the following remote controls it is sufficient to press it ONLY ONCE as required by the procedure**

STORING OF A FIX CODE OR ROLLING CODE PLUS RADIO TRANSMITTER:

Follow the procedures on the next paragraph (20.3) for programming the remote control different buttons; **to store REMOTE CONTROLS in FIX CODE or ROLLING CODE PLUS the button must be pressed ONCE as required by the procedure (for both the first remote control and the following ones)**

FOR THE INSTALLER

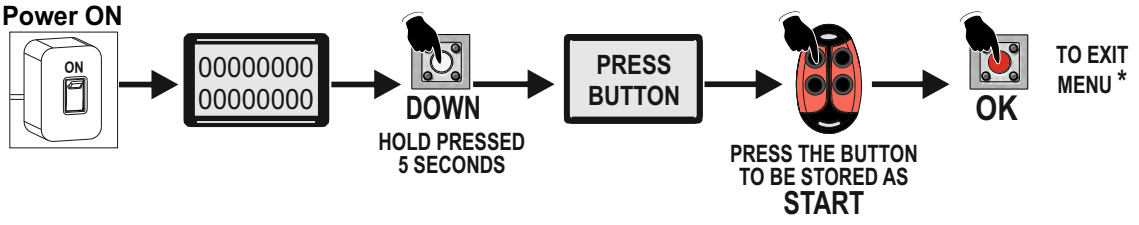
On **2-REMOTE CONTROLS** menu you can see the serial number of the stored radio transmitters; It is advisable to create a table (*) as reminder of the serial numbers of the Rolling Code remotes assigned to the various customers, in order to have an easier management of all transmitters

***** ***exemple of table***

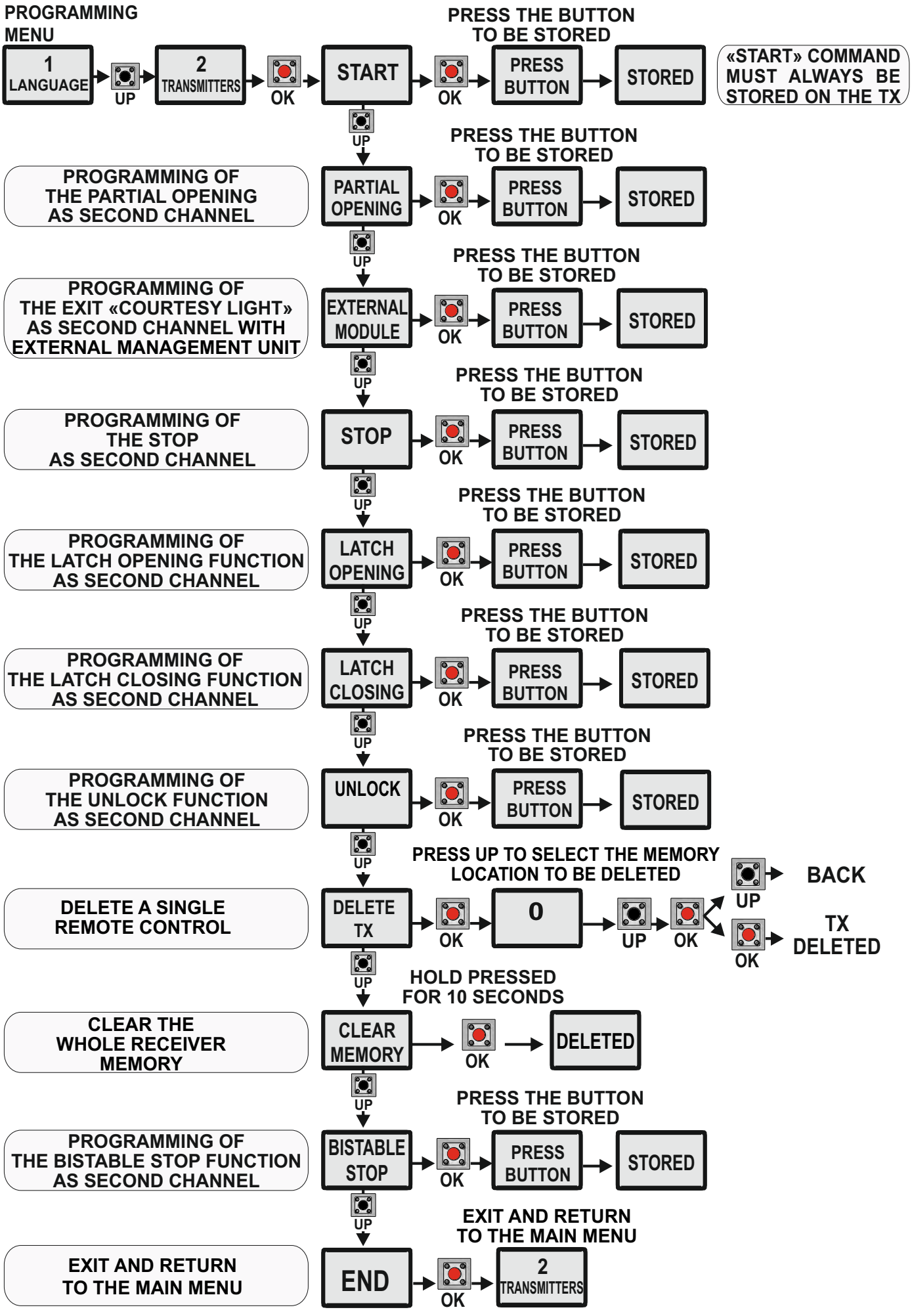
Memory Location \ TX Button	1	2	3	4	Serial Number	Customer
0						
1						
2						
3						

20.2 - START COMMAND QUICK SELF-LEARNING

It is possible to use the following quick procedure to store the START command on the remote control



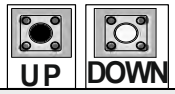
20.3 - REMOTE CONTROLS PROGRAMMING TABLE



USER 1 24V DG MAXI MENU FUNCTIONS TABLE

MENU		SET	DESCRIPTION	DEFAULT	NOTE
1	LANGUAGE	*Italiano*	Italian	*English*	
		English	English		
		Français	French		
		Español	Spanish		
		Dutch	Dutch		
2	TRANSMITTERS	*Start*	Start	*Start* *Partial Opening*	
		Partial opening	Partial opening		
		External module	External module		
		Stop	Stop		
		Bistable Stop	Pressed once, it stops the gate. Pressed twice, it reactivates the START input		
		Latch opening 1	One impulse opens and keep open. A second impulse restore the movement		
		Latch closing 1	One impulse closes and keep closed. A second impulse restore the movement		
		Unloch	Storing of a command for unlocking the electric brake		
		Delete a TX	Delete single transmitter		
		Clear memory	Delete transmitter memory		
		End	Exit transmitters menu		
3	MOTOR	***28-** SATURN FAST* *SATURN SUPER FAST*	Electromechanical operators for sliding gates	_ _ _ _	
		***29-** LEPUS BOX CHAIN*	Electromechanical chain operator for sliding gates		
		***31-** SATURN 1500* *LEPUS 2000*	Electromechanical operators for sliding gates		
		***32-** ORION BOX FAST*	Electromechanical operator for sliding gates		
		***41-** TAURUS-ORION* *CHAIN NO LIMIT SWITCH*	Electromechanical operators for sliding gates ***without limit-switch***		
5	REVERSE MOTOR	*On*	It reverses the opening with the closing or viceversa ***(Note: both motors and limit-swiches are reversed)***	*Off*	
		Off	Off		
6	LOGIC	*Automatic*	Automatic	*Open-stop-close-open*	
		Open-stop-close-stop-open	Step by step type 1		
		Open-stop-close-open	Step by step type 2		
		2 button	Two buttons		
		Safety	Safety		
		Dead man	Dead man		
7	PAUSE TIME	*Off*	Disabled ***(semi-automatic logics)***	*Off*	
		1 240	Setting from 1 second to 4 minutes		
8	START IN PAUSE	*Off*	The Start is not acceped during pause	*Off*	
		On	The Start is acceped during pause		
9	PROGRAMMING	*Off On*	Times learning start	*Off*	
10	TEST START	*Off On*	Start command	*Off*	
14	RESET	A count-down of 5 seconds will start by holding pressed the UP button; at its end "INIT" will appear on the display as confirmation of the control board reset			
15	END	*Press OK to return to the display of the firmware version and to the one of inputs state*			
16	SPECIAL MENU	*Press OK to enter the special menu*			

SPECIAL MENU



PRESS AT THE SAME TIME FOR 5 SECONDS TO ENTER OR TO EXIT THE SPECIAL MENU

USER 1 24V DG MAXI SPECIAL MENU FUNCTIONS TABLE

For entering into the special menu move on one of the menu and press the UP and DOWN buttons at the same time for 5 sec.
For exiting the special menu press END or move on one of the menu and press the UP and DOWN at the same time for 5 sec.

SP MENU		SET	DESCRIPTION	DEFAULT	NOTE
17	OPENING SPEED M1	*30 100*	Setting from 30 to 100	*70*	
18	CLOSING SPEED M1	*30 100*	Setting from 30 to 100	*70*	
21	SLOWDOWN SPEED IN OPENING M1	*30 100*	Setting from 30 to 100	*40*	
22	SLOWDOWN SPEED IN CLOSING M1	*30 100*	Setting from 30 to 100	*40*	
25	LEARNING SPEED	*30 100*	Setting from 30 to 100	*75*	
28	OPENING TORQ 1	*10 100*	Opening torque Motor 1: by increasing the torque, more strenght will be required to execute the inversion in case of obstacle	*It depends on motor*	
29	CLOSING TORQ 1	*10 100*	Closing torque Motor 1: by increasing the torque, more strenght will be required to execute the inversion in case of obstacle	*It depends on motor*	
32	ENCODER	*On*	ON = Encoder enabled OFF = Encoder disabled - shows working times learnt	*On*	
	47 ENCODER PAR. 1	*xxx.*	Impulses read by Encoder during operation (Motor1)		
	48 ENCODER TOT. 1	*xxx.*	Impulses stored during programming (Motor 1)		
32	ENCODER	*Potentiometer*	Enables the potentiometer reading with LE unit	*Off*	
	51 I.PAR.M1	- - - - - - - -	Reports the current position of the potentiometer on the leaf of Motor 1. This parameter is useful for seeing if the potentiometer is read correctly		
	52 I.AP.M1	*From the value learned to ± 100 pulses*	Reports the impulses stored by the control unit when the leaf of Motor 1 is fully open		
	53 I.CH.M1	*From the value learned to ± 100 pulses*	Reports the impulses stored by the control unit when the leaf of Motor 1 is fully close		
32	ENCODER	*Off*	ON = Encoder enabled OFF = Encoder disabled - shows working times learnt	*Off*	
33	OPENING SENSITIVITY MOTOR 1	*10% (Fast intervention) 99% (Slow intervention)*	Adjusts the Encoder or Potentiometer intervention time on Motor 1 in opening	*35%*	
		Off (Intervention excluded)	Disabled		
34	CLOSING SENSITIVITY MOTOR 1	*10% (Fast intervention) 99% (Slow intervention)*	Adjusts the Encoder or Potentiometer intervention time on Motor 1 in closing	*35%*	
		Off (Intervention excluded)	Disabled		
46	CLOSING INVERSION	*Total*	In case of obstacle or edge it totally reverses the movement during the closing. If active, the automatic reclosing will be attempted 5 times	*Total*	
		Partial	It partially reverses the direction (of about 30 cm) in case of obstacle or edge or potentiometer, then it stops		
For menu 47 and 48 see menu 32-Encoder = On					
For menu from 51 to 53 see menu 32-Encoder = Potentiometer					
57	WORKING CURRENT 1	- - - - - - - -	Shows the absorbed current by the motor during the movement. The letter **H** at the left of the current value indicates the exceeding of the set inversion threshold	_ _ _ _	

SP MENU		SET	DESCRIPTION	DEFAULT	NOTE
59	OPENING SLOWDOWN 1	*Off 100%*	OFF = Disabled 100% = the slowdown will Start at middle of the total stroke	*30*	
60	CLOSING SLOWDOWN 1	*Off 100%*	OFF = Disabled 100% = the slowdown will Start at middle of the total stroke	*30*	
63	DECELERATION	*0 %* *100%* 	Adjust the passage between normal speed and slowdown speed	*It depends on motor*	
64	ACCELERATION	*0 %* *100%* 	Acceleration ramp Adjusts the motor start	*70%*	
70	OPENING POSITION RECOVERY	*0 15 seconds*	Retrieves the inertia of the motor in opening after Stop or reversing	*6s*	
71	CLOSING POSITION RECOVERY	*0 15 seconds*	Retrieves the inertia of the motor in closing after Stop or reversing	*6s*	
72	OPENING TOLERANCE MOTOR 1	*0 100*	Adjust the tolerance between stop and obstacle on Motor 1 in opening	*0*	
73	CLOSING TOLERANCE MOTOR 1	*0 100*	Adjust the tolerance between stop and obstacle on Motor 1 in closing	*0*	
79	ANTI INTRUSION	*Only opening*	If you force the gate manually, the control unit starts the motor and restores the state of the gate before forcing it ***(function available only with limit switch)***	*Off*	
		Only closing			
		Opening and closing			
		Off			
82	MOTOR RELEASE	*Off*	Disabled	*Off*	
		1 100	Adjustable from 0 to 100		
85	PRE-FLASHING	*Only closing*	Pre-flashing only active before closing	*Off*	
		0.0 5.0 s	Pre-flashing		
86	FLASHING LIGHT	*Normal*	Normal	*Normal*	
		Light	Control lamp		
		Always	Always ON		
		Buzzer	Buzzer		
87	FLASHING LIGHT AND TIMER	*Off*	The flashing light stays OFF with the active timer and open gate	*Off*	
		On	The flashing light stays ON with active timer and open gate		
88	COURTESY LIGHT	*Off*	Disabled	*In Cycle*	
		1 240	Courtesy light setting from 1 second to 4 minutes		
		Dry contact	Activation 1 second after every Start pulse in cycle, for the time set		
		In cycle	Courtesy light in cycle		
		Always	Activation always 1 second after every Start pulse, independently of settings		
89	TRAFFIC LIGHT RESERVATION ***(Only with SEM 2 management board)***	*Off On*	If ON, the partial input will be activated to work on the auxiliary board **"SEM2"** ***(traffic-light management board)***	*Off*	
90	PARTIAL OPENING	*20 100*	Setting from 20 to 100	*30*	
91	PARTIAL PAUSE	*= Start*	Pause in partial opening same as in total opening	*= Start*	
		Off	Disabled		
		1 240	Setting from 1second to 4 minutes		

SP MENU		SET	DESCRIPTION	DEFAULT	NOTE
92	TIMER	*Off*	Turn the selected input into one to which to connect an external clock ***Note: the "On partial entry" option is only visible with the 118-LATCH menu set to OFF***	*Off*	
		On photo2			
		On partial entry			
94	24V AUX (Max. 300 mA)	*Always*	AUX output always Power supplied	*Always*	
		In cycle	AUX output active only during cycle		
		Opening	AUX output power supplied only in opening		
		Closing	AUX output power supplied only in closing		
		In pause	AUX out put power supplied only in pause		
		Phototest	Security test		
		In cycle and phototest	During cycle only and with Fototest function enabled		
		Positive brake management	Positive Electric-brake (24V in ON with stationary gate)		
		Negative brake management	Negative Electric-brake (24V in On with gate in cycle and 1 sec. before the Start)		
		Open gate warning Light	1 flash per second in opening 2 flashes per second in closing Steady lit in Stop or Open		
		Start 3 s	If active, the 24VAUX output is activated for 3 seconds at every Start input, every photocells or security edge intervention		
		Led lights	the 24Vaux output will pilot LED lights to indicate the automation mouvement		
95	PHOTOTEST	*Photo 1*	Self-test active only on photocell 1	*Photo 1 and Photo 2*	
		Photo 2	Self-test active only on photocell 2		
		Photo 1 and Photo 2	Self-test active on photocells 1 and 2		
97	PHOTOCELL 1	*Closing*	If the photocell is occupied during closing, it reverses the movement; If the photocell is occupied during the pause, it prevents the reclosing	*Closing*	
		Opening and closing	If occupied, the photocell blocks the movement as long as it is busy**;** when released, the opening movement continues		
		Stop	If the photocell is occupied before the Start input, the Start will be ignored. If the photocell is occupied after the Start input, the photocell will be ignored. If the photocell is occupied during closing, the gate will reopen		
		Stop and close	If the photocell is occupied during closing, it stops the movement; when released, the closing movement continues		
		Close	The photocell stops the gate until it is occupied in both opening and closing; when released, the photocell gives a closing command (the gate closes one second after the photocell release)		
		Pause reload	If the photocell is occupied during pause, it recharges the pause time set. If the photocell is occupied during closing, it reverses the movement		
		Delete pause time	If the photocell is occupied during opening, pause or closing, the gate reopens completely and closes without observing the pause time set		

SP MENU		SET	DESCRIPTION	DEFAULT	NOTE
98	PHOTOCELL 2	*Closing*	If the photocell is occupied, it reverses the movement in closing; during the pause, it prevents the reclosing	*Opening and closing*	
		Stop and open	If the photocell is activated during opening, the gate stops and will continue in opening only when the photocell is released. It is ignored during closing		
		Opening and closing	If active the photocell blocks the movement as long as it is busy**;** when released, the opening movement continues		
		Stop	If the photocell is activated before the Start input, the Start will be ignored. If it is activated after the Start input, the photocell will be ignored. If it is activated during closing, the gate will reopen		
		Stop and close	In closing, the photocell stops the movement until it is occupied; when released the closing movement continues		
		Close	The photocell stops the gate until it is occupied in both opening and closing; when released, it gives a closing command (it closes one second after its release)		
		Pause reload	If activated, the photocell recharges the time of pause during pause. In closing it reverses the movement		
		Delete pause time	If the photocell is activated during opening, pause or closing, the gate reopens completely and closes without observing the pause time		
		Security edge 2	The photocell 2 input can also work as security edge		
99	PHOTO OFF IN CLOSING	*0 % 50%*	Setting from 0% to 50% of the learnt space	*0*	
100	SECURITY EDGE 1	*Normal*	Normal N.C. contact	*Normal*	
		8K2	Active edge protected by a 8K2 resistor		
		8K2 Double	Allows to connect two 8K2 protected edges		
		Photo 1 10K	Security edge works as a photocell protected by a 10K resistor		
102	SECURITY EDGE 1 DIRECTION	*Opening and closing*	Active in opening and closing	*Opening and Closing*	
		Only opening	Active only in opening		
		Only closing	Active only in closing		
103	SECURITY EDGE 2 DIRECTION	*Opening and closing*	Active in opening and closing	*Opening and Closing*	
		Only opening	Active only in opening		
		Only closing	Active only in closing		
104	SELECT LIMIT SWITCH	*N.C.*	Mechanical limit-switch	*N.C.*	
		N.O.	Magnetic limit-switch		
		Slow-down	It uses the limit switch inputs as starting point of slow-down, so the limit switch impulse must be given manually or detected by the stop		
105	MASTER-SLAVE	*Master*	On applications with two motors in MASTER/SLAVE, it allows to set the control unit as master	*Off*	
		Slave	On applications with two motors in MASTER/SLAVE, it allows to set the control unit as slave		
		Off	Disabled		

SP MENU		SET	DESCRIPTION	DEFAULT	NOTE
106	DIAGNOSTICS	*1 10*	Shows last event ***(See alarms table)***	- - - -	
107	MAINTENANCE CYCLES	*100 240000*	Setting from 100 to 240000	*100000*	
108	PERFORMED CYCLES	*0 240000*	Reports the executed cycles. Keep pressed OK to reset the cycles	*0*	
112	PASSWORD	***Note: "0000" setting is not allowed***	Allows the entering of a password blocking the control unit parameters modification	- - - -	
113	EMERGENCY	*Off*	Disabled	*Off*	
		Emergency	Without main power but batteries connected, the gate will open fully and will remain opened. The gate recloses when the power is back		
		Last opening	Without main power, if batteries are lower than 22V the gate opens and stay opened. The gate recloses when the power is back		
		Last closing	Without main power, if batteries are lower than 22V the gate closes and stay closed until the power is back		
117	ALWAYS CLOSE	*Off 240 seconds*	In the event of a power failure, if the door has been manually opened, it closes only after the set time has elapsed (from 0 to 240 seconds), as soon as the power is restored	*Off*	
118	LATCH	*Off*	Disabled	*Off*	
		Opening	Uses the "Partial Opening" N.O. input (the "Partial Opening" is so disabled). The gate opens and stay open till a new Start input		
		Closing	Uses the "Partial Opening" N.O. input (the "Partial Opening" is so disabled).The gate closes and stay closed till a new Start input		
LATCH FUNCTION NOTES: ***- To deactivate the Latch function, press the Latch command again or the Stop command or remove the power supply;*** ***- The Latch function can also be activated by remote control or by SEACLOUD; if the Latch function is active, pedestrian opening will still be possible both from the remote control and from SEACLOUD***					
119	DISPLAY WRITING SPEED	*From 30% to 100%*	See Note 2 below	*80%*	
120	BASIC MENU	Press OK to exit the special menu. The special menu switches off automatically after 20 minutes			

Note 1: After initialization the parameters "motor type" and "limit switch type" remain on the value chosen in the setup program

Note 2: Display writing speed set on 30% keeps writing slow; Display writing speed set on 100% keeps writing fast. ***Please note that speed does not change on JOLLY 3 display***

ALARMS

The control unit advises about faults by a message on the display. The table below shows which faults are advised and what to do in the event of a malfunction. However, it is possible to read the last 10 fault warnings by accessing the **106-DIAGNOSTIC** menu

***Note 1**: To exit the alarms display press OK*
If the warning signal does not disappear, carry out all the checks required for that error or disconnect the device generating error to check whether the signal disappears

It is also possible to visualize the warning signals through the flashing light or the pilot light, simply by observing the number of flashes emitted and checking the correspondence in the flashing table below. When an event occurs, the warning flashes are issued at each Start command;

***Note 3:** When there are no events, the normal operation (with **86-FLASHING LIGHT** set on "**NORMAL**") is: 1 flash per second in opening - 2 flashes per second in closing - steady during pause*

WARNING	DESCRIPTION	SOLUTION
FAULT BLOCKED MOTOR PRESS OK TO RESET	Motor power supply failure	Be sure there are no short circuits on the motor or on the control unit; Check the gate is not locked or stuck on stop point; Check the encoder (if active) is connected to the control unit; By unlocking the operator, try giving a Start command and hear if the motor runs dry; If the motor does not run at all, then it is burned, therefore call the technician ; If the motor runs, disconnect the power supply, lock the operator again and restore the power
FAULT MOTOR	Short circuit motor or damaged control unit	Replace the damaged motor or the damaged control unit
GUASTO 24	24V power supply failure	Check that there are no short circuits on wirings or on the control unit or that there is no overload
FAULT 24VAUX CHECK CHARGE ON OUTPUT 10 CONNECT ACCESSORIES OUTPUT12	AUX output failure	Check that there are no short circuits on wirings or on the control unit or that there is no overload. The 24VAux is a settable output with maximum load of 300mA; if you do not need the settable output, use the 24V on terminal 12 (+) and use the negative on output 11 (COM) (NOT on output 13!)
FAULT SELF-TEST	Photocells self-test failure	Check the photocells operation and/or wirings on control unit
FAULT LIMIT SWITCH	Limit switch activation failure	Check the operation of both limit switches and/or the correspondence between the motor movement direction and the engaged limit switch
FAULT POTENTIOMETER	Potentiometer failure	The message appears only if the potentiometer is ON and the potentiometer (LE) card is broken or not connected
FAULT POTENTIOMETER DIRECTION	Potentiometer direction failure	Reverse potentiometer connection cables (reverse the green with the brown)
FAULT OVERCCURRENT COLLISION	Overcurrent collision failure	Check the presence of obstacles or points of friction on the gate *NOTE: the warning signal can be reset by pressing OK*
FAULT SLAVE	Slave function failure	Check the connection between MASTER and SLAVE circuits or check the SLAVE unit is set as «SLAVE» on menu 105-MASTER-SLAVE
FAULT EDGE	Security edge failure	Check edge metal thread and edge connection cables; make sure the edge contact is closed by checking on display the «input status»
FAULT PHOTO 1 10K	10K photocell failure	Check photocell connection or possible short circuits; check if photocell is well powered Make sure that a 10K protection photocell has been connected
FAULT PHOTO 1	Photocell failure	Check photocell connection or possible short circuits; check if photocell is well powered
FAULT ENCODER	Encoder failure	Check the Encoder connections; through the Menu 32-ENCODER check if it is ON; verify the operator is not blocked

NUMBER OF FLASHES	ALARM TYPE
9	Motor failure
2	Photocell in closing
3	Photocell in opening
6	Opening collision
4	Safety edge
5	Stop
7	Maximum cycles reached
6	Closing collision
4 Fast	Limit switch error

⚠ Periodically, ***it would be advisable to reprogram the learning times on the control unit***, according to the number of performed cycles, on the type of operator or in case of malfunctionings.
The warning signal "**MAXIMUM CYCLES REACHED**" and the 7 flashes shown in the table aside refer to the achievement of the maximum cycles established before maintenance; therefore it is advisable to carry out maintenance and reset the number of cycles on the control unit

TROUBLESHOOTING

Advices

Make sure all Safeties are turned ON

Problem Found	Possible Cause	Solutions
Operator doesn't respond to any START impulse	a) Check the connected N.C. contacts b) Burnt fuse	a) Check the connections or the jumpers on the connections of the safety edge or of the stop and of the photocell if connected b) Replace the burnt fuse on the control unit
Operator does not run and diagnostic display not on.	a) No power to control board b) Open fuse c) Defective control board d) If on battery power only, low or dead batteries	a) Check AC power b) Check fuses c) Replace defective control board d) Charge batteries by AC or solar power or replace batteries
Operator does not respond to a wired control/command (example: Open, Close, etc.)	a) Check Open and Close command input b) Stop button is active c) Reset button is stuck d) Entrapment Protection Device active e) If on battery power only, low or dead batteries	a) Check all Open and Close inputs for a stuck on input b) Check Stop button is not stuck on c) Check Reset button d) Check all Entrapment Protection Device inputs for a stuck on sensor e) Charge batteries by AC or solar power or replace batteries
Operator does not respond to a transmitter	a) Stop button is active b) Reset button is stuck c) Poor radio reception	a) Check Stop button is not stuck on b) Check Reset button c) Check if similar wired control operates correctly. Check antenna wire
Motor turn only one way	a) Try to invert the motor phase and watch if the motor change or not the direction	a) If the motor is blocked change the cable if the motor go only in one direction the motor relay direction is damaged
Gate doesn't move while the motor is running	a) The motor is in the released position b) There is an obstacle	a) Re-lock the motor b) Remove obstacle
Gate doesn't reach the complete Open / Closed position	a) Wrong setting of the limit switches b) Error on programming c) Gate is stopped by an obstacle d) Torque too low e) Gate is too heavy for automatic slow-down	a) Set limit switches b) Repeat programming c) Remove obstacle d) Increase torque parameter e) Set the slow-down on OFF
Gate opens but doesn't close	a) The contacts of the photocells are connected and open b) The stop contact is connected and open c) The edge contact is open d) Ammeter alarm	a) b) c) Check the jumpers or the connected devices and the signals indicated on the warning lamp d) Check if the ammeter alarm has intervened and eventually increase the torque parameter
Gate doesn't close automatically	a) Pause time set too high b) Control unit in semi-automatic logic	a) Adjust pause time b) Set the pause parameter on a different value from the OFF
Gate moves, but cannot set correct limits	a) Gate does not move to a limit position b) Gate is too difficult to move	a) Use manual disconnect, manually move gate, and ensure gate moves easily limit to limit. Repair gate as needed b) Gate must move easily and freely through its entire range, limit to limit. Repair gate as needed
Gate does not fully open or fully close when setting limits	a) Gate does not move to a limit position b) Gate is too difficult to move	a) Use manual disconnect, manually move gate, and ensure gate moves easily limit to limit. Repair gate as needed b) Gate must move easily and freely through its entire range, limit to limit Repair gate as needed
Gate stops during travel and reverses immediately	a) Control Open/Close becoming active b) The obstacle sensitivity is too low c) Low battery voltage	a) Check all Open and Close inputs for an active input b) Check the obstacle sensitivity value and try to increase this parameter c) Battery voltage must be 23.0 Vdc or higher. Charge batteries by AC or solar power or replace batteries

...NEXT

Advices

Make sure all Safeties are turned ON

Problem Found	Possible Cause	Solutions
Gate opens, but will not close with transmitter or pause time different from OFF	a) Open control active b) Pause not set c) Close Entrapment Protecting Device active d) Photocells contact is open e) Fire-switch input active	a) Check all Open inputs for an active input b) Check pause settings c) Check all Entrapment Protection Device inputs for an active sensor d) Check photocells contact e) Check fire-switch input
Gate doesn't respect slow down points	a) ENCODER is not working properly if It's activated b) Mechanical clutch loose c) Slow down space is too wide d) Potentiometer is not working properly if It's activated e) The recovery position parameters are too high or too low	a) Check menu for encoder parameters "Encoder Par" shall be from a low value +/- 10 (gate completely closed) to "Encoder tot" (gate completely opened). If the movement of Ipar is not linear in the range (+/-10 - Encoder tot) probably the Encoder is defective b) Tight mechanical clutch c) Reduce slow down space d) Check menu for potentiometer parameters "IPar" shall be from "I. CH."(gate completely closed) to "I.AP." (gate completely opened). If the movement of Ipar is not linear in the range (I.AP. - I.CH.) probably the potentiometer is defective e) Reduce or increase the recovery position parameters
Gate opens suddenly without start command	a) Frequency or other noise from main line b) Short circuit on the start contact	a) Wiring AC shall be separate from DC wire and pass through separate conduits. If there is a frequency noise it is possible to change frequency to another MHz like 868 for example or FM b) Check all start contacts
Gate doesn't close in automatic logic during pause even if a loop/photo is set as start	a) START IN PAUSE is not in ON b) The photo/loop input is not set as "Delay pause time"	a) Put in ON the menu of START IN PAUSE b) Set in the photo/loop menu "Delay pause time"
Gate doesn't have power to close or reach limit switch	a) Slow down not possible for that site due to heavy gate or inclination or not new installation	a) Put Slow Down in OFF
Obstruction in gates path does not cause gate to stop and reverse	a) Force adjustment needed	a) Refer to the Adjustment section to conduct the obstruction test and perform the proper force adjustment that is needed (sensitivity - torque)
Photoelectric sensor does not stop or reverse gate	a) Incorrect photoelectric sensor wiring b) Defective photoelectric sensor c) Photoelectric sensors installed too far apart	a) Check photoelectric sensor wiring. Retest that obstructing photoelectric sensor causes moving gate to stop, and may reverse direction b) Replace defective photoelectric sensor. Retest that obstructing photoelectric sensor causes moving gate to stop, and may reverse direction c) Move the photoelectric sensors closer together or use edge sensors instead
Edge Sensor does not stop or reverse gate	a) Incorrect edge sensor wiring b) Defective edge sensor	a) Check edge sensor wiring. Retest that activating edge sensor causes moving gate to stop and reverse direction b) Replace defective edge sensor. Retest that activating edge sensor causes moving gate to stop and reverse direction
Alarm sounds for 5 minutes or alarm sounds with a command	a) Double entrapment occurred (two obstructions within a single activation)	a) Check for cause of entrapment (obstruction) detection and correct. Press the reset button to shut off alarm and reset the operator.
Shadow loop does not keep gate at the open limit	a) Vehicle detector setup incorrectly b) Defective vehicle loop detector c) Wrong settings	a) Review Shadow loop detector settings. Adjust settings as needed b) Replace defective Shadow loop detector c) Check the photo2 menu is set on shadow loop
Accessories connected to the accessory power not working correctly, turning off or resetting	a) Accessory power protector active b) Defective control board	a) Disconnect all accessory powered devices and measure accessory power voltage (should be 23-30 Vdc). If voltage is correct, connect accessories one at a time, measuring accessory voltage after every new connection b) Replace defective control board

...NEXT

Advices

Make sure all Safeties are turned ON

Problem Found	Possible Cause	Solutions
FAILURE 24VAUX	a) Overload or short-circuit on the output N°10 b) Burnt fuse	a) Check a short circuit on the cable b) Change fuse
Control board powers up, but motor does not run	a) Stop button active or jumper not in place for stop circuit b) Open or Close Input active c) Entrapment Protection Device active d) Defective control board	a) Check Stop button is not "stuck on"", or verify that the stop button is a normally closed circuit, or put a jumper on the stop circuit b) Check all Open and Close Inputs for a "stuck on" Input c) Check all Entrapment Protection Device inputs for a "stuck on" sensor d) Replace defective control board
Solar operator not getting enough cycles per day	a) Insufficient panel wattage b) Excessive accessory power draw c) Old batteries d) Solar panels are not getting enough sunlight	a) Add more solar panels b) Reduce the accessory power by using low power accessories or set the 24Vaux only in cycle c) Replace batteries d) Relocate the solar panels away from obstructions (trees, buildings, etc.)
Solar operator insufficient stand-by time	a) Insufficient panel wattage b) Excessive accessory power draw c) Battery capacity too low	a) Add more solar panels b) Reduce the accessory power draw by using low power accessories c) Use batteries with higher amp hour (Ah) rating

TO THE ATTENTION OF BOTH INSTALLER AND END USER

MAINTENANCE

Periodically, based on the number of maneuvers performed over time and based on the type of operator, if a change in friction, malfunctioning or non-compliance with the previously set times are noticed, ***it would be advisable to reprogram the learning times on the control unit***

Periodically clean the optical systems of the photocells

REPLACEMENTS

Any request for spare parts must be sent to: ***SEA S.p.A. - 64020 - Teramo - ITALY - www.seateam.com***

SAFETY AND ENVIRONMENTAL COMPATIBILITY

Disposal of packaging materials 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)

This brand on the product or on documentation indicates that the product must not be disposed off together with other domestic waste at the end of its life cycle. In order to avoid any possible environmental or health damage caused by irregular waste disposal, we recommand to separate this product from other types 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 to get all the information related to differential watse collection and recycling of this kind of product

IMMAGAZZINAMENTO

WAREHOUSING TEMPERATURES			
T_{min}	T_{Max}	Dampness $_{min}$	Dampness $_{Max}$
- 20°C	+ 65°C	5% *not condensing*	90% *not condensing*

Materials handling must be made with appropriate vehicles

WARRANTY LIMITS - see the sales conditions

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

TERMS OF SALES

EFFICACY OF THE FOLLOWING TERMS OF SALE: the following general terms of sale shall be applied to all orders sent to SEA S.p.A. All sales made by SEA to all costumers are made under the prescription of this terms of sales which are integral part of sale contract and cancel and substitute all apposed clauses or specific negotiations present in order document received from the buyer.

GENERAL NOTICE The systems must be assembled exclusively with SEA components, unless specific agreements apply. Non-compliance with the applicable safety standards (European Standards EM12453 – EM 12445) 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.
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. The special sales conditions with extra discount on quantity basis (Qx, Qx1, Qx2, Qx3 formula) is reserved to official distributors under SEA management written agreement.

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 it's 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 non-compliance of safety standards and good practice during installation and use of the purchased products.

8) WARRANTY The standard warranty period is 12 months. This warranty time can be extended by means of expedition of the warranty coupon as follows:

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.p.A. 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 assembly, or if the label affixed by the manufacturer has been removed including the SEA registered trademark No. 804888. 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 repair of products under warranty and out of warranty is subject to compliance with the procedures notified by SEA.

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 purchases propriety of the goods only after full payment of the latter.

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. SEA reserves the faculty to make technical changes to improve its own products, which are not 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: once the Buyer has recognized that SEA has the exclusive legal ownership of the registered SEA brand num.804888 affixed on product labels and / or on manuals and / or on any other documentation, he will commit himself to use it in a way which does not reduce the value of these rights, he won't also remove, replace or modify brands or any other particularity from the products. Any kind of replication or use of SEA brand is forbidden as well as of any particularity on the products, unless preventive and expressed authorization by SEA.

In accomplishment with art. 1341 of the Italian Civil Law it will be approved expressively clauses under numbers:
4) PAYMENTS - 8) GUARANTEE - 10) COMPETENT COURT OF LOW

English GENERAL NOTICE FOR THE INSTALLER AND THE USER

1. Read carefully these **Instructions** before beginning to install the product. Store these instructions for future reference
2. Don't waste product packaging materials and /or circuits.
3. This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger. SEA S.p.A. declines all liability caused by improper use or different use in respect to the intended one.
4. The mechanical parts must be comply with Directives: Machine Regulation 2006/42/CE and following adjustments), Low Tension (2006/95/CE), electromgnetic Consistency (2004/108/CE) Installation must be done respecting Directives: EN12453 and En12445.
5. Do not install the equipment in an explosive atmosphere.
6. SEA S.p.A. is not responsible for failure to observe Good Techniques in the construction of the locking elements to motorize, or for any deformation that may occur during use.
7. Before attempting any job on the system, cut out electrical power and disconnect the batteries. Be sure that the earthing system is perfectly constructed, and connect it metal parts of the lock.
8. Use of the indicator-light is recommended for every system, as well as a warning sign well-fixed to the frame structure.
9. SEA S.p.A. declines all liability as concerns the automated system's security and efficiency, if components used, are not produced by SEA S.p.A..
10. For maintenance, strictly use original parts by SEA.
11. Do not modify in any way the components of the automated system.
12. The installer shall supply all information concerning system's manual functioning in case of emergency, and shall hand over to the user the warnings handbook supplied with the product.
13. Do not allow children or adults to stay near the product while it is operating. The application cannot be used by children, by people with reduced physical, mental or sensorial capacity, or by people without experience or necessary training. Keep remote controls or other pulse generators away from children, to prevent involuntary activation of the system.
14. Transit through the leaves is allowed only when the gate is fully open.
15. The User must not attempt to repair or to take direct action on the system and must solely contact qualified SEA personnel or SEA service centers. User can apply only the manual function of emergency.
16. The power cables maximum length between the central engine and motors should not be greater than 10 m. Use cables with 2,5 mm^2 section. Use double insulation cable (cable sheath) to the immediate vicinity of the terminals, in particular for the 230V cable. Keep an adequate distance (at least 2.5 mm in air), between the conductors in low voltage (230V) and the conductors in low voltage safety (SELV) or use an appropriate sheath that provides extra insulation having a thickness of 1 mm.

SEA
Automatic Gate Openers
International registered trademark n. 804888

CE

Dichiarazione di conformità
Declaration of Conformity

La SEA S.p.A. dichiara sotto la propria responsabilità e, se applicabile, del suo rappresentante autorizzatoche il prodotto:
SEA S.p.A. declares under its proper responsability and, if applicable, under the responsability of its authorised representative that the product:

Descrizione / *Description*	**Modello / *Model***	**Marca / *Trademark***
USER 1 24V DG MAXI (e tutti i suoi derivati / *and all its by-products)*	23024074	SEA

è costruito per essere incorporato in una macchina o per essere assemblato con altri macchinari per costruire una macchina ai sensi della Direttiva 2006/42/CE
is built to be integrated into a machine or to be assembled with other machinery to create a machine under the provisions of Directive 2006/42/CE

è conforme ai requisiti essenziali di sicurezza relativi al prodotto entro il campo di applicabilità delle Direttive Comunitarie 2014/35/UE e 2014/30/UE
is conforming to the essential safety requirements related to the product within the field of applicability of the Community Directives 2014/35/UE and 2014/30/UE

COSTRUTTORE o RAPPRESENTANTE AUTORIZZATO:
MANUFACTURER or AUTHORISED REPRESENTATIVE:

SEA S.p.A.
DIREZIONE E STABILIMENTO:
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Luogo, data di emissione
Place, date of issue
Teramo, 22/10/2018

L'Amministratore
The Administrator
Ennio Di Saverio

SEA®

Automatic Gate Openers

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Automatic Gate Openers

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