Automatic Gate Openers

International registered trademark n. 804888

ENGLISH

GATE 2 DG INVERTER

INVERTER CONTROL UNIT
TO MANAGE ONE or TWO OPERATORS
(230V/110V)

SEA S.p.A.

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67412098 REV. 03 - 06/2024

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PRELIMINARY

● **The GATE 2 DG INVERTER control unit requires the programming of the working times *(chapter 16)***; it is not possible to start the operator correctly without first programming the control unit!

● The unit and the accessories programming and settings can be carried out by the display on board or by the **JOLLY 3** programmer or **SEACLOUD**

JOLLY 3


SEACLOUD

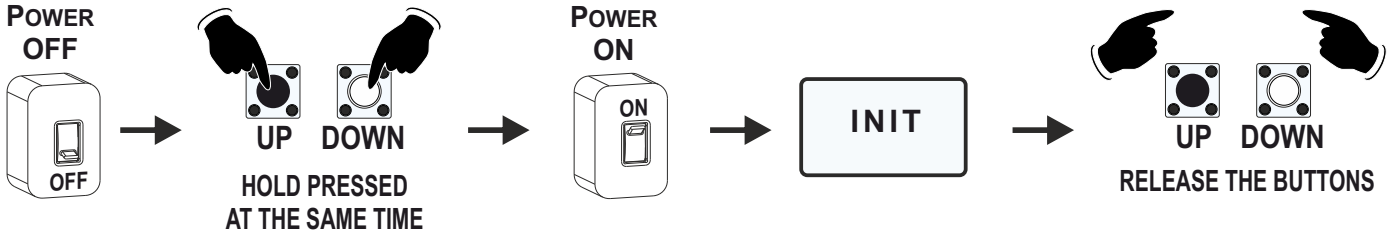
● Functions and menus here described are valid only for the software revision **03.02;** if some functions or menus do not correspond to your control unit, consult the previous manuals

All wirings (circuits and accessories) must be made when the **control unit is OFF and not powered**; only after completing all wirings the control unit can be switched on and programmed

TECHNICAL INFORMATION

POWER SUPPLY	ABSORPTION IN STAND-BY	OPERATING TEMPERATURE	PROTECTION CLASS OF THE PLASTIC BOX (IF INCLUDED)
230VAC - 50/60 Hz OR 115VAC - 50/60 Hz	30 mA	-20° C +50°C	IP 55

RESET PROCEDURE



QUICK START

● Make all connections ***(control unit OFF!)***: motors, accessories and power cables

● **DO NOT jumper the N.C. contacts! - *automatic detection of the* N.C. *contacts not in use!***

● Power on the control unit and check the correct status of the inputs ***(chapter 15)***

● Enter the basic menu and set the following menus:
*(if you do not set a time on menu 7, the logic will be **«semi-automatic»** - automatic reclosing disabled)*

[1 LANGUAGE] [3 MOTOR] [4 GATES NUMBER] [6 LOGIC] [7 TIMER TO CLOSE]

● If a **SINGLE-PHASE** operator is in use, it is necessary to enable its management by setting the menu 194 to **«ON»**

[194 SINGLE-PHASE MOTOR]

● Move the operator using the menus [192 MOVE GATE 1] or [193 MOVE GATE 2] ; if the gate opens by pressing UP and if the gate closes by pressing DOWN, the motors run correctly, otherwise swap the motors cables

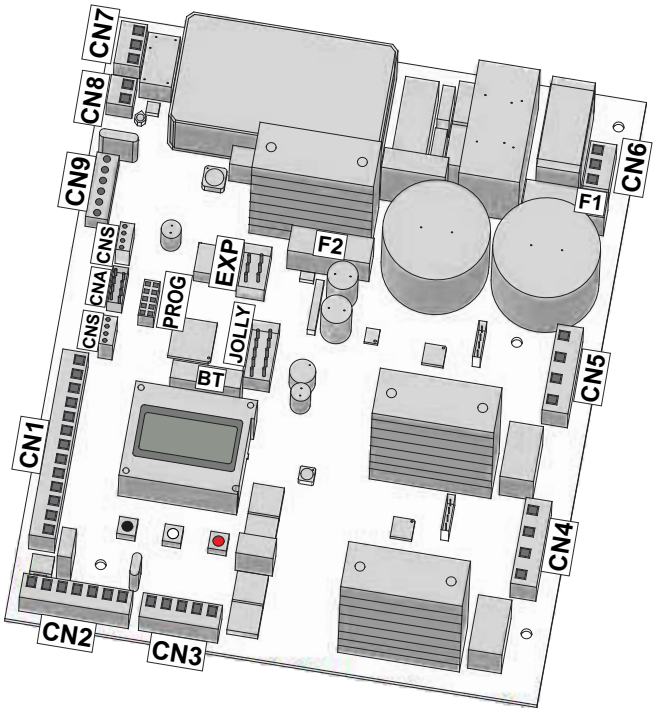
● If installed, enable the encoder or the potentiometer on menu 32 - ***paragraph 16.2***

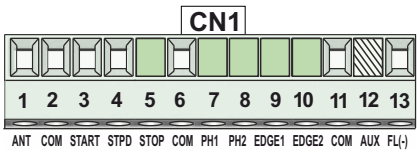
[32 ENCODER]

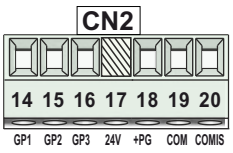
● Start up the working times learning by following the procedure in ***chapter 16***

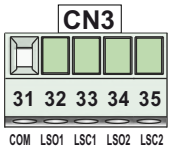
1 - WIRINGS

Make all the wirings when the control unit is not powered!
Keep the power cables separate from the command cables - always run cables in separate sheaths to prevent interferences!









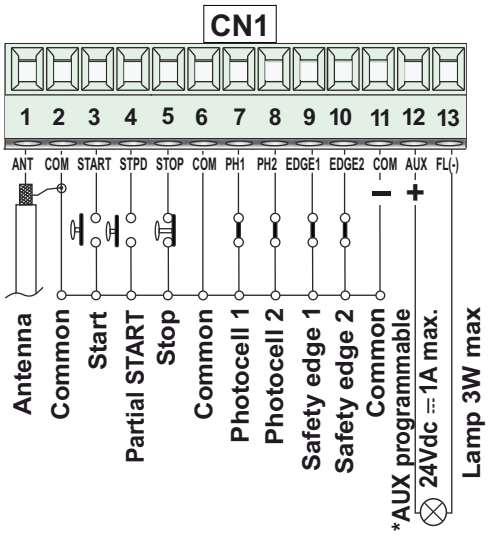
N.C. CONTACTS

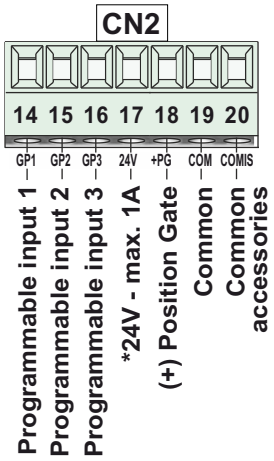
24V DC

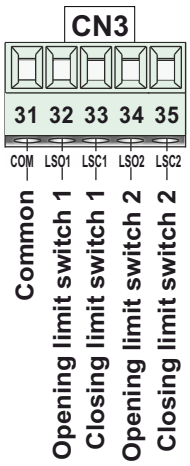
- AUTOMATIC RECOGNITION OF THE N.C. INPUTS NOT IN USE
NO JUMPERS ARE REQUIRED ON THE N.C. CONTACTS!

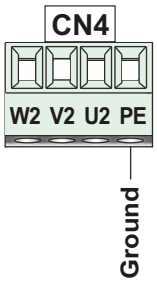
- TO RESTORE THE EXCLUDED INPUTS USE THE «INPUTS MANAGEMENT» MENU *(MORE DETAILS ON CHAPTER 15)*
NO NEED TO SET UP THE UNIT AGAIN!

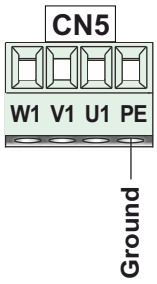
DO NOT CONNECT CAPACITORS !!

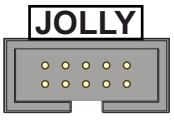




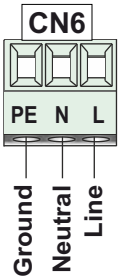


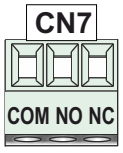






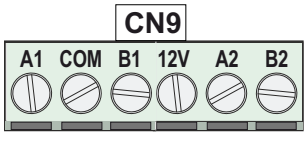
JOLLY 3
SEACLOUD





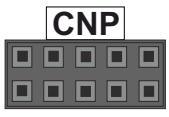
RELAY
DRY CONTACT

12V
ELECTRIC
LOCK



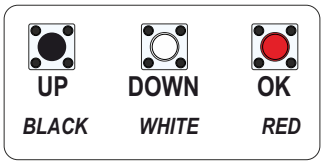
RS 485 SERIAL
CONNECTOR

EXTERNAL
MODULE
CONNECTOR

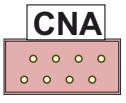


OPEN
(Firmware update)

PROGRAMMING BUTTONS



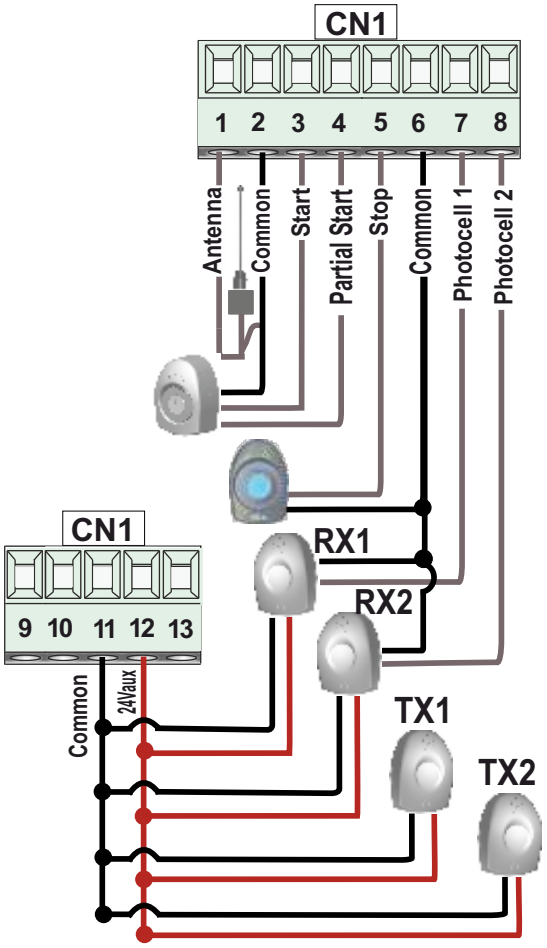
RF FIX RECEIVER
CONNECTOR



RF RECEIVER
CONNECTOR

** All the 24V outputs support a maximum load of 1A - referred to the sum of the loads of all 24V accessories connected, including the absorption of the receiver on board (30 mA)*

2 - CONNECTIONS ON CN1



2.1 - START (N.O.)

- Connect the **«START»** command on clamps 3 and 6
- Logics to be linked to the **«START»** command: ***chapter 17***

⇨ *If the input is engaged during the pause time, the gate does not close until the input is released*

2.2 - PARTIAL START (N.O.)

- Connect the **«PARTIAL START»** command on clamps 4 and 6
- Logics to be linked to the **«PARTIAL START»**: ***see chapter 17***
- Partial opening space management: **90 PARTIAL OPENING**
- Partial opening pause time management: **91 PARTIAL PAUSE**

⇨ *If the input is engaged during the pause time, the gate does not close until the input is released*

ⓘ *If a **traffic light** is connected it is possible to enable the entry or the exit priority linked to the **«START»** or the **«PARTIAL START»** commands, via menu 89*

89 TRAFFIC LIGHT RESERVATION

2.3 - STOP (N.C.)

- Connect the **«STOP»** command on the clamps 5 and 6
- After stopping, press **«START»** to restore the movement

⇨ *The operator starts-up in closing after a **«STOP»** command;*

2.4 - PHOTOCELL 1 AND PHOTOCELL 2 (N.C.)

- Wirings: **+ = 24V ⎓ max 1A (CLAMP 12)** **COM = 0V (CLAMPS 2 - 6 - 11)**
  PH1 = Photocell 1 (CLAMP 7) **PH2 = Photocell 2 (CLAMP 8)**
- Management and settings: **97 PHOTOCELL 1** **98 PHOTOCELL 2**
- **«FOTOTEST» function**: Connect the Tx-photocell positive cable on clamp 12 and chose the photocell to be tested on menu 95

95 PHOTOTEST

⇨ *Default settings: **97** = **«CLOSING»**; **98** = **«OPENING AND CLOSING»***

⇨ *The use of **SHIELDED PHOTOCELLS IS MANDATORY !***

ⓘ *The photocell **positive cable** (**24V**) can also be connected on the **clamp 17 on CN2** in order to keep the 24V AUX output free for other connections*

2.5 - 24V ⎓ DC AUX OPTIONS - MAX 1A - CLAMP 12

94 24V AUX

- Management: choose how and when to have voltage on the AUX output on menu 94 according to the type of accessory you wish to connect
- A relay can be connected to the 24VAUX output; the relay allows the connection and management of additional accessories *(courtesy light, etc.)*

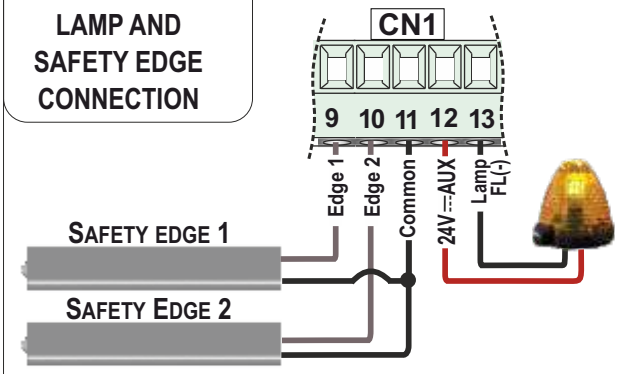
2.6 - TIMER (N.O.) - EXTERNAL CLOCK

92 TIMER

- Connect the timer to the clamp 4 **«PARTIAL START»** or to the clamp 8 **«PHOTOCELL 2»**
- If wired to the **«PARTIAL START»**, this command will be disabled *(on transmitters too)*
- The timer opens and keeps the gate open until engaged; when released, the gate closes only after the pre-set pause time has elapsed
- In the event of a safety accessory intervention, the timer automatically resets after 6 sec.

⇨ *In the event of a power failure when the gate is open:*
if the TIMER is still active when the power is restored, the gate remains open;
*if the TIMER is no longer active, a **«START»** input will be required to close the gate*

EXAMPLE OF LAMP AND SAFETY EDGE CONNECTION



2.7 - 24V⎓ FLASHING LIGHT - MAX 3W

- Connect the lamp on clamps 12 *(or 17 on CN2)* and 13
- Gate movement signals:
  1 BLINK/SECOND IN OPENING
  2 BLINKS/SECOND IN CLOSING
  STEADY LIT DURING PAUSE
- Management: menu 86
- Pre-flashing: menu 85

86 FLASHING LIGHT

85 PRE-FLASHING

⇨ *The control unit sends the warning signals also through the flashing lamp; see* ***chapter 20 - ALARMS***

2.8 - SAFETY EDGE (N.C.)

- Connect the safety edge 1 on clamps 9 and 11
- Connect the safety edge 2 on clamps 10 and 11
- Safety edges management: choice of the edge type - menu 100-101
- Direction management: choice of the desired direction - menu 102-103

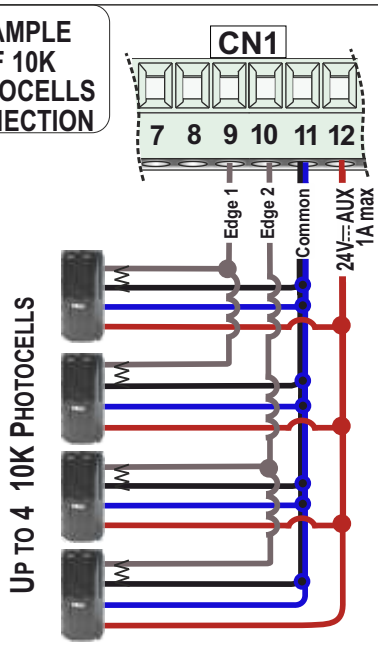
100 SAFETY EDGE 1 | 101 SAFETY EDGE 2 | 102 EDGE 1 DIRECTION | 103 EDGE 2 DIRECTION

⇨ Balanced or 8K2 resistive safety edge *(single or double)*:
contact checking through resistance value to detect short-circuits *(with alarm on display)*

(Example)

100 SAFETY EDGE 1 → OK → NORMAL → UP → 8K2 RES

EXAMPLE OF 10K PHOTOCELLS CONNECTION



2.9 - 10K PHOTOCELL SINGLE OR DOUBLE

- Connect photocells on clamps 9 - 11 - 12 and 10 - 11 - 12
- Up to four 10K photocells can be connected; set the menus 121 or 122 on **«SINGLE»** or **«DOUBLE»**

121 PHOTO 1 TYPE | 122 PHOTO 2 TYPE

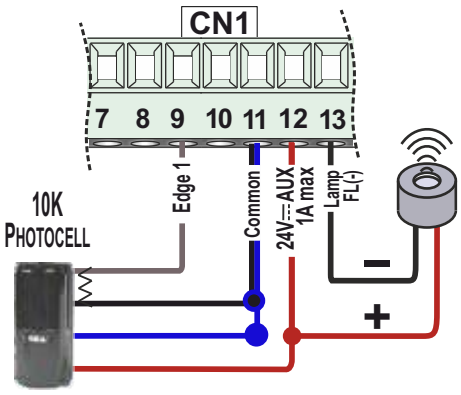
121 PHOTO 1 TYPE → OK → UP → [PHOTO1 10K → UP → PHOTO1 10K DOUBLE] → OK

- The desired operation mode can be set on the menus **«PHOTOCELL»**

97 PHOTOCELL 1 | 98 PHOTOCELL 2

⇨ By the use of the 10K photocells, a further protection is given, even in the event of a short-circuit on the cables

EXAMPLE OF 10K PHOTOCELL AND BUZZER CONNECTION



2.10 - BUZZER 24V⎓

- Connect the buzzer on clamps 12 and 13
- Use a 24V⎓ and 100 dB oscillating Buzzer
- The Buzzer can be connected instead of the flashing light; however, it is necessary to set the menu as **«BUZZER»**

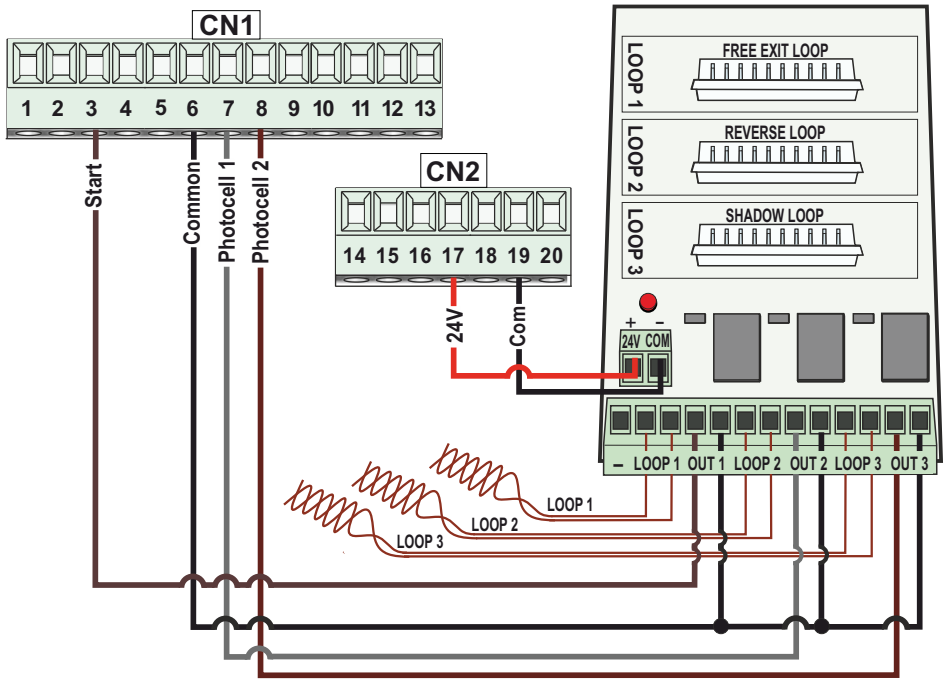
86 FLASHING LIGHT → OK → UP → BUZZER → OK

- The Buzzer activates after 2 consecutive interventions of the anti-crushing protection

⇨ Press the STOP button to turn off the buzzer; anyway, the sound switches off automatically after 5 minutes and the operator remains stopped waiting for a new command

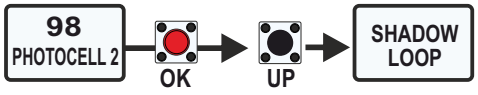
⇨ ***IF THE BUZZER DOES NOT RUN, MAKE SURE THAT THE MENU 86-FLASHING LIGHT IS SET ON «BUZZER»***

The ***positive*** *cable of the accessories (**24V**) can also be connected to the* ***clamp 17 on CN2***



2.11 - SAFETY LOOP

- **FREE EXIT LOOP (LOOP 1)**
  3 = START **(N.O.)**
  6 = COMMON
- **REVERSE LOOP (LOOP 2)**
  7 = PHOTOCELL 1 **(N.C.)**
  6 = COMMON
- **SHADOW LOOP (LOOP 3)**
  8 = PHOTOCELL 2 **(N.C.)**
  6 = COMMON



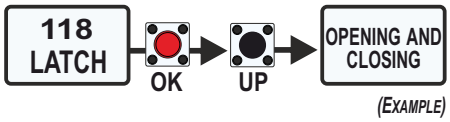
⇨ ***USE THE SAFETY LOOP COMBINED WITH THE «ULTRA LOOP PLUG» (23105142)***

2.12 - LATCH OPENING OR LATCH CLOSING BUTTON

- Connect one or two buttons to use as LATCH command on clamps 9 and 6 or on clamps 10 and 6

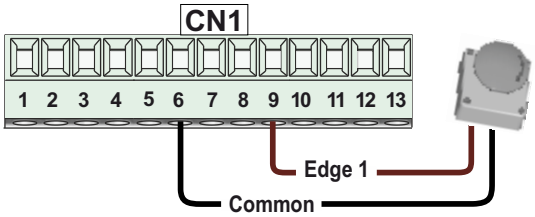
⚠ ***THE SAFETY EDGE FUNCTION WILL BE DISABLED***

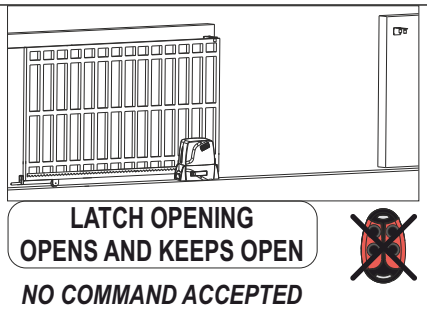
- Management: set the desired operation mode on the menu 118
- To disable the Latch function, press again the activation command

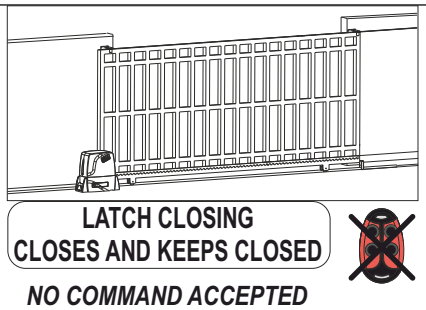


(EXAMPLE)

⇨ *The LATCH command can also be sent from SEACLOUD or enabled on the second channel of the transmitter **(paragraph 19.4)**, thus keeping the SAFETY EDGE input free;*

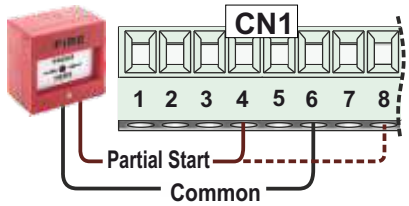




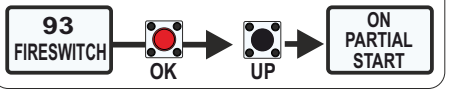


2.13 - «FIRE SWITCH» FUNCTION

- The emergency fire-switch can be connected on the **«PARTIAL START»** or the **«PHOTOCELL 2»** inputs
- The fire-switch operates in «DEAD MAN» mode and it disables all the safety devices when in use; The button only allows a complete opening *(even when connected to the **«PARTIAL START»**)*
- To close, first give a **«STOP»** command followed by a **«START»** command
- The «FIRE SWITCH» function can be enabled by the menu 93

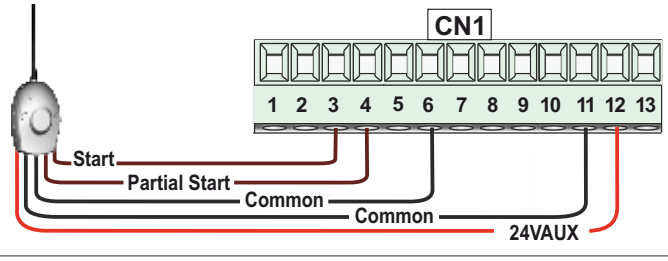


(EXAMPLE)



2.14 - EXTERNAL RECEIVER

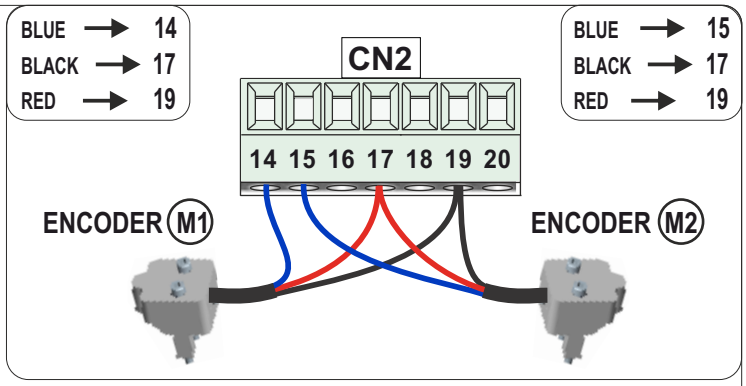
By wiring the 24V cable on the 17 (24V+) output on CN2 *(rather than the clamp 12 - 24VAUX on CN1)* **a continuous power supply is guaranteed to the receiver,** leaving the 24VAUX output free for other accessories wirings.



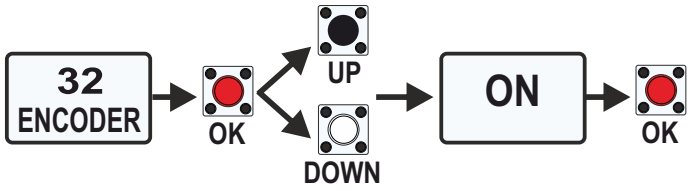
3 - CONNECTIONS ON CN2

3.1 - STANDARD ENCODER

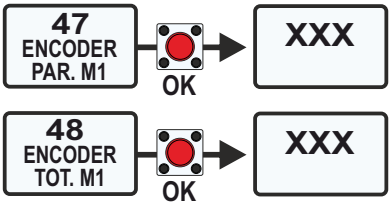
- Connect one or two **ENCODERS** on CN2; respect the cable colors:



- To enable **ENCODER** - menu 32:



- The menu 47 or 49 show the impulses read during the operation
- The menu 48 or 50 show the total pulses stored during the learning



⇨ ***The menus 47-48-49-50 are visible only when the menu 32 is «ON»***

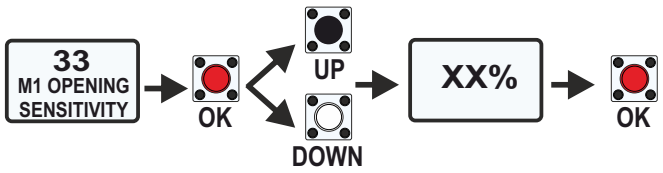
⇨ *The Example refers only to MOTOR 1 (M1); For MOTOR 2 (M2) parameters go to the menus 49 and 50*

3.2 - ENCODER PARAMETERS ADJUSTMENT

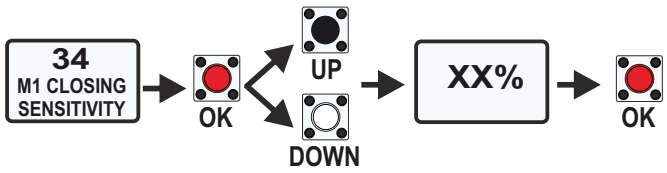
- Settable values: minimum 10% (rapid intervention) - maximum 99% (slow intervention)

⇨ ***If set to OFF (intervention excluded), the encoder only detects position***

- Opening intervention time adjustment

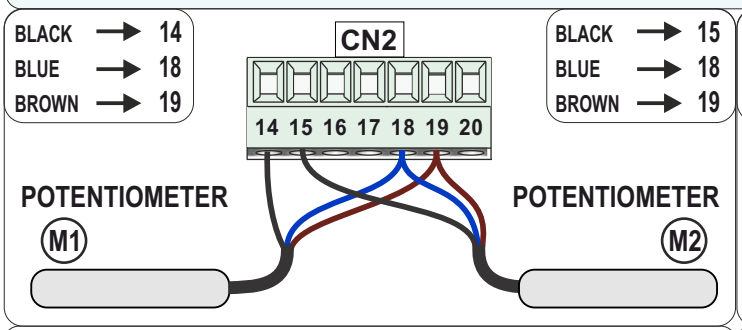


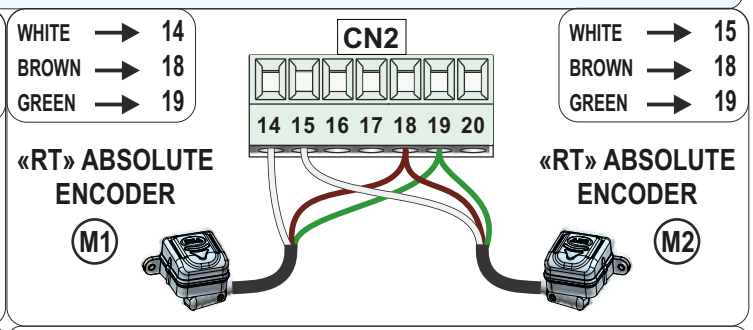
- Closing intervention time adjustment



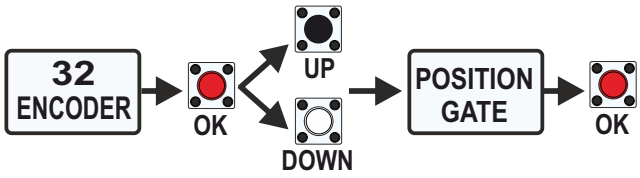
⇨ *The Example refers only to MOTOR 1 (M1); For MOTOR 2 (M2) parameters go to the menus 35 and 36*

3.3 - «POSITION GATE» LINEAR POTENTIOMETER or «RT» ABSOLUTE ENCODER

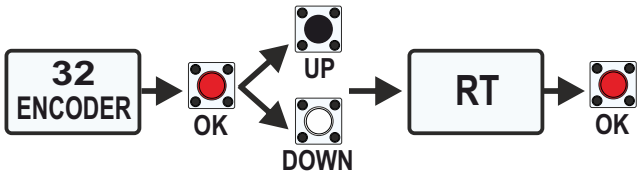




- To enable the linear potentiometer:



- To enable the **«RT»** absolute encoder:

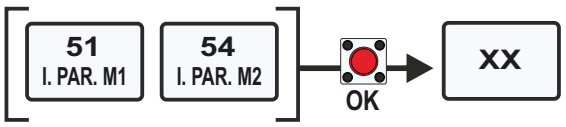


⇨ ***MANDATORY! use of a 3-pole shielded cable! - wire the shield on the common clamp (19)***

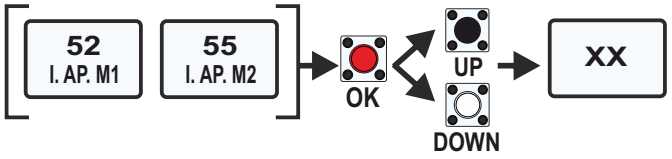
3.4 - LINEAR POTENTIOMETER or «RT» ABSOLUTE ENCODER CONFIGURATION

⇨ *The menus 51-52-53-54-55-56 are visible only when the menu 32 is set to «POSITION GATE» or ENCODER «RT»*

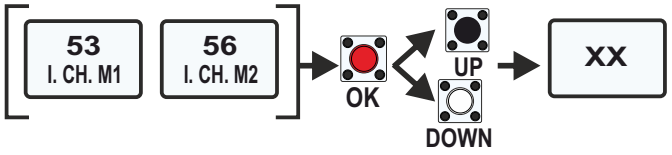
- **Motor 1 (menu 51) or motor 2 (menu 54) partial impulses;** display of the operator current position



- **Motor 1 (menu 52) or motor 2 (menu 55) impulses in opening**; display of the impulses when the leaf is completely open; possibility to increase or decrease the total pulses



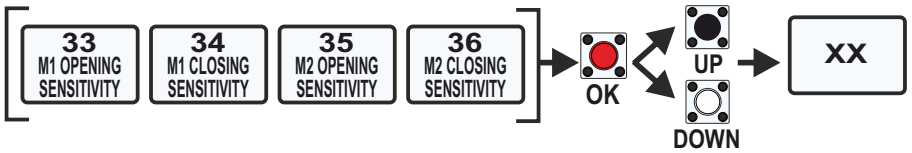
- **Motor 1 (menu 53) or motor 2 (menu 56) impulses in closing**; display of the impulses when the leaf is completely closed; possibility to increase or decrease the total pulses



3.5 - POTENTIOMETER or «RT» ENCODER PARAMETERS ADJUSTMENT

- Sensitivity parameters in opening and closing (Motor 1 and Motor 2) for potentiometer intervention time adjustment

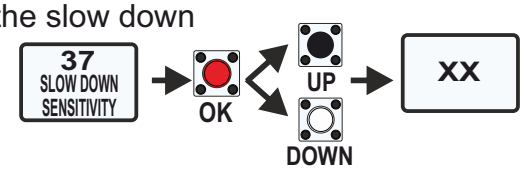
⇨ *For a quick reverse on obstacle decrease the sensitivity*



Set to OFF (intervention excluded): merely detection of the impulses (does not reverse on obstacle)

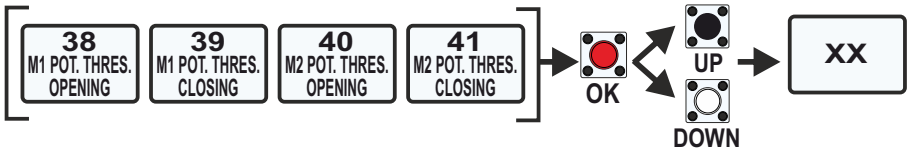
- Slowdown sensitivity menu to adjust the inversion time during the slow down

⇨ *For a quick reverse on obstacle decrease the sensitivity*



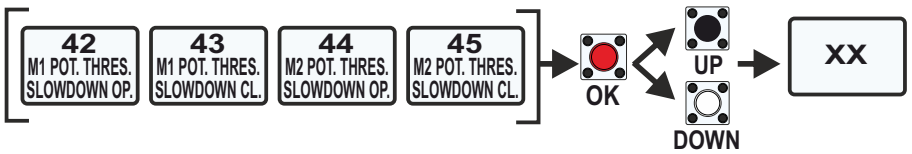
- To adjust the Encoder intervention threshold values in opening and closing (Motor 1 and Motor 2)

⇨ *The lower the threshold, the greater the force required for the inversion*



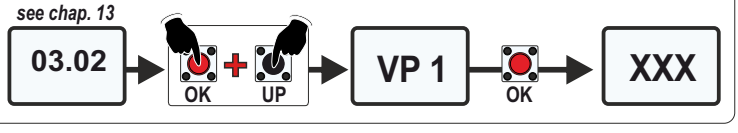
- To adjust the threshold values for the Encoder intervention during the slow down, in opening and closing (Motor 1 and Motor 2)

⇨ *The lower the threshold, the greater the force required for the inversion*

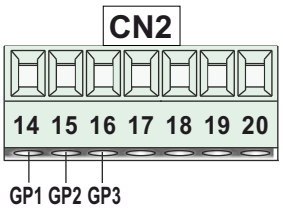


3.6 - ACCESS TO THE HIDDEN «DEBUG» MENU

- Display of the instantaneous speed values detected **«VP1»** and **«VP2»** (motor 1 and motor 2) to adjust the thresholds above described *(thresholds must always be lower than the values shown in VP1 or VP2)*



3.7 - «GP1» «GP2» «GP3» PROGRAMMABLE INPUTS



GP1 (14) = PROGRAMMABLE INPUT 1
GP2 (15) = PROGRAMMABLE INPUT 2
GP3 (16) = PROGRAMMABLE INPUT 3

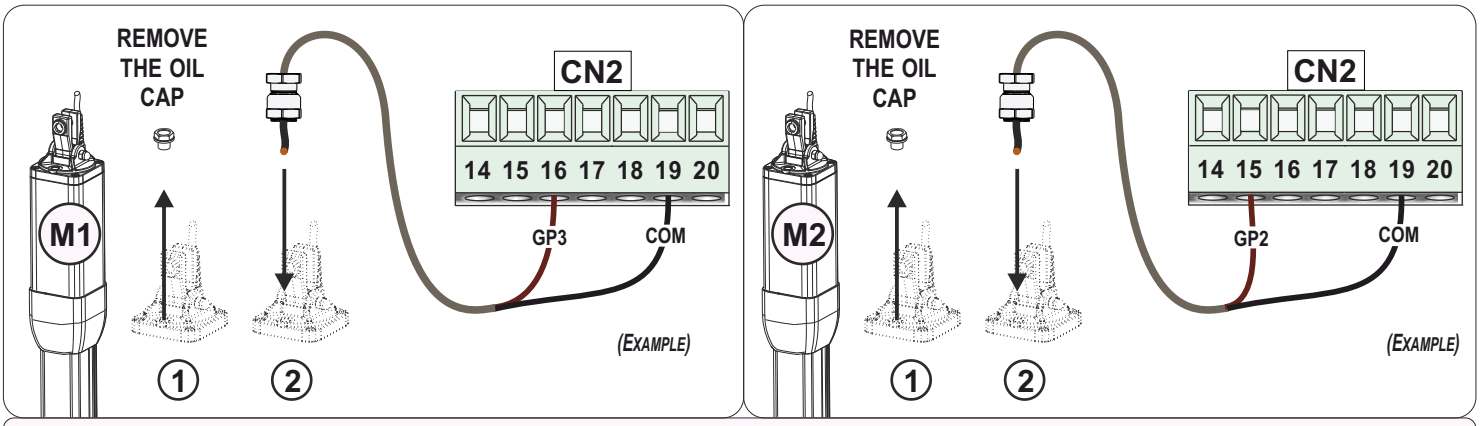
- «GP1» «GP2» and «GP3» are programmable inputs for the connection of additional accessories *(i.e. buttons or temperature probe)* which require specific settings given by the respective menus: 130 - 131 - 139

130 GP1
131 GP2
139 GP3

3.8 - TEMPERATURE PROBE

- Connect the temperature probe on **«GP3»**; in case of two probes, also use the contacts **«GP1»** or **«GP2»**
- The probe detects the oil temperature; If it falls below the set threshold, the probe activates the heating, returning the values to the established range

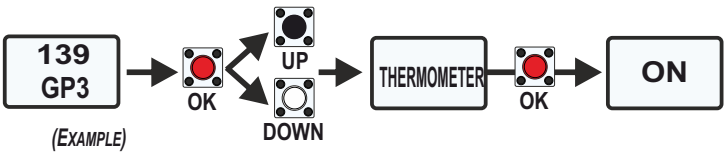
*IF THE POTENTIOMETER IS WIRED TO THE **«GP1»** AND/OR **«GP2»** INPUTS, THE TEMPERATURE PROBE CANNOT BE WIRED AND THE RESPECTIVE MANAGEMENT MENUS (130 AND 131) WILL NOT BE VISIBLE!*



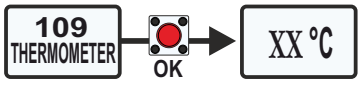
Screw the TEMPERATURE PROBE (or PROBES, in case of TWO operators) to replace the oil cap

3.9 - ACTIVATION AND SETTING OF THE TEMPERATURE PROBE

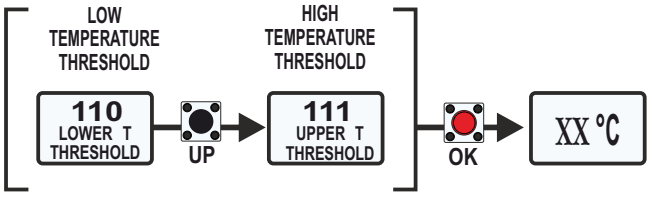
- To enable the probes: menu 139, 130 and 131



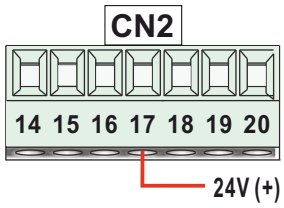
- To display the DETECTED TEMPERATURE access the menu 109 *(in case of two probes, both temperatures detected by each probe will be displayed)*



- Setting of the HIGH and LOW TEMPERATURE THRESHOLDS, to enable or disable the oil heating



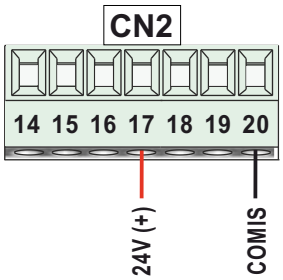
3.10 - 24VDC (+) OUTPUT



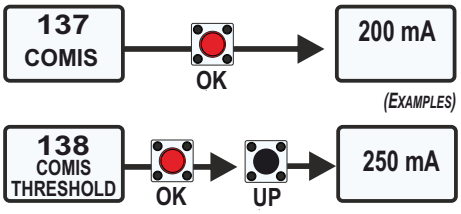
- **24VDC (+)** output (17) on CN2 to connect those 24V accessories which must always be active *(example: external receiver)*

⇨ By connecting the common cable of the accessories on the input 20 **«COMIS»**, the consumption can be measured. *See next paragraph*

3.11 - «COMIS» INPUT



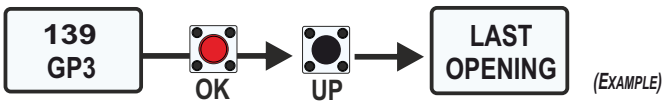
- Input **20-COMIS** on CN2 to connect the common cable of the 24V accessories ***(up to a max. load of 500 mA)***
- The **«COMIS»** input allows the absorption measurement; the detected value will be shown on menu 137.
- The **«COMIS»** input also allows the setting of a max. absorption threshold:

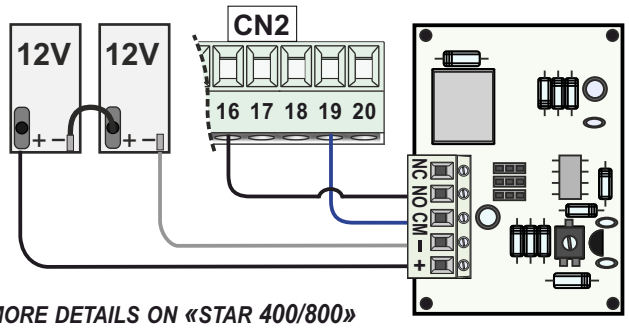


The excessive absorption or short circuits are reported on the display: ***«COMIS FAULT» - see alarm tables - chapter 20***

3.12 - EMERGENCY BATTERY VIA «LB» CIRCUIT

- The **«STAR 400/800»** emergency battery pack can be connected through the **«LB»** circuit
- The **«LB»** circuit controls the charge of the batteries and allows one last operation before the batteries are completely discharged
- The last operation can be in opening or in closing; on menu 139 you can set the desired option





MORE DETAILS ON «STAR 400/800» AND «LB» INSTRUCTIONS

In case of power failure, the last emergency operation is performed as soon as the battery charge drops below 22V

4 - CONNECTIONS ON CN3

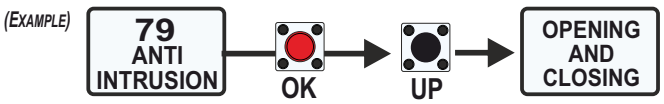
4.1 - LIMIT SWITCH

- Connect the opening and closing limit switch as shown

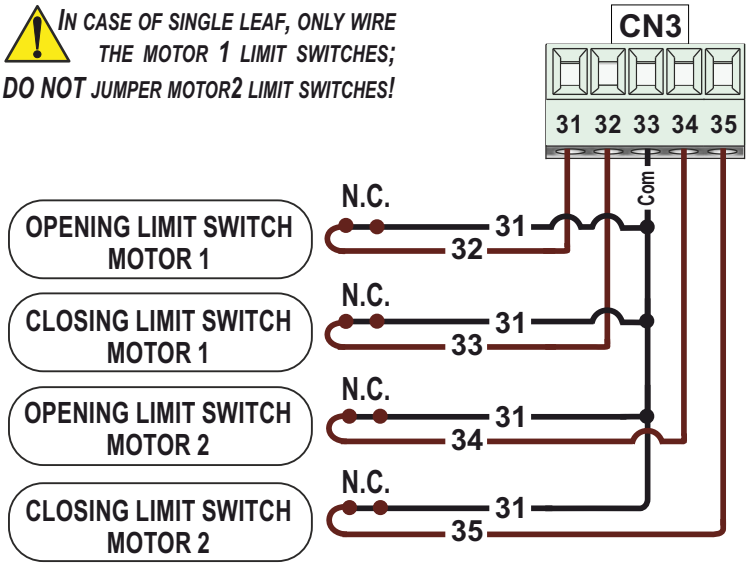
⇨ The type of limit switch is automatically detected during the working times learning

ANTI-INTRUSION FUNCTION:

This function is linked to the limit switch activation; If enabled via the menu 79, this function restores the original position of the gate after a manual forcing or a blast of wind



IN CASE OF SINGLE LEAF, ONLY WIRE THE MOTOR 1 LIMIT SWITCHES; DO NOT JUMPER MOTOR2 LIMIT SWITCHES!



5 - CONNECTIONS ON CN4 and CN5

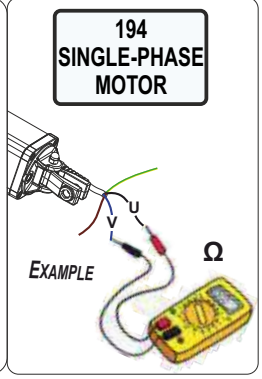
CAUTION! DO NOT CONNECT MOTOR CAPACITORS!

5.1 - DIFFERENCE BETWEEN SINGLE-PHASE and THREE-PHASE OPERATORS

- The GATE 2 DG INVERTER manages both SINGLE-PHASE and THREE-PHASE operators.
- It is possible to enable the SINGLE-PHASE operators management by the menu 194
- To check whether it is a SINGLE-PHASE or THREE-PHASE motor, you can **measure the resistance between the phases *(ohm)* with a MULTIMETER:**

SINGLE-PHASE OPERATOR → **U** and **V** = **W** and **V** while **W** and **U** = must be double **U** and **V**

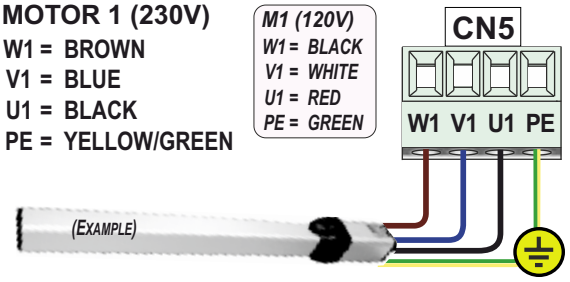
THREE-PHASE OPERATOR → **U** and **V** = **W** and **V** = **W** and **U**



5.2 - MOTORS CONNECTION ON THE CONTROL UNIT

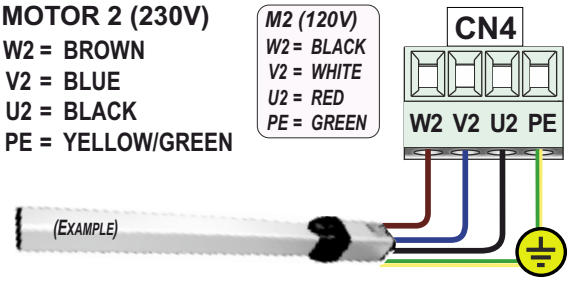
MOTOR 1 (230V)
W1 = BROWN
V1 = BLUE
U1 = BLACK
PE = YELLOW/GREEN

M1 (120V)
W1 = BLACK
V1 = WHITE
U1 = RED
PE = GREEN



MOTOR 2 (230V)
W2 = BROWN
V2 = BLUE
U2 = BLACK
PE = YELLOW/GREEN

M2 (120V)
W2 = BLACK
V2 = WHITE
U2 = RED
PE = GREEN

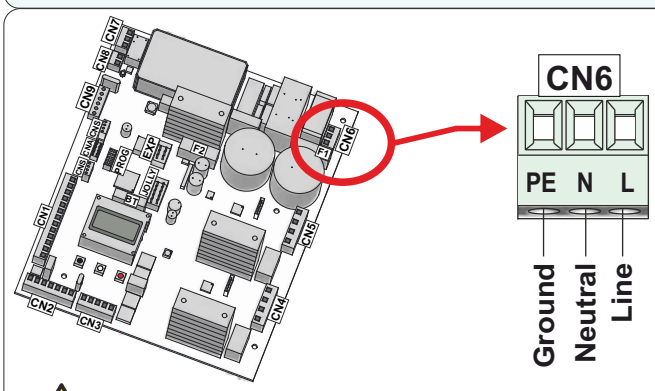


In case of **SINGLE-PHASE** operator, the **«NEUTRAL» motor cable must be wired to the clamp «V1»** *(and «V2» in case of a second operator)*

***CAUTION!!!** Remember that it is **MANDATORY TO REMOVE THE CAPACITORS** of the **MOTOR**!*

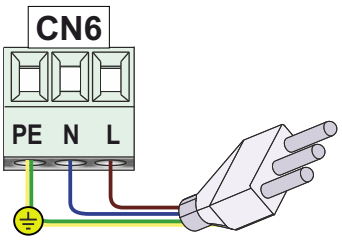
6 - CONNECTION ON CN6

6.1 - CONTROL UNIT POWER SUPPLY

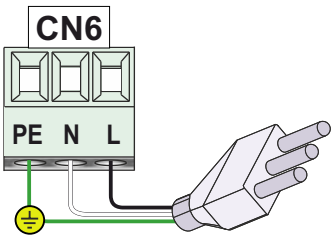


FOR THE CONNECTION TO THE POWER GRID RESPECT THE LAWS IN FORCE!

(230V~ ± 5%)
L = BROWN
N = BLUE
PE = YELLOW/GREEN



(120V~ ± 5%)
L = BLACK
N = WHITE
PE = GREEN



- Fuse 3.15 AT delayed on 230V~ and 6.3 AT delayed on 115V~ power supply
- Use a 10A differential switch to protect the power supply system
- In case of unstable power supply, the use of an external UPS of min. 800VA is recommended

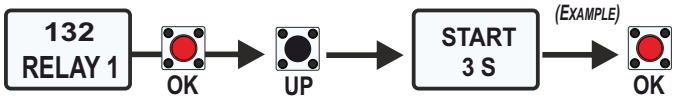
The control unit must be powered only after all the wirings have been completed!

7 - CONNECTIONS ON CN7

7.1 - DRY CONTACT RELAY MANAGEMENT

- To wire additional accessories *(lights, traffic lights etc)*; management through menus **132**

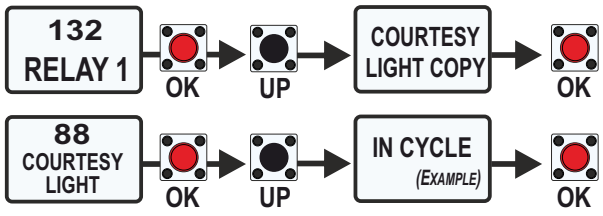
⇨ *Options include the **«COPY»** of other accessory management menus to allow the connection of more units via relay*

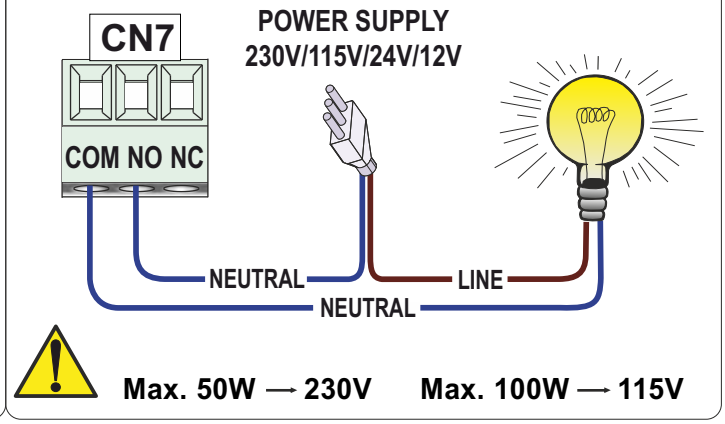


⚠ *The 24V power supply for the accessories connected via Relay must be provided by an external power supply having suitable power*

7.2 - COURTESY LIGHT VIA RELAY

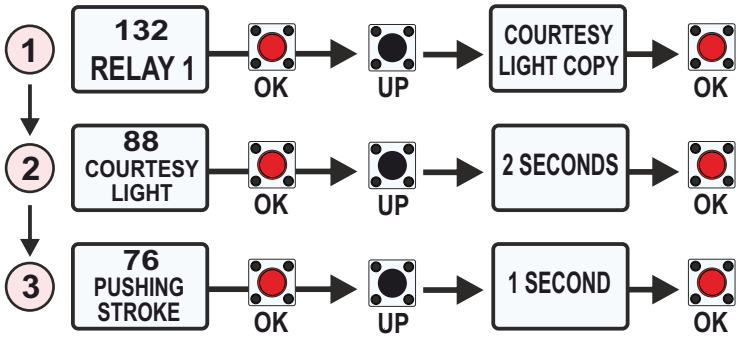
- A courtesy light can be wired to the CN7 relay; Set the menu 132 to ***«COURTESY LIGHT COPY»*** so that the relay replicates the management settings given to the menu 88 *(such as the courtesy light timing - from 0 to 240 seconds)*

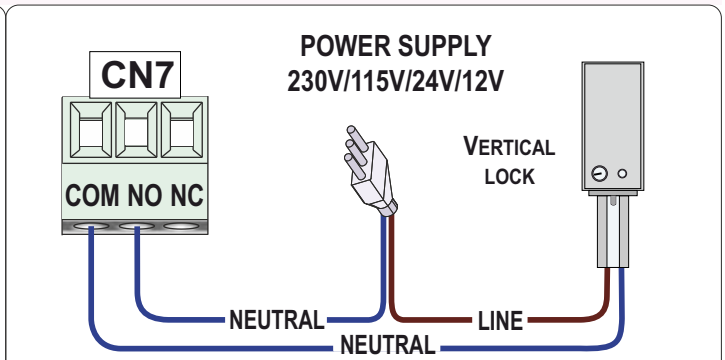




7.3 - VERTICAL LOCK VIA RELAY

⚠ ***SET THE MENUS AS FOLLOWS BEFORE CONNECTING THE LOCK!***

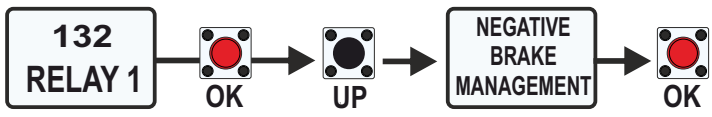


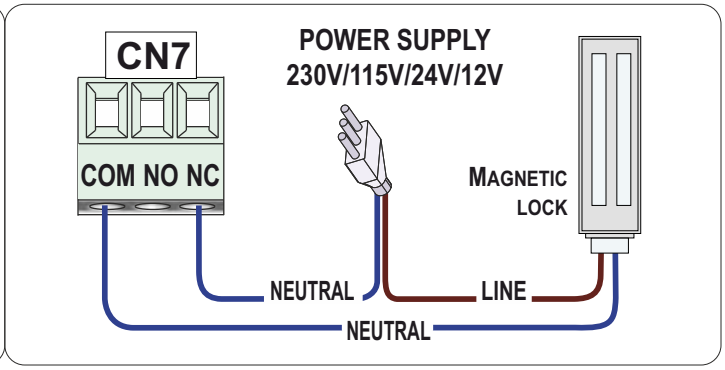


7.4 - MAGNETIC LOCK VIA RELAY

- A magnetic lock can be wired to CN7 terminal
- Management via menu 132

⚠ ***SET THE MENU AS FOLLOWS BEFORE CONNECTING THE LOCK!***

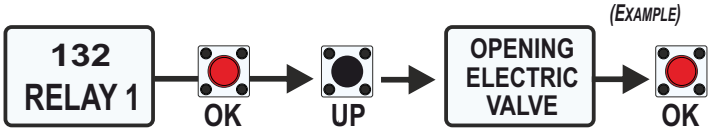


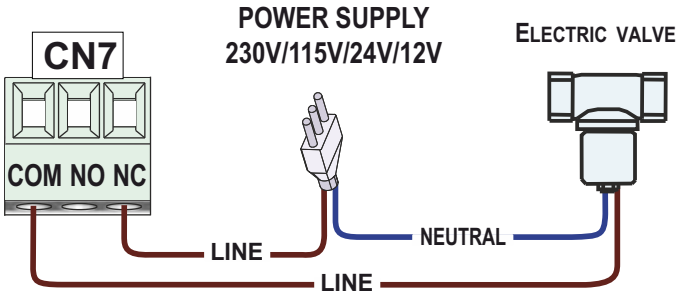


7.5 - ELECTRIC VALVE VIA RELAY

- An electric valves can be wired via relay. The electric valve can work in OPENING or CLOSING
- Management of the electric valve operation *(in opening or closing)* via menus 132

(EXAMPLE)



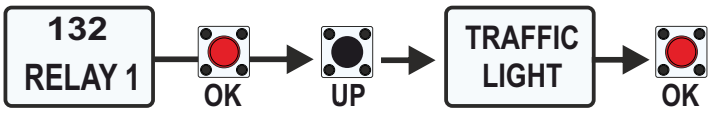


7.6 - TRAFFIC LIGHT VIA RELAY

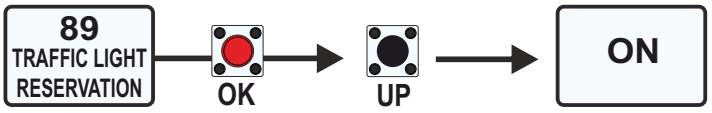
- A traffic light (red/green) can be wired via Relay

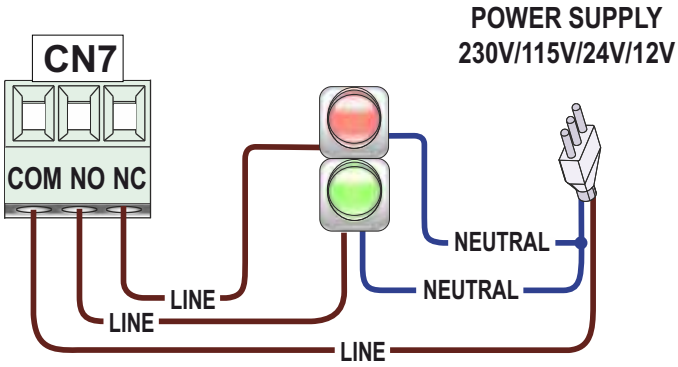
GREEN LIGHT «ON» WHEN THE GATE IS OPEN

RED LIGHT «ON» WHEN THE GATE IS CLOSED OR IS MOVING



- To enable the priority function **IN ENTRY** *(via **START** command)* or **IN EXIT** *(via **PARTIAL START** command)*, set the menu 89 to «ON»

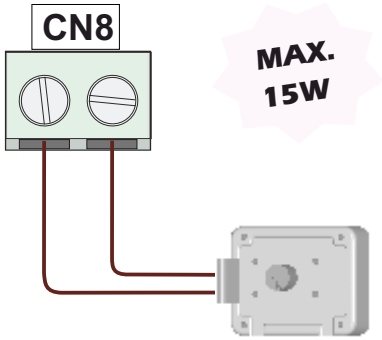




The 24V power supply for the accessories wired via Relay must be provided by an external power supply having suitable power

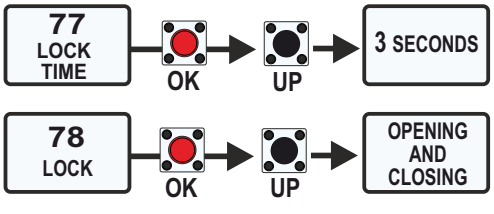
8 - CONNECTIONS ON CN8

8.1 - 12V ELECTRIC LOCK



- 12V and Max 15W electric lock wirings on the terminal CN8
- The lock release time can be adjusted by the menu 77
- The lock activation mode can be adjusted by the menu 78

*The **«PUSHING STROKE»** function simplifies the lock release by giving a little pushing stroke before starting the movement*

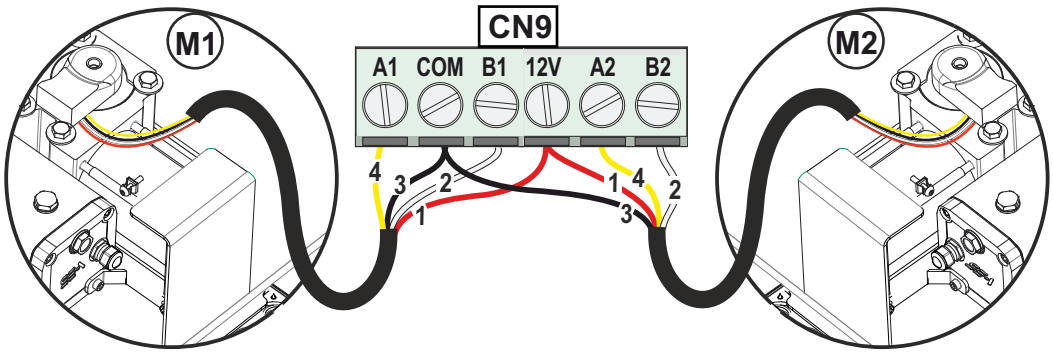


(EXAMPLES OF SETTINGS)

9 - CONNECTION ON CN9

9.1 - RS 485 ENCODER

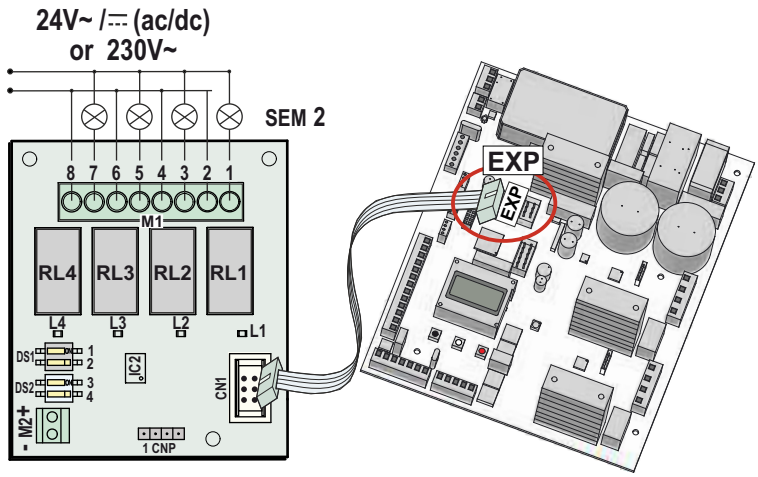
● One or two operators equipped with **RS 485 ENCODER** can be wired on the **CN9 SERIAL CONNECTOR**;
The **RS 485 ENCODER** can be enabled on special menu 32 *(paragraph 16.2)*.
Follow the special procedure for the working times learning *(paragraph 16.9)*



1 = RED
2 = WHITE
3 = BLACK
4 = YELLOW

10 - CONNECTION ON EXP

10.1 - «SEM 2» MANAGEMENT UNIT



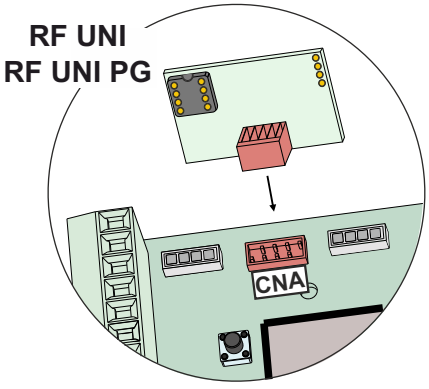
● The SEM 2 accessories management unit allows you to connect and manage the following additional accessories:

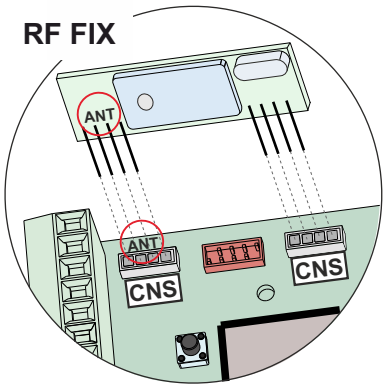
- TRAFFIC LIGHT
- COURTESY LIGHT
- VERTICAL ELECTRIC LOCK
- POSITIVE OR NEGATIVE ELECTRIC BRAKE

⇨ **SEM2 READS THE LIMIT SWITCHES STATUS**
(to connect those accessories whose activation depends on the limit switches status)

MORE DETAILS ON SEM 2 INSTRUCTIONS

11 - RECEIVERS CONNECTION ON CNA and CNS





RECEIVER MODEL	MAX USERS NUMBER
RF UNI	**16 USERS** - Without additional memory **800 USERS** - With **MEMO** addistional memory
RF UNI PG *old model* *non-extractable memory*	**100 USERS** - If programmed in FIX CODE **800 USERS** - If programmed in ROLLING CODE PLUS
RF UNI PG *new model* *extractable memory*	**496 USERS** - If programmed in FIX CODE **800 USERS** - If programmed in ROLLING CODE PLUS
RF FIX	**16 USERS** - Without additional memory

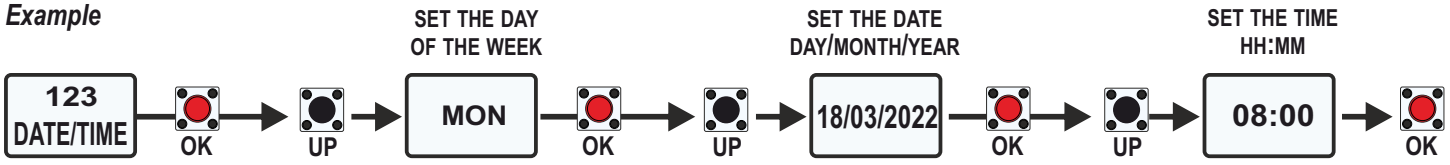
Respect the plug-in direction of the different receiver circuits;
The «ANT» contacts printed on the receiver and on the control unit must correspond!

12 - ADDITIONAL FUNCTIONS

12.1 - CURRENT DATE/TIME SETTING

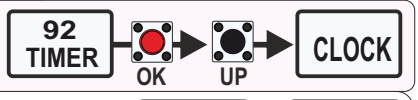
- To use the clock function, you must first set the current date and time (*function available only if the emergency batteries are connected and they are at full charge*)

Example

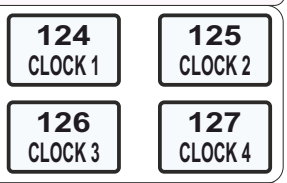


12.2 - CLOCK FUNCTION FOR PLANNED OPENING/CLOSING

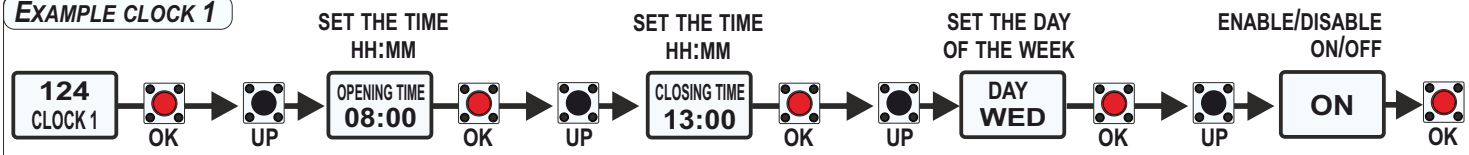
TO USE THE CLOCK FUNCTION, YOU MUST FIRST SET MENU 92 TO «CLOCK»



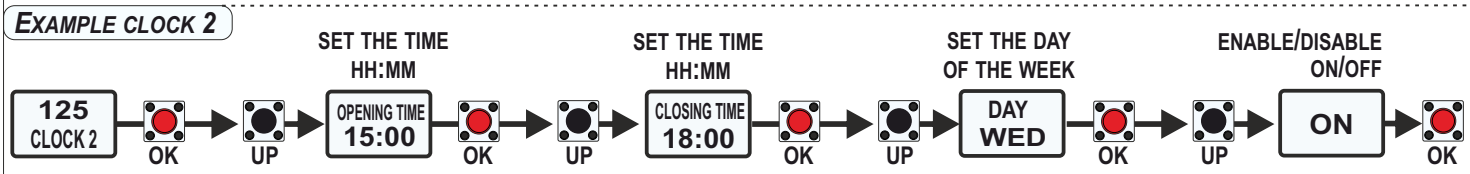
- Setting of a day and a time slot to manage the planned openings and closings ***(weekly setting)***
- Up to 4 time slots available *(one for each clock)* for each day you want to plan!

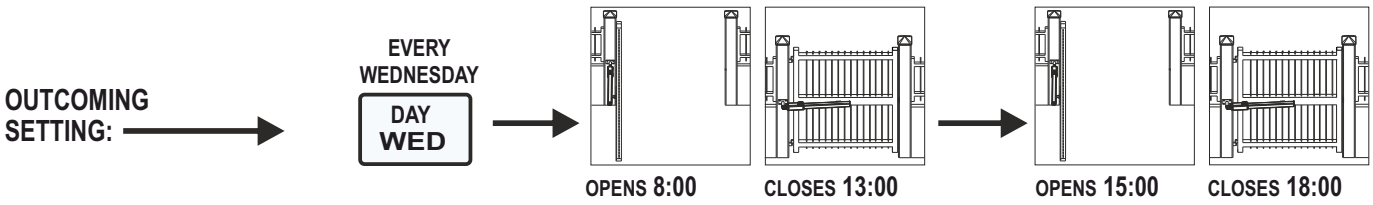


EXAMPLE CLOCK 1

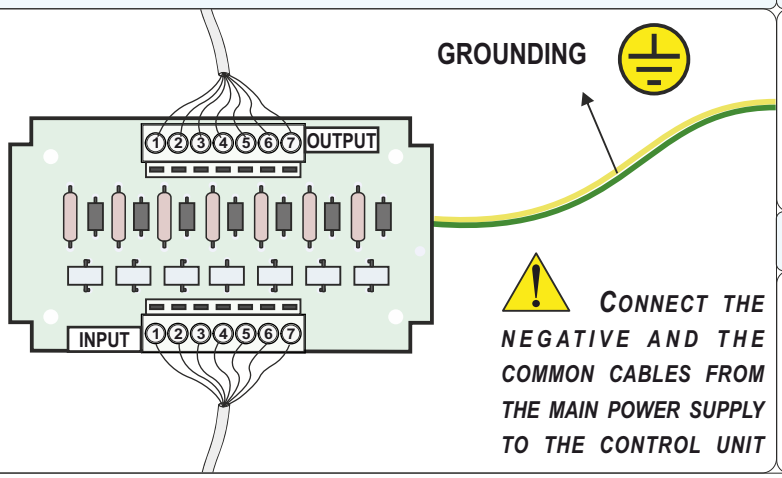


EXAMPLE CLOCK 2





12.3 - «I/O SURGE PROTECTOR» CIRCUIT



OUTPUT CONNECTION ON CONTROL UNIT	
1	24V DC ACCESSORIES
2	CONTACT 1 (Es. PHOTOCELL)
3	CONTACT 2 (Es. SAFETY EDGE)
4	CONTACT 3 (Es. START)
5	CONTACT 4
6	CONTACT 5
7	CONTACT 6

INPUT ACCESSORIES CONNECTION	
1	24V DC ACCESSORIES
2	CONTACT 1 (Es. PHOTOCELL)
3	CONTACT 2 (Es. SAFETY EDGE)
4	CONTACT 3 (Es. START)
5	CONTACT 4
6	CONTACT 5
7	CONTACT 6

- To protect up to 6 inputs and the 24V power supply from temporary overloads *(ie. lightning strikes)*
- Connect the 24VDC cable and the accessories cables on **INPUT**; connect the corresponding cables from **OUTPUT** to the control unit

AMPEROMETRIC FUNCTION AVAILABLE ONLY FOR ELECTROMECHANIC SINGLE-PHASE OPERATORS

12.4 - ABSORPTION and AMPEROMETRIC THRESHOLDS

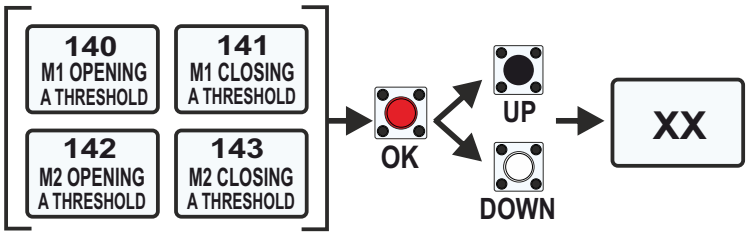
- Absorption control during the movement and during the amperometric intervention

57 M1 WORKING CURRENT

58 M2 WORKING CURRENT

- Amperometric intervention threshold adjustment in opening and closing

Beyond the established threshold value, the operator intervenes on any obstacle detected

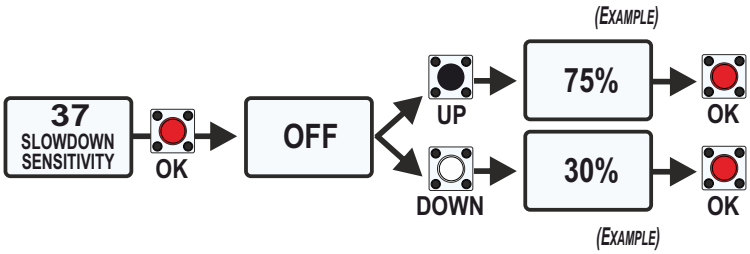


Set threshold values at least 10% higher than the read absorption values; Carry out impact tests to comply with safety regulations

12.5 - AMPEROMETRIC MANAGEMENT

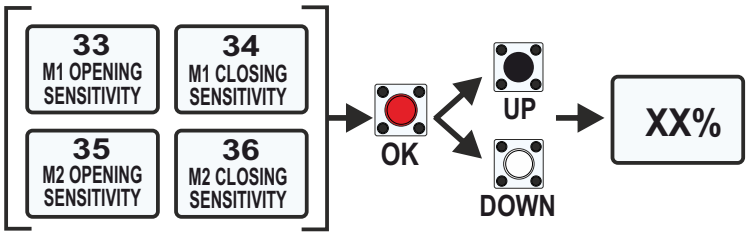
- Obstacle detection system with inversion both in OPENING and CLOSING
- Set the menu 37 on a value different from OFF *(which is set by default)* to enable the function

the greater the value, the greater the amperometric intervention delay



- Sensitivity parameters in opening and closing for the amperometric intervention time adjustment

for a quick reverse on obstacle decrease the sensitivity



If set to OFF (intervention excluded) the amperometric management will only work according to the menu 37 settings

12.6 - AMPEROMETRIC INTERVENTION METHOD

- Choice between total or partial reclosing after the amperometric intervention (menu 46)

46 CLOSING INVERSION

*When the menu 46 is set to **«TOTAL»** and the menu 7 is different from OFF, the **«AUTOMATIC RECLOSING» function** automatically enables: in case of obstacle the operator tries to reclose up to 5 times, then a new START command will be required to restore the motion.*

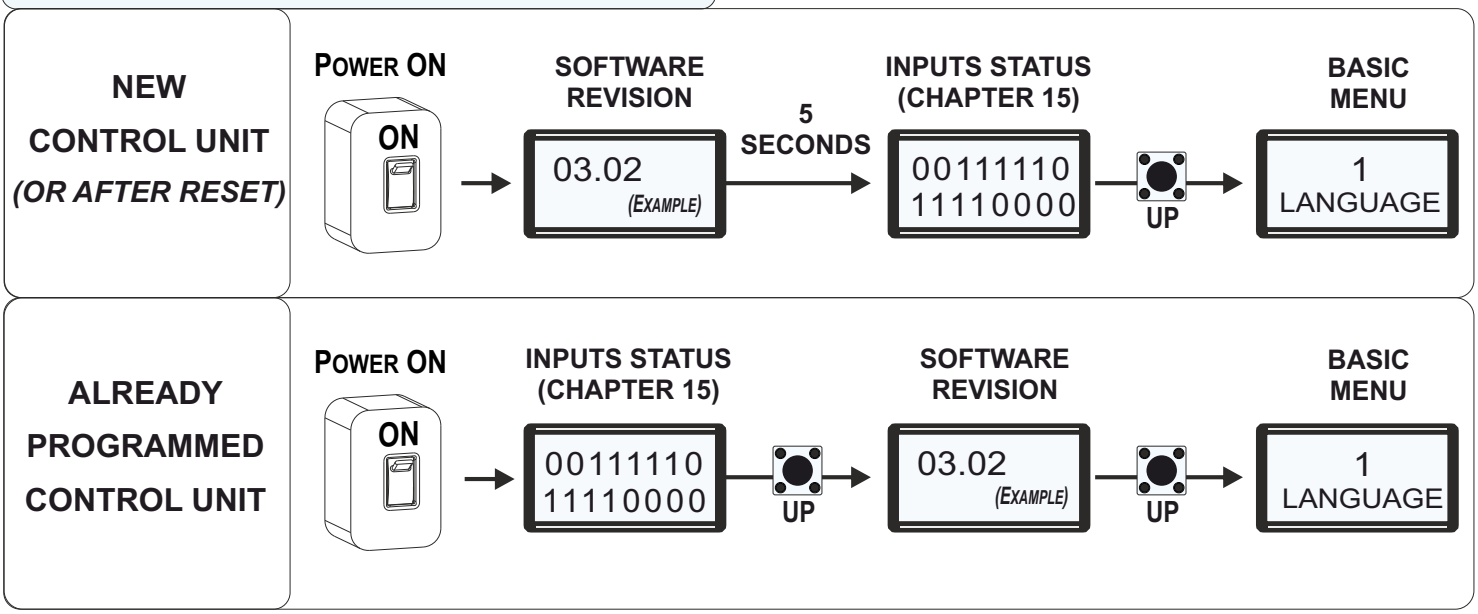
7 TIMER TO CLOSE

When the movement is restored after the partial inversion, the cycle will be performed at pre-set speed to detect the mechanical stops

13 - DISPLAY and PROGRAMMING

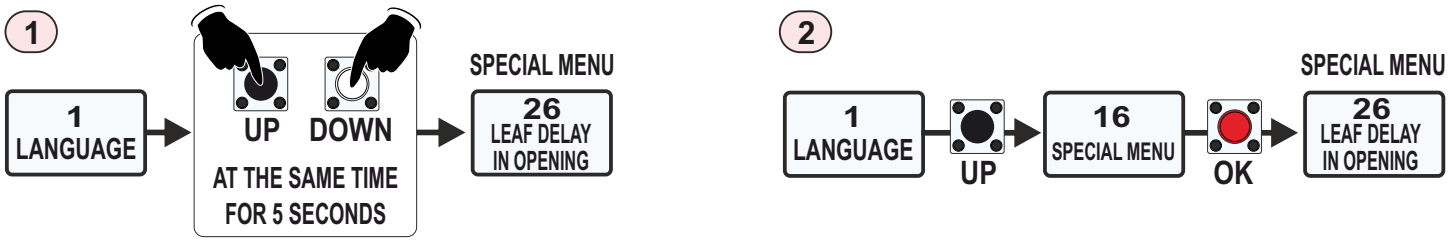
CONNECT ALL THE ACCESSORIES WHEN THE CONTROL UNIT IS SWITCHED OFF!
AFTER ALL CONNECTIONS HAVE BEEN MADE, POWER ON THE UNIT FOR SETTINGS

13.1 - POWER ON THE CONTROL UNIT



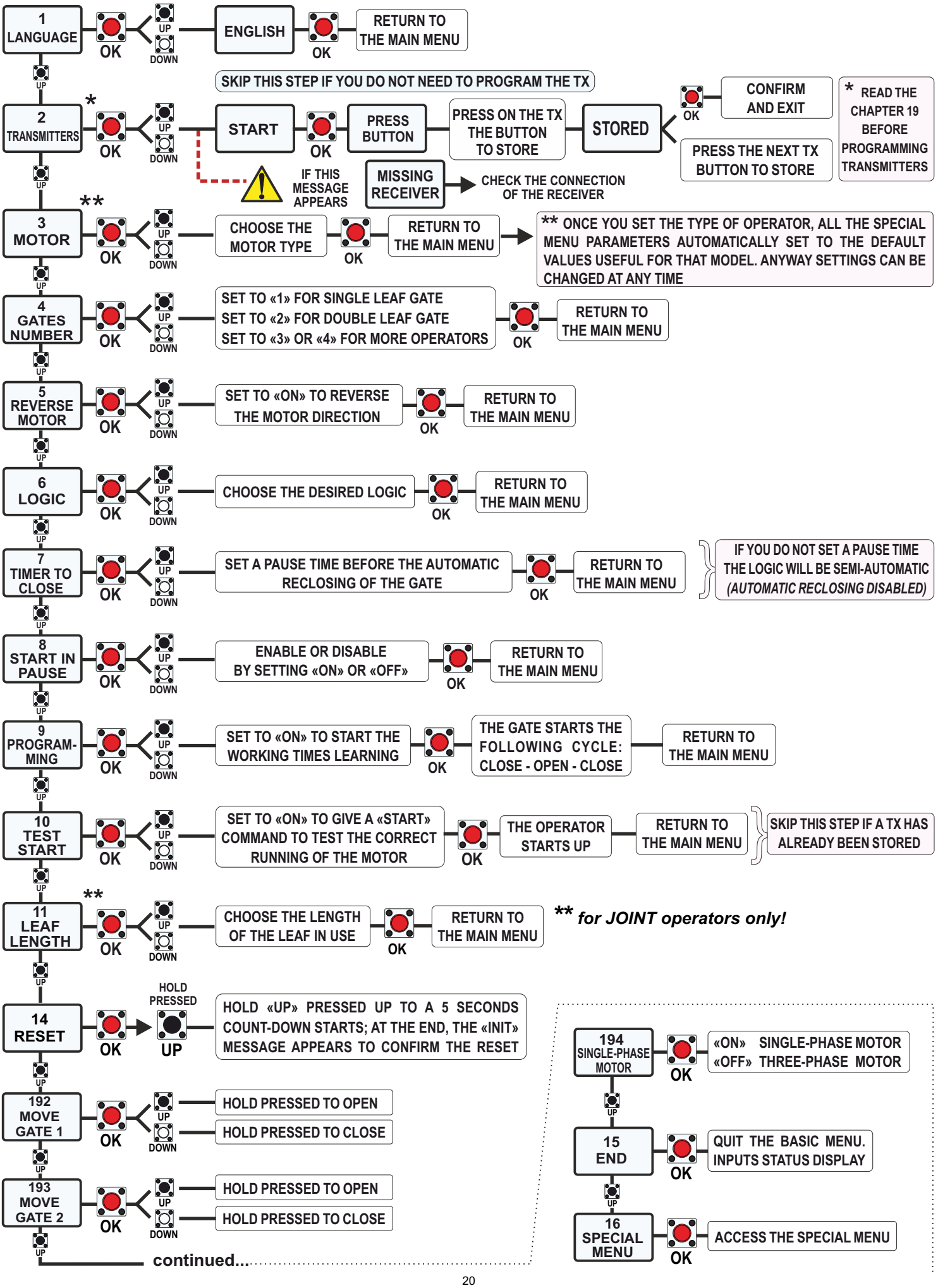
13.2 - BASIC MENU and SPECIAL MENU

- The control unit has a **BASIC MENU** ***(chapter 14)*** which allows the basic settings in order to start using the product quickly
- The **SPECIAL MENU** allows to change default settings, or to enable/disable the accessories or the control unit functions
- To access the **SPECIAL MENU** use one of the two following methods



*IN THE **BASIC MENU** IT IS POSSIBLE TO **SELECT THE OPERATOR TYPE** IN USE AND OTHER NECESSARY OPTIONS. ONCE THE TYPE HAS BEEN CHOSEN, ALL THE SPECIAL MENUS ARE AUTOMATICALLY SET TO THE DEFAULT VALUES USEFUL FOR THAT OPERATOR, SO FURTHER SETTINGS MAY NOT BE NECESSARY*

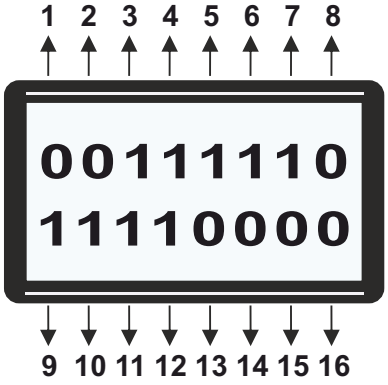
14 - BASIC MENU



15 - INPUTS STATUS MANAGEMENT

- Every input corresponds to a fixed position on the display, according to the diagram below
- Every input can be: **NORMALLY OPEN (0) - NORMALLY CLOSED (1)**

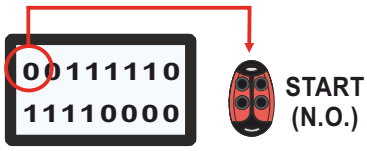
0 **N.O. - NORMALLY OPEN** **1** **N.C. - NORMALLY CLOSED**

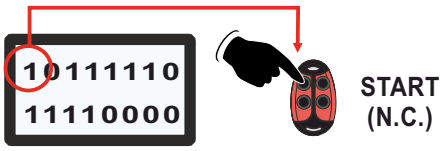


1	START (*)	9	MOTOR 1 OPENING LIMIT SWITCH
2	PARTIAL START	10	MOTOR 1 CLOSING LIMIT SWITCH
3	STOP	11	MOTOR 2 OPENING LIMIT SWITCH
4	PHOTOCELL 1	12	MOTOR 2 CLOSING LIMIT SWITCH
5	PHOTOCELL 2	13	NOT IN USE
6	SAFETY EDGE 1	14	GP1
7	SAFETY EDGE 2	15	GP2
8	NOT IN USE	16	GP3

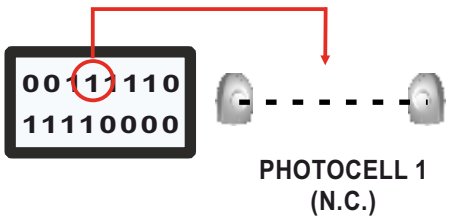
* *If a TIMER is connected to the START input, it keeps the contact normally closed; in this case the display will show «T» on position n° 1*

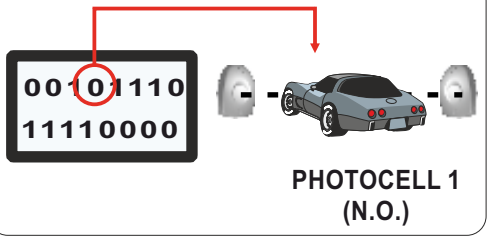
- *Example: if you give a **«START»** command, its input switches from normally open to normally closed*



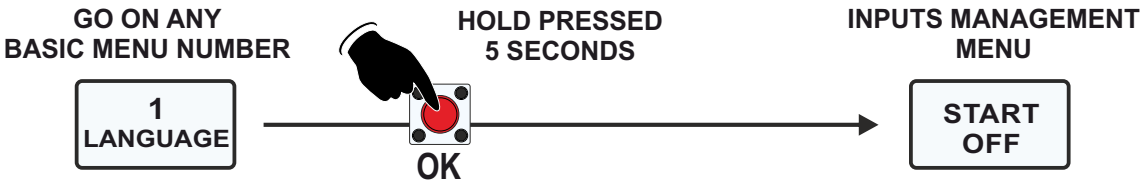


- *Example: if you pass by the photocell, its input switches from normally closed to normally open*





15.1 - ACCESS TO THE INPUTS MANAGEMENT MENU

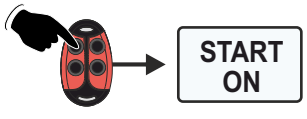


- The «inputs management menu» shows the inputs in their current status: ON or OFF

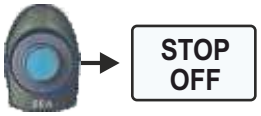
(EXAMPLE) **START OFF** (EXAMPLE) **STOP ON**

- Inside the **«INPUTS MANAGEMENT MENU»** it is possible to enable or disable the inputs; ***paragraph 15.2***

- **START** and **PARTIAL START** are **NORMALLY OPEN (N.O.)** contacts
If **«ON»** is displayed when the contact is activated, then the input works
If **«OFF»** is displayed when the contact is activated, then check the wirings

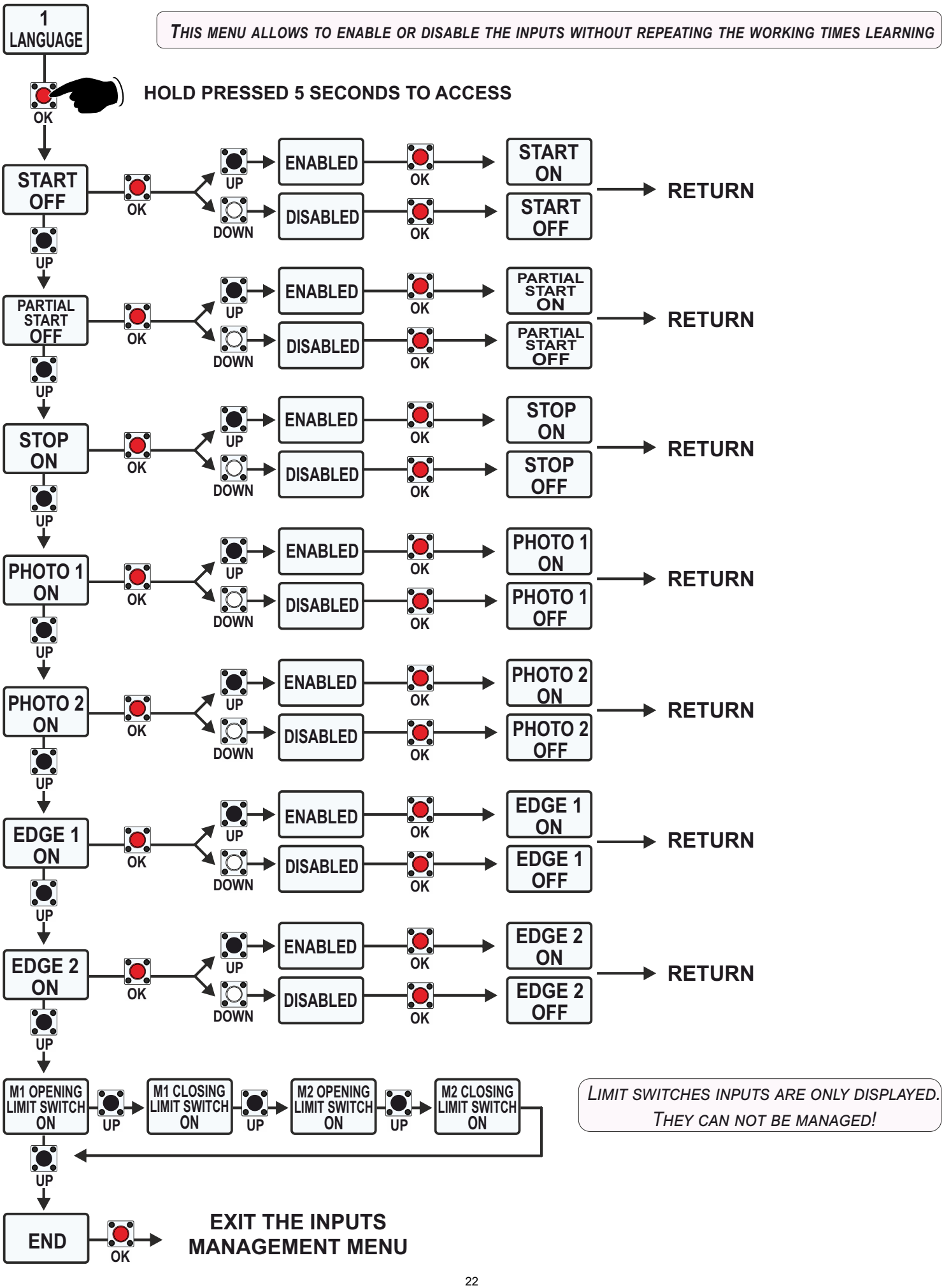


- **ALL OTHER CONTACTS** are **NORMALLY CLOSED (N.C.)** contacts
If **«OFF»** is displayed when an accessory is wired, then the input works
If **«ON»** is displayed when an accessory is wired, then check the wirings



⇨ *THE LIMIT SWITCHES INPUTS CANNOT BE MANAGED, BUT ONLY DISPLAYED IN THEIR CURRENT STATE (ON OR OFF)*

15.2 - INPUTS MANAGEMENT MENU



16 - WORKING TIMES LEARNING

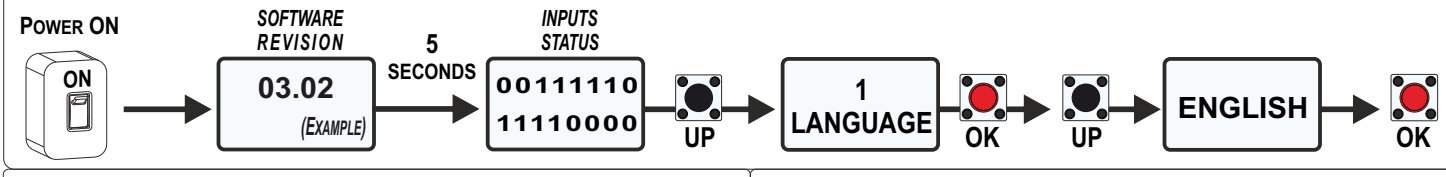
DANGER!

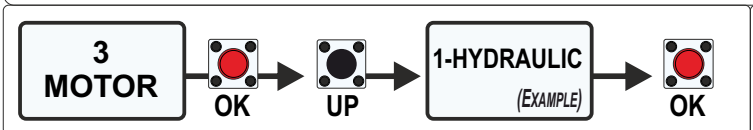
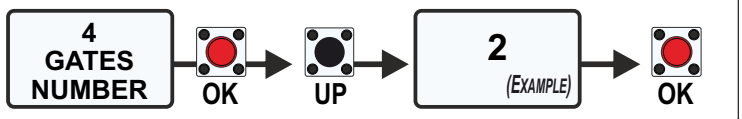
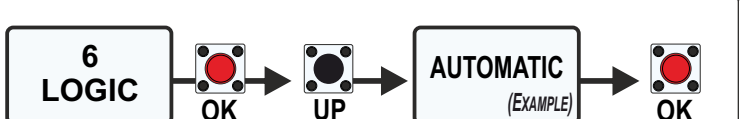
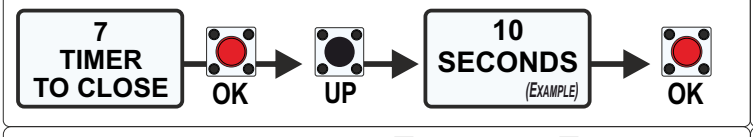
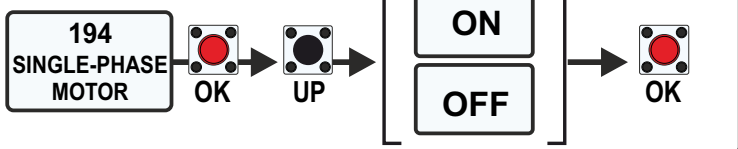
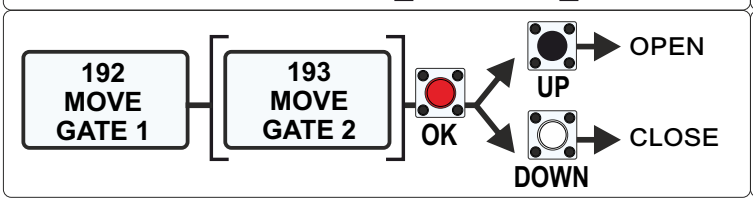
HAVE A QUALIFIED SERVICE PERSON TO CARRY OUT THE OPERATIONS IN SAFE CONDITIONS

- Check the correct operation of all accessories (photocells, buttons, etc.)
- Do not jumper the inputs not in use (limit switch, safety edge, etc.)

16.1 - PRELIMINARY SETTINGS

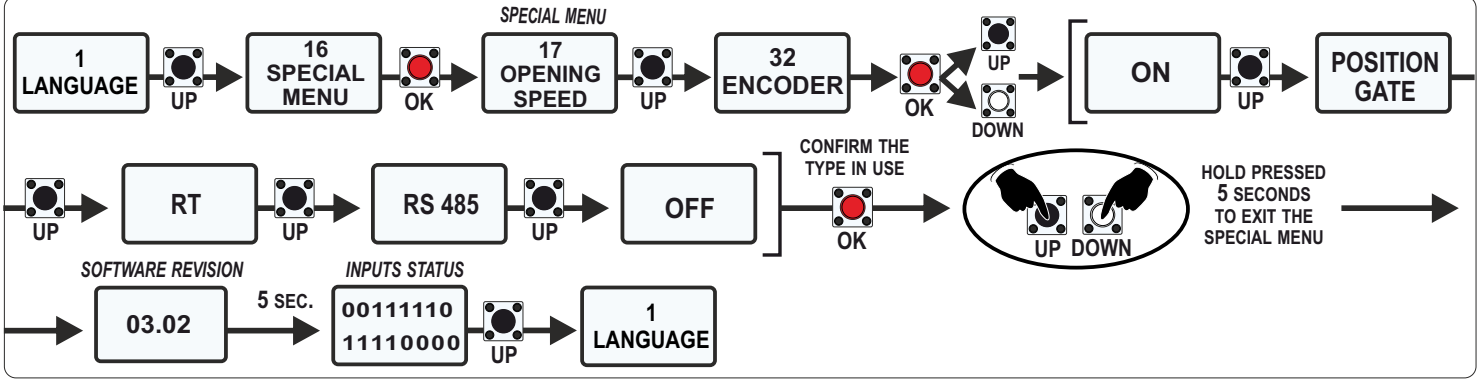
Before programming the working times, it is necessary to carry out the essential settings of the basic menu. It is not possible to correctly start-up the times learning without carrying-on the following settings!



	*When a type is set, the parameters of the special menu automatically set to the useful values for that model!*
	*Select the number of operators to be managed by the control unit (single motor = 1 or double motor = 2)*
	*Select the desired operation logic **(see chapter 17)**. **Note:** If a pause time other than zero is set in the following menu, the automatic reclosing will always be active*
	*Set a pause time other than zero to enable the automatic reclosing. If set to **«0»** the automatic reclosing will be disabled and you will have a «semi-automatic» logic*
	*Set to **«ON»** if a **SINGLE-PHASE** operator is in use* *Set to **«OFF»** if a **THREE-PHASE** operator is in use*
	*If the gate opens by pressing UP and if the gate closes by pressing DOWN, so the motor runs correctly, otherwise swap the motor cables. **(In case of 2 operators, test the second one on menu 193 in the same way)***

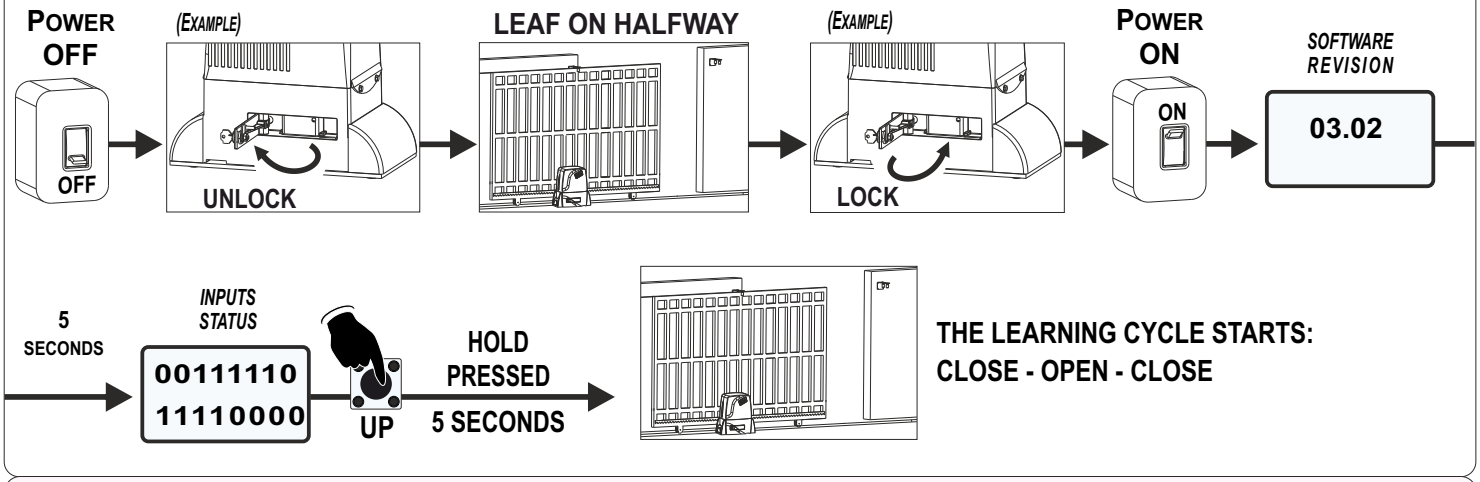
16.2 - ENCODER OR POTENTIOMETER ACTIVATION *(IF INSTALLED)*

- If the operator is equipped with an encoder or potentiometer *(POSITION GATE)*, then it is necessary to check that they are correctly enabled in special menu 32, ***before the working times learning!***

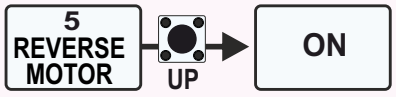


16.3 - QUICK LEARNING - *ONLY FOR SEA SLIDING OPERATORS*

- The control unit on board the SEA sliding operators is pre-set by default (model and parameters) to allow the quick learning of the working times

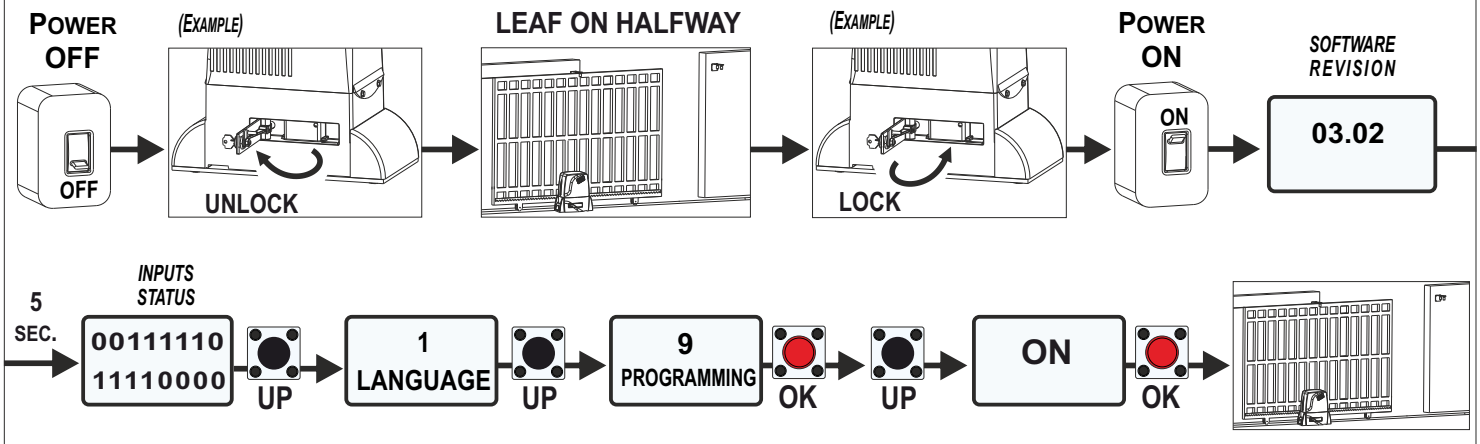


⇨ **If the operator performs the first learning cycle starting in opening, wait for the end of the cycle and reverse the motor rotation through the menu 5, then repeat the learning procedure**



16.4 - WORKING TIMES LEARNING BY LIMIT SWITCH

- Working times learning through automatic detection of the limit switches
- Check that the special menu 32 is **«OFF»** ***(see paragraph 16.2)***
- Check on the **INPUTS STATUS MENU** ***(chapter 15)*** that the correct limit switch is engaged for each movement direction
- Start-up the working times learning by following the procedure below:

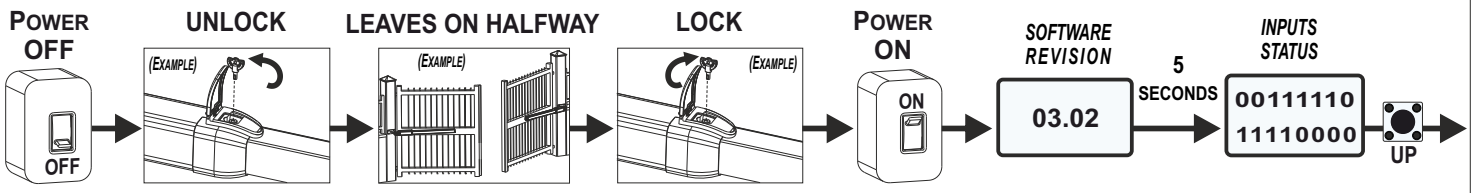


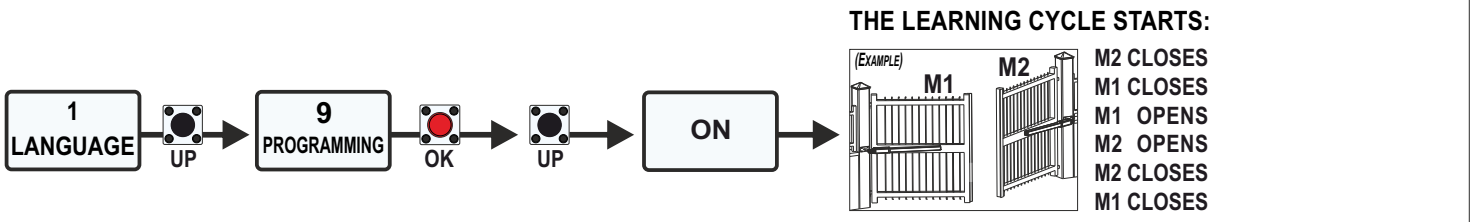
⇨ **If the motor starts closing, reaches the limit switch lever and stops, then swap the limit switch cables and repeat the procedure;**

⇨ **If the motor starts opening, reaches the limit switch lever and stops, then swap the motor cables and repeat the procedure;**

16.5 - WORKING TIMES LEARNING BY STANDARD ENCODER

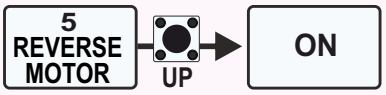
- Working times learning through automatic detection of the end-of-stroke points
- Check that the correct encoder type is enabled in special menu 32 ***(see paragraph 16.2)***
- Start-up the working times learning by following the procedure below





⇨ **With a single motor or barrier, always starting with leaf (or beam) at halfway, the learning cycle will be: CLOSE - OPEN - CLOSE;**

⇨ **If the operators perform the first learning cycle starting in opening, wait for the end of the cycle and reverse the motors rotation through the menu 5, then repeat the learning procedure**



- After the learning, it is possible to verify the correct reading of the impulses by accessing the following menus ***(paragraph 3.1)***

- After the learning, it is possible to adjust the sensitivity parameters by the following menus ***(paragraph 3.2)***

16.6 - WORKING TIMES LEARNING BY POTENTIOMETER or «RT» ENCODER

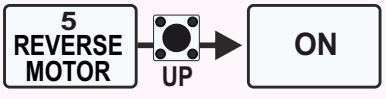
FOR «RT» ENCODER: USE THIS PROCEDURE ONLY ON SWING GATE OPERATORS!

- Working times learning through the automatic detection of the end-of-stroke points
- Enable the **«POSITION GATE»** or **«RT» ENCODER** in special menu 32 ***(see paragraph 16.2)***
- Start-up the working times learning by following the procedure above ***(see paragraph 16.5)***

⇨ **At the end of the learning procedure, the gate carries out the following cycle:**

M2 CLOSES - M1 CLOSES - M1 OPENS - M2 OPENS - M2 CLOSES - M1 CLOSES - M1 OPENS WITH SLOWDOWN M2 OPENS WITH SLOWDOWN - M2 CLOSES WITH SLOWDOWN - M1 CLOSES WITH SLOWDOWN

⇨ **If the operators perform the first learning cycle starting in opening, wait for the end of the cycle and reverse the motors rotation through the menu 5, then repeat the learning procedure**



*In case the **«POTENTIOMETER DIRECTION»** alarm is displayed, swap the brown wire with the blue wire and repeat the times learning - **VALID ONLY FOR LINEAR POTENTIOMETER!***

- After the learning, it is possible to check the correct reading of the impulses by accessing the following menus ***(paragraph 3.4):***

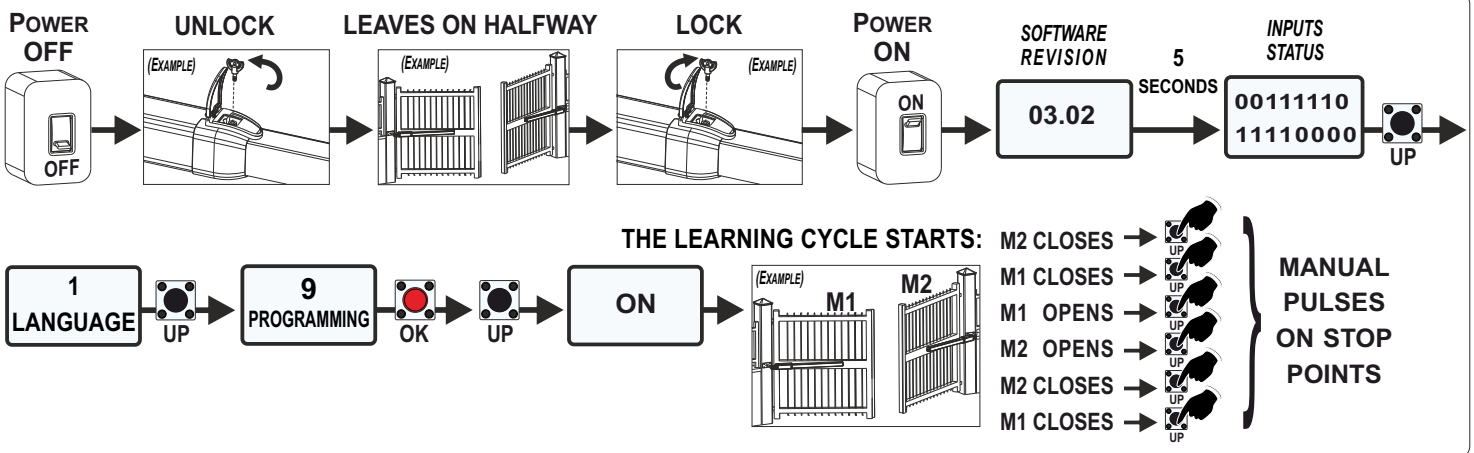
- After the learning, it is possible to adjust the sensitivity parameters by the following menus ***(paragraph 3.5):***

16.7 - WORKING TIMES LEARNING BY MANUAL PULSES

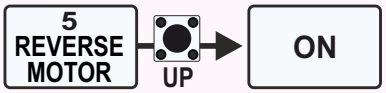
FOR OPERATORS WITHOUT LIMIT SWITCH, WITHOUT ENCODER AND WITHOUT POTENTIOMETER (I.E: DOUBLE SWING GATE OPERATORS)

- Times learning through manual pulses on the points of stop
- Check that the menu 32 is **«OFF»** ***(see paragraph 16.2)***; if necessary, manually adjust the working times by the menus: *(these menus are available only when the menu 32 is «OFF»)*

65	66	67	68
M1 OPENING TIME	M1 CLOSING TIME	M2 OPENING TIME	M2 CLOSING TIME

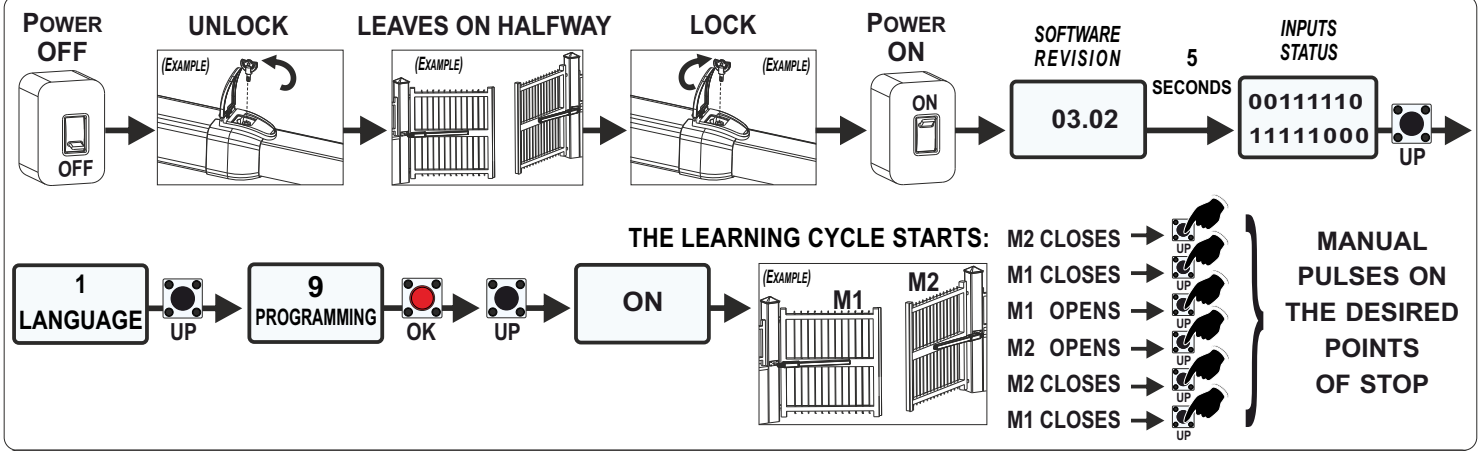


If the operators perform the first learning cycle starting in opening, wait for the end of the cycle and reverse the motors rotation through the menu 5, then repeat the learning procedure

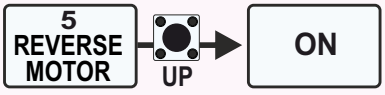


16.8 - LEARNING BY MANUAL PULSES - *with POTENTIOMETER or «RT» ENCODER*

- Times learning through POTENTIOMETER or «RT» ENCODER which detect the manual pulses on the **desired** points of stop *(allowing the choice of the end-of-stroke points)*
- Enable the POTENTIOMETER OR «RT» ENCODER on menu 32 ***(paragraph 16.2)***



If the operators perform the first learning cycle starting in opening, wait for the end of the cycle and reverse the motors rotation through the menu 5, then repeat the learning procedure



*In case the **«POTENTIOMETER DIRECTION»** alarm is displayed, swap the brown wire with the blue wire and repeat the times learning - **VALID ONLY FOR LINEAR POTENTIOMETER!***

- After the learning, it is possible to check the correct reading of the impulses by accessing the following menus ***(paragraph 3.4):***

51	52	53	54	55	56
I. PAR. M1	I. AP. M1	I. CH. M1	I. PAR. M2	I. AP. M2	I. CH. M2

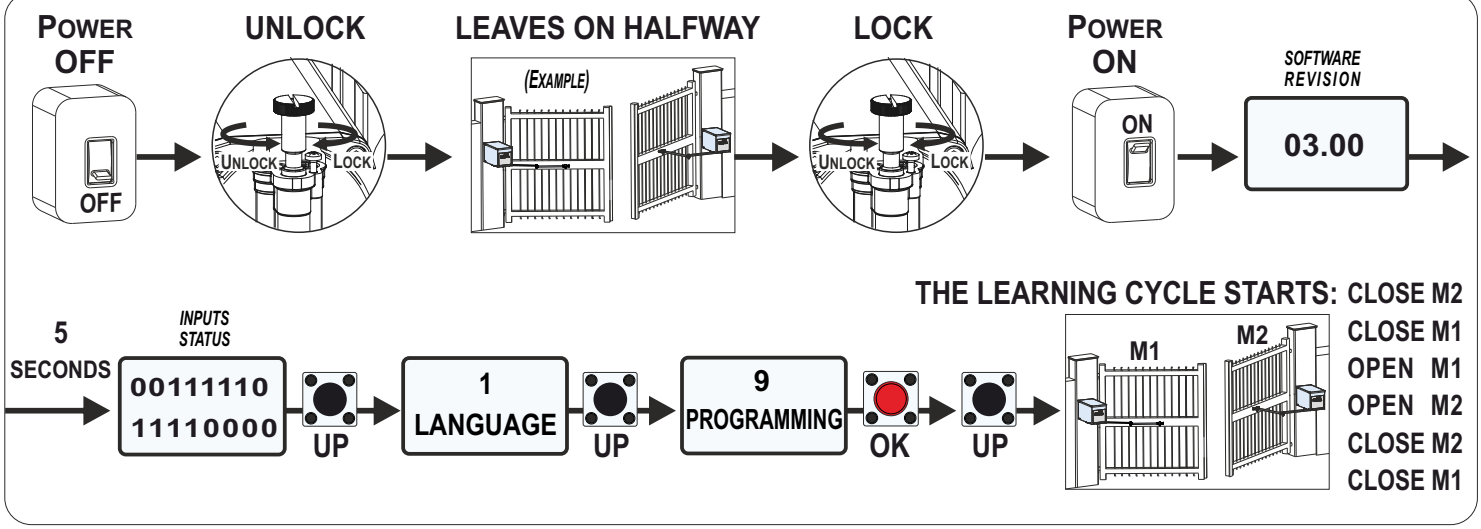
- After the learning, it is possible to adjust the sensitivity parameters by the following menus ***(paragraph 3.5):***

33	34	35	36	37
M1 OPENING SENSITIVITY	M1 CLOSING SENSITIVITY	M2 OPENING SENSITIVITY	M2 CLOSING SENSITIVITY	SLOW DOWN SENSITIVITY

16.9 - MANUAL WORKING TIMES LEARNING WITH «RS 485» ENCODER

USE THIS PROCEDURE ONLY ON THE «JOINT» OLD MODEL WITH «RS 485» ENCODER

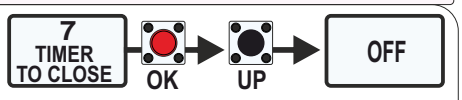
- Check that the correct operator type has been set on the menu 3 ***(see paragraph 16.1)***
- Check that the **«RS 485» encoder** is enabled in the special menu 32 ***(see paragraph 16.2)***



17 - LOGICS

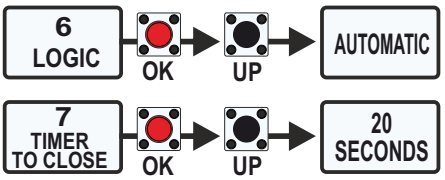
THE DEFAULT LOGIC IS «AUTOMATIC», ANYWAY IT CAN BE CHANGED AFTER THE WORKING TIMES LEARNING!

- **SEMI-AUTOMATIC LOGIC:** automatically set when the menu 7 is «OFF» ***(automatic reclosing disabled)***

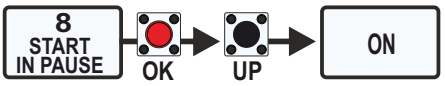


- **SEMI-AUTOMATIC** operation: a **START** command opens the gate; another **START** command closes; *In semi-automatic logic, the automatic reclosing is always disabled.*
- This logic matches with other logics *(except «AUTOMATIC»)*, keeping the automatic reclosing disabled

- **AUTOMATIC LOGIC:** pre-set by default. Anyway it can be manually enabled through the menu 6 or through the menu 7 by setting a pause time different than 0 and up to 240 seconds *(The menu 7 also enables the automatic reclosing when different than 0)*

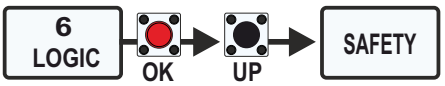


- Through the menu 8 it is possible to choose if the **START** command given during the pause time is accepted or not

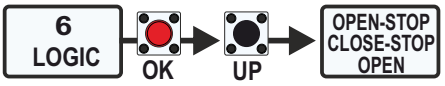


- **AUTOMATIC** operation: a **START** command opens the gate; another **START** command is not accepted if given during the opening; a **START** command reverses the movement if given during the closing

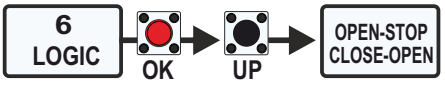
- **SAFETY LOGIC:** a **START** command opens the gate; another **START** command reverses the movement if given during the opening a **START** command reverses the movement if given during the closing



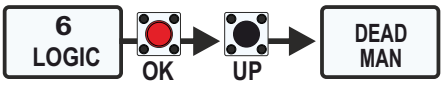
- **STEP BY STEP TYPE 1 LOGIC:** the **START** command follows the logic: **OPEN - STOP - CLOSE - STOP - OPEN**



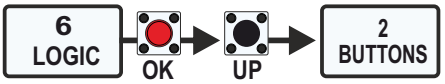
- **STEP BY STEP TYPE 2 LOGIC:** the **START** command follows the logic: **OPEN - STOP - CLOSE - OPEN**



- **DEAD MAN LOGIC:** the gate opens as long as the **START** command is held pressed; when released the gate stops. The gate closes as long as the **PARTIAL START** is held pressed; when released the gate stops.



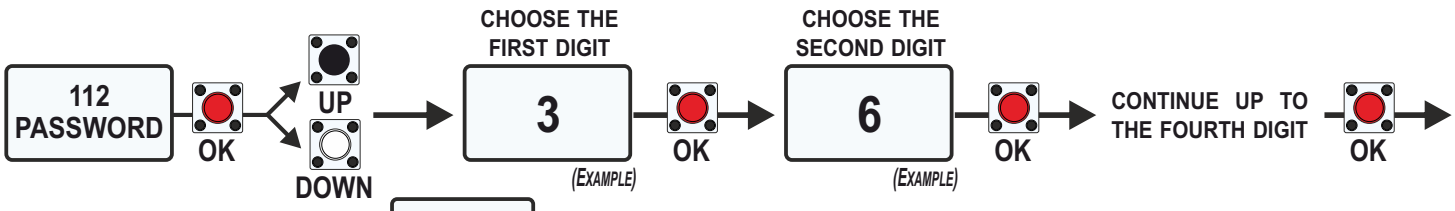
- **2 BUTTONS LOGIC:** a **START** command opens the gate; a **PARTIAL START** command closes the gate

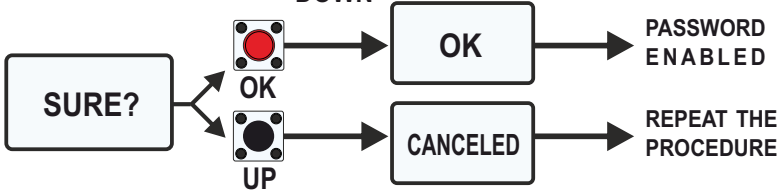


The **START** command reopens the gate if given during the closing. The **PARTIAL START** command is not accepted if given during the opening or during the closing

18 - PASSWORD

- Once the password is enabled, all the menus can not be adjusted, they are only displayed
- If you forget the password, contact the SEA technical assistance: ***SEA reserves the right to evaluate and decide whether to provide or not the unlocking procedure***





⇨ THE PASSWORD «0000» IS NOT ALLOWED *(THE DISPLAY WILL SHOW AN ERROR MESSAGE!)*

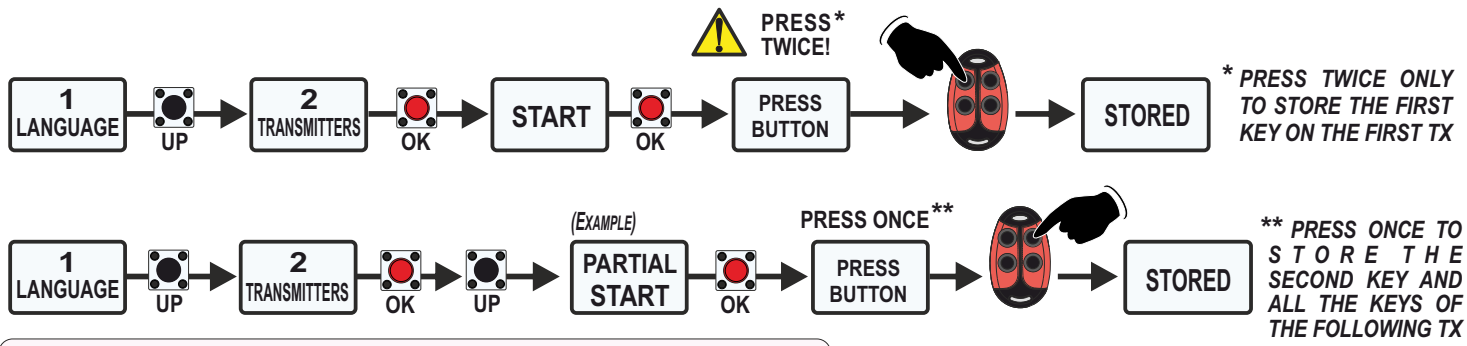
19 - RECEIVERS AND TRANSMITTERS

CONNECT THE RECEIVER CIRCUIT WHEN THE CONTROL UNIT IS NOT POWERED, AS INDICATED IN CHAPTER 11

- **When the control unit is switched-off**, check if the receiver is correctly plugged in
- Program the transmitters before connecting the antenna
- Program the transmitters only when the gate is closed and the motor is stopped
- **RF UNI** and **RF UNI PG** allow the use of both **ROLL PLUS/UNI** TX and **FIX CODE** TX
- **RF FIX** allows the use of the **FIX CODE** transmitters only
- It is possible to store up to 2 among the available functions
- The **START** command must **ALWAYS** be stored on the first channel of the TX
- If the second stored function is modified, then all the transmitters acquire this change on the second channel

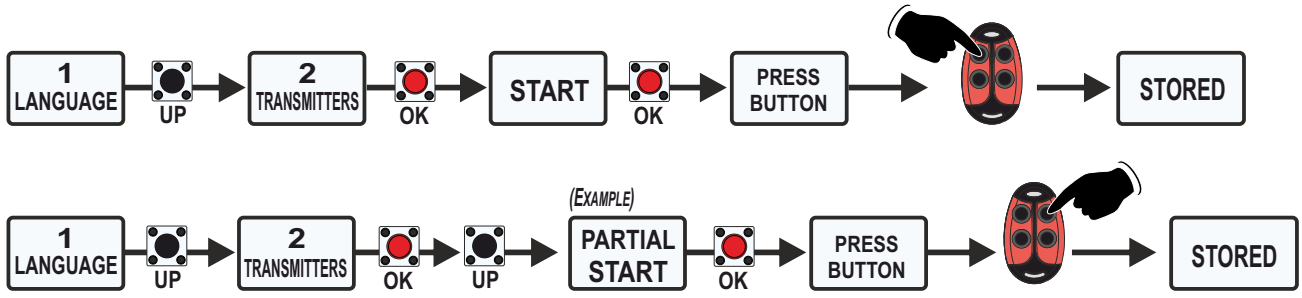
THE FIRST STORED TRANSMITTER DETERMINES THE CODING OF THE FOLLOWING ONES
if the first transmitter is stored as ROLLING CODE, then all the followings must be stored as ROLLING CODE; transmitters with different coding are not accepted - see the coding passage on Tx instruction!

19.1 - OLD «ROLLING CODE» CODING



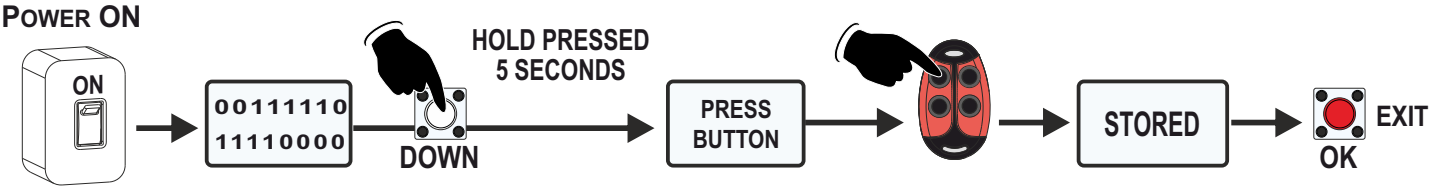
*More details on the functions available in **paragraph 19.4***

19.2 - «ROLLING CODE PLUS» - «UNI» - «FIX CODE» TRANSMITTERS

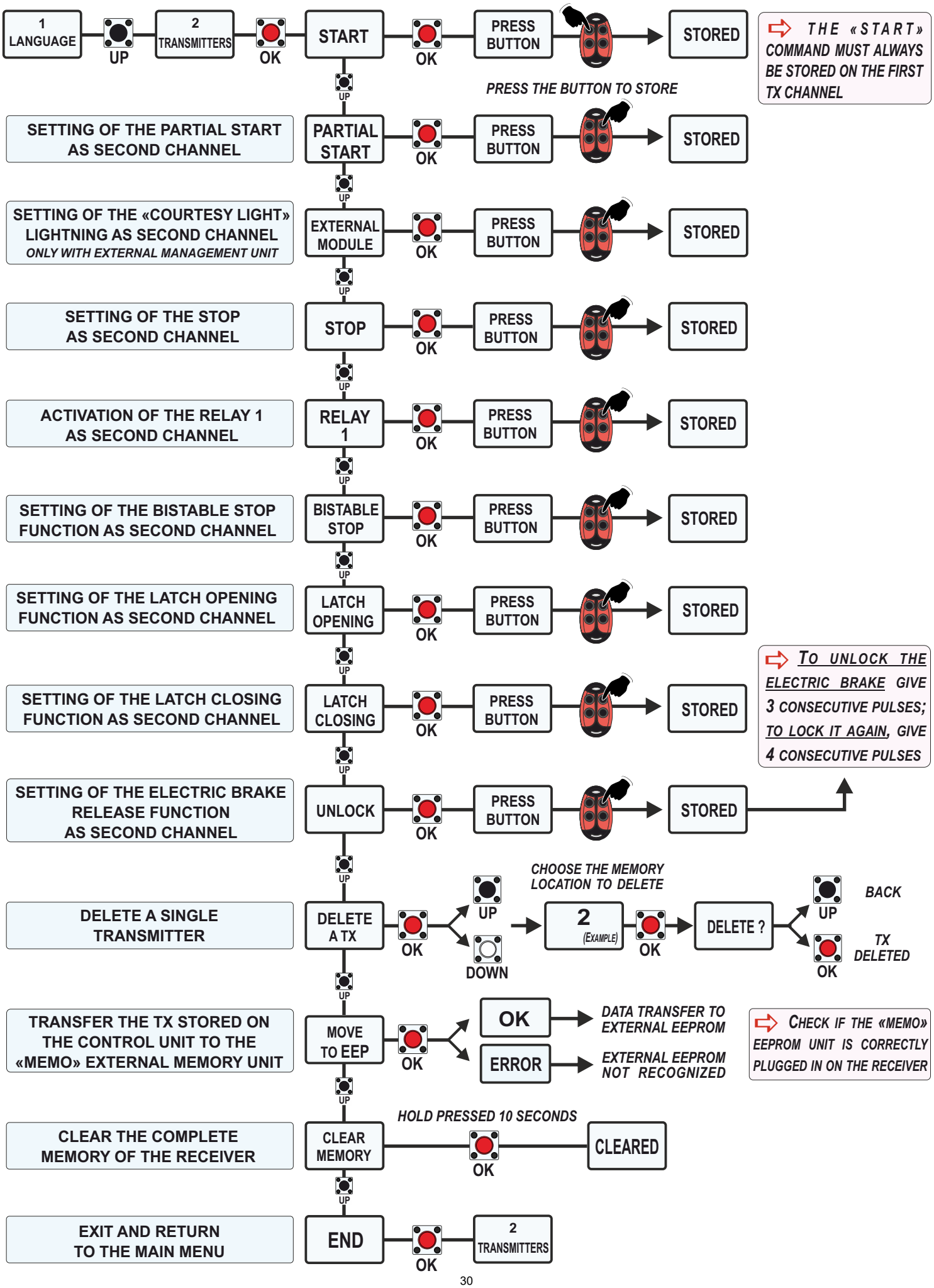


*More details on the functions available in **paragraph 19.4***

19.3 - «START» COMMAND QUICK LEARNING



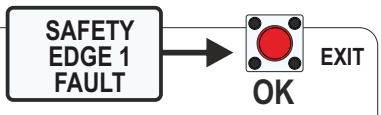
19.4 - TRANSMITTERS FUNCTIONS DIAGRAM



20 - ALARMS

20.1 - FAULTS SHOWN ON THE DISPLAY

(EXAMPLE)



- The control unit advises of the faults may happen through a message on the display *(Note: press ok to exit the message)*
- Below the list of the faults that are signaled on the display and the possible solutions to the problems *(if the fault message holds out, contact the technical support)*

WARNING MESSAGE	ACTION
NETWORK FAULT	CHECK THE PRESENCE OF THE POWER SUPPLY; CHECK THE FUSE F2
FAULT 24	CHECK FOR ANY OVERLOADS OR SHORT CIRCUITS ON THE WIRING OR ON THE CONTROL UNIT
FAULT COMIS	CHECK THE OPERATION OF COMIS CONTACT AND THE ACCESSORIES WIRING ON THE CONTROL UNIT
SAFETY EDGE 1 FAULT	CHECK THE METAL WIRE AND THE CONNECTION CABLES; MAKE SURE THE CONTACT IS CLOSED
SAFETY EDGE 2 FAULT	CHECK THE METAL WIRE AND THE CONNECTION CABLES; MAKE SURE THE CONTACT IS CLOSED
PHOTO 1 FAULT	CHECK THE OPERATION OF THE PHOTOCELLS OR THEIR WIRINGS ON THE CONTROL UNIT
PHOTO 2 FAULT	CHECK THE OPERATION OF THE PHOTOCELLS OR THEIR WIRINGS ON THE CONTROL UNIT
LIMIT SWITCH FAULT	CHECK THE INTEGRITY OF THE LIMIT SWITCH LEVER
POTENTIOMETER 1 FAULT	THE MESSAGE APPEARS ONLY IF THE POTENTIOMETER IS ON; CHECK THE WIRINGS
POTENTIOMETER 2 FAULT	THE MESSAGE APPEARS ONLY IF THE POTENTIOMETER IS ON; CHECK THE WIRINGS
POTENTIOMETER 1 DIRECTION FAULT	SWAP THE WIRING CABLES OF THE POTENTIOMETER (SWAP THE BLUE WITH THE BROWN)
POTENTIOMETER 2 DIRECTION FAULT	SWAP THE WIRING CABLES OF THE POTENTIOMETER (SWAP THE BLUE WITH THE BROWN)
SERIAL INVERTER 1 FAULT	LOGIC MICROPROCESSOR IRREVERSIBLY DAMAGED. REPLACE THE CONTROL UNIT
SERIAL INVERTER 2 FAULT	LOGIC MICROPROCESSOR IRREVERSIBLY DAMAGED. REPLACE THE CONTROL UNIT
SERIAL INVERTER FAULT FROM MODULE 1	INVERTER MODULE 1 IRREVERSIBLY DAMAGED. REPLACE THE CONTROL UNIT
SERIAL INVERTER FAULT FROM MODULE 2	INVERTER MODULE 2 IRREVERSIBLY DAMAGED. REPLACE THE CONTROL UNIT
INVERTER 1 FAULT	INVERTER MODULE 1 FAULT - CHECK THE ALARM FLASHES
INVERTER 2 FAULT	INVERTER MODULE 2 FAULT - CHECK THE ALARM FLASHES
PASSWORD ERROR	PASSWORD ERROR - ENTER THE CORRECT PASSWORD OR CONTACT THE TECHNICAL ASSISTANCE

20.2 - FAULTS SIGNALED ON THE FLASHING LIGHT

- It is also possible to visualize the warning signals through the flashing light simply by observing the number of flashes emitted *(see the table of correspondences below)*
- When an event occurs, the warning flashes will be issued at each **«START»** command

ALARM TYPE	NUMBER OF FLASHES	NOTES
COMIS	8 FAST (EVERY 0.2 SEC) FOR 9 TIMES	COMIS FAULT - CHECK WIRINGS
INVERTER 1 FAULT	10 SLOW (EVERY 0.5 SEC) FOR 6 TIMES	REPAIR OR REPLACEMENT NEEDED
INVERTER 2 FAULT	12 SLOW (EVERY 0.5 SEC) FOR 6 TIMES	REPAIR OR REPLACEMENT NEEDED
REPORT PHOTO 1 - 2 IN CLOSING	2 SLOW (EVERY 0.5 SEC) FOR 5 TIMES	CLOSING PHOTOCELL FAULT
REPORT PHOTO 1 - 2 IN OPENING	3 SLOW (EVERY 0.5 SEC) FOR 1 TIME	OPENING PHOTOCELL FAULT
REPORT COLLISION IN OPENING	6 SLOW (EVERY 0.5 SEC) FOR 11 TIMES	OBSTACLE DETECTED IN OPENING
REPORT COLLISION IN CLOSING	6 SLOW (EVERY 0.5 SEC) FOR 11 TIMES	OBSTACLE DETECTED IN CLOSING
REPORT SAFETY EDGE	4 SLOW (EVERY 0.5 SEC) FOR 4 TIMES	SAFETY EDGE FAULT
SAFETY EDGE 1 - 2 FAULT	4 SLOW (EVERY 0.5 SEC) FOR 4 TIMES	SAFETY EDGE FAULT
PHOTO 1 FAULT	3 SLOW (EVERY 0.5 SEC) FOR 1 TIME	PHOTOCELL 1 FAULT
PHOTO 2 FAULT	3 SLOW (EVERY 0.5 SEC) FOR 1 TIME	PHOTOCELL 2 FAULT
POTENTIOMETER 1 FAULT	11 FAST (EVERY 0.2 SEC) FOR 4 TIMES	ABSOLUTE POTENTIOMETER 1 FAULT
POTENTIOMETER 2 FAULT	11 FAST (EVERY 0.2 SEC) FOR 4 TIMES	ABSOLUTE POTENTIOMETER 2 FAULT
STOP	5 SLOW (EVERY 0.5 SEC) FOR 2 TIMES	STOP CONTACT FAULT
LIMIT SWITCH FAULT	4 FAST (EVERY 0.2 SEC) FOR 11 TIMES	LIMIT SWITCH FAULT
CYCLES ALARM	7 SLOW (EVERY 0.5 SEC) FOR 2 TIMES	MAXIMUM CYCLES ACHIEVED - MAINTENANCE

⇨ *The **«CYCLES ALARM»** warning refers to the reaching of the maximum cycles number established after which the maintenance is necessary*

IT IS ALWAYS RECOMMENDED TO CONSULT THE CHAPTER 21 DEDICATED TO TROUBLESHOOTING. MOST OF THE PROBLEMS CAN BE SOLVED BY FOLLOWING THE GIVEN INSTRUCTIONS!

21 - TROUBLESHOOTING

MAKE SURE THAT ALL THE SAFETY DEVICES ARE «ON»

PROBLEM	POSSIBLE REASON	SOLUTION
The operator does not respond to any START command	a) Check that the N.C. are connected b) Blown fuse	a) Check the connections and the jumpers on the safety edge or stop or photocell inputs, if connected b) Replace the blown fuse on the control unit
The operator does not run and the diagnostic display is off	a) The control unit is not powered b) Fuse open c) Defective control unit	a) Check the AC power supply b) Check the fuses c) Replace the defective control unit
The operator does not respond to a wired command (example: Opening, Closing, etc.)	a) Check the inputs of the opening and closing commands b) The STOP button is activated c) The Reset button is blocked d) Anti-entrapment safety device active	a) Check all the opening and closing inputs to make sure they are not blocked b) Check the STOP button is not blocked c) Check the Reset button d) Check among all the inputs of the anti-entrapment protection device, if there is a blocked sensor
The operator does not respond to a remote control	a) The STOP button is activated b) The Reset button is blocked c) Poor radio reception	a) Check the STOP button is not blocked b) Check the Reset button c) Check if the other wired devices are working correctly; check the antenna cable
The motor runs in one direction only	a) Check the resistance between the motor phase and neutral and verify that the resistance is MOhm b) Try to invert the motor phase and see if it changes direction or not	a) Replace the cable b) If the motor is blocked, replace the cable; if the motor moves in one direction only, the motor direction relay is damaged
The gate does not move but the motor runs	a) The engine is in the locked position b) Presence of an obstacle	a) Release the motor b) Remove the obstacle
The gate does not reach the complete open or closed position	a) Wrong limit switch setting b) Programming error c) Gate is stopped by an obstacle d) Torque too low e) The gate is too heavy to perform the automatic slowdown	a) Set the limit switches b) Repeat the working times programming c) Remove the obstacle d) Increase the torque parameter e) Set the slowdown to OFF
The gate opens but does not close	a) The photocells contacts are connected and open b) Stop contact connected and open c) The safety edge contact is open d) Amperometric alarm	a) b) c) Check the jumpers or the connected devices or the warning signals on the flashing lamp d) Check for a possible the amperometric alarm and, if necessary, increase the torque parameter
The gate does not close automatically	a) Pause time set too high b) Semi-automatic logic control unit	a) Adjust the pause time b) Set the PAUSE TIME menu to a value different than OFF
The gate moves, but the limit switches cannot be set correctly	a) The gate does not move towards a stop position b) It is too difficult to move the gate	a) Manually unlock and move the gate and make sure the gate moves easily from limit switch to limit switch. If necessary, repair the gate b) The gate must be able to move easily and freely throughout its travel, from limit switch to limit switch. If necessary, repair the gate
The gate does not fully open or close when the limit switches are set	a) The gate does not move towards a limit switch b) It is too difficult to move the gate	a) Manually unlock and move the gate and make sure the gate moves easily from limit switch to limit switch. If necessary, repair the gate b) The gate must be able to move easily and freely throughout its travel, from limit switch to limit switch. If necessary, repair the gate
The gate stops during travel and reverses direction	a) Open/Close control active b) The obstacle detection sensitivity is too low	a) Check if there is an active input among all the opening and closing inputs b) Check the obstacle detection sensitivity value and try to increase it
The gate opens but does not close with TX or closing timer	a) Opening control active b) Pause not set c) The closing anti-entrapment protection device is active d) The photocell contact is open e) The fire switch input is active	a) Check if there is an active input among the open inputs b) Check the pause settings c) Check if there is an active sensor among all the inputs of the anti-entrapment protection device d) Check the contact of the photocells e) Check the fire switch input

PROBLEM	POSSIBLE REASON	SOLUTION
The gate does not respect the slowdown start points	a) The encoder does not work properly when activated b) Slow mechanical clutch c) Too large deceleration space d) The potentiometer does not work correctly when activated e) The parameters of the recovery position are too high or too low	a) Check in the Encoder menu that the "Encoder Par" parameter is set from a low value of +/- 10 (gate completely closed) to "Encoder tot" (gate completely open). If the IPAR movement is not in line with the range of values (from +/- 10 to "Encoder tot") probably the encoder is defective b) Tighten the mechanical clutch c) Reduce the slowdown space d) Check in the Potentiometer menu that the "IPAR" parameter is set from "I.CH." (gate completely closed) to "I.AP." (gate completely open). If the"IPAR" movement is not in line with the range of values (from I.AP. to I.CH.), the potentiometer is probably faulty e) Reduce or increase the values of the "recovery position"
The gate opens suddenly but any START command have been given	a) Frequency or disturbances on the main line b) Short-circuit on the START contact	a) The AC wiring must be separated from the DC wires and run through separate conduits. If it is a frequency disturbance, you can change the frequency to another MHz value, such as 868 or FM b) Check all the START contacts
The gate does not accept the close command during the pause in automatic logic, even if the loop or photocell are set as Start	a) START IN PAUSE is not ON b) The photocell/loop input is not set as "pause reload"	a) Turn ON the START IN PAUSE menu b) Set "pause reload" in the photocell / loop menu
The gate does not have the necessary force to close or reach the limit switch	a) Slowing down is not possible either because the gate is too heavy or because of the inclination or because the installation is not new	a) Set the slowdown to OFF
The gate travel is obstructed and cannot stop or reverse	a) Force the necessary adjustment	a) Refer to the adjustment parameter to carry out the obstruction tests and make the correct adjustments of the force (sensitivity - torque)
The photocell does not stop or reverse the gate travel	a) The photocell wiring is incorrect b) The photocell is faulty c) The photocells have been installed too far apart	a) Check the photocell wiring. Check that the gate stops and reverses its direction when the photocell is engaged b) Replace the faulty photocell. Check that the gate stops and reverses its direction when the photocell is engaged c) Install the photocells closer or use safety edges with sensors
The safety edge does not stop or reverse the travel of the gate	a) Incorrect wiring of the edge sensor b) Defective edge sensor	a) Check the safety edge wiring. Check that the gate stops and reverses its direction when the edge is activated b) Replace the defective safety edge and check that the gate stops and reverses its direction when it is activated
The alarm sounds for 5 minutes or the alarm sounds after a command	a) A double entrapment has occurred (two obstructions within a single activation)	a) Check the cause of the entrapment detection (obstruction) and correct it. Press the reset button to silence the alarm and reset the operator
The shadow loop does not hold the gate on the opening limit switch	a) Shadow loop sensor incorrectly adjusted b) Defective shadow loop sensor c) Wrong setting	a) Check the shadow loop settings and reset as needed b) Replace the defective vehicle sensor c) Check that menu 98 is on SHADOW LOOP
The accessories connected to the accessory power supply do not work properly, they turn off or restart	a) Accessory power supply protection active b) Defective electronic control unit	a) Disconnect all devices powered by the "accessories power supply" and measure their voltage (must be 23-30 Vdc). If the voltage is correct, reconnect the accessories one at a time, measuring each time the voltage b) Replace the defective control unit
Fault on the 24VAUX	a) Overload/short-circuit on AUX input b) Blown fuse	a) Check if the cable is shorted b) Replace the fuse
The control unit turns on but the motor does not run	a) STOP active or wrong jumpers b) Open or close the active input c) Active Entrapment Protection Device d) Defective electronic control unit	a) Check that the STOP button is not blocked, that it is a N.C. contact or put a jumper on the Stop input b) Check that none of the opening and closing inputs are blocked c) Check whether there is a blocked sensor among all the entrapment protection device inputs d) Replace the defective control unit

GATE 2 INVERTER 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 START	Partial START		
		External module	External module		
		Stop	Stop		
		Relay 1	To enable the Relay for 3 seconds ***To store the Relay activation command on the Tx, first set the menu 132-RELAY 1 to «RelayTX»***		
		Bistable Stop	Pressed once, it stops the gate. Pressed twice, it reactivates the START input		
		Latch opening	One impulse opens and keep open. A second impulse restore the movement		
		Latch closing	One impulse closes and keep closed. A second impulse restore the movement		
		Unlock	To store a command for unlocking the electric brake		
		Delete a transmitter	To delete a single transmitter (TX)		
		Move to EEP	To transfer the transmitters stored on the control unit to the external EEPROM (MEM), if connected		
		Clear memory	To delete the full transmitters memory on the receiver		
		End	To exit the menu «transmitters»		
3	MOTOR	***1-** Hydraulic*	Hydraulic operators - Series I ***(INVERTER)***	*Hydraulic*	
		***2-** Sliding*	Sliding operators - Series I ***(INVERTER)***		
		***3-** Reversible Sliding*	Reversible sliding operators - Series I ***(INVERTER)***		
		***4-** Mechanic Swing*	Electromechanic swing operators - Series I ***(INVERTER)***		
		***7-** Barrier*	Barriers - Series I ***(INVERTER)***		
		***10-** JOINT*	Hydraulic operator - ***Series I (INVERTER)***		
4	GATES NUMBER	*From 1 to 2*	To set the number of motors to be managed	*1*	
5	REVERSE MOTOR	*On*	To reverse the opening with the closing or vice-versa ***(both motors and limit-switches are reversed)***	*Off*	
		Off	Off		
6	LOGIC	*Automatic*	Automatic logic - ***automatic reclosing enabled***	*Auto-matic*	
		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		

MENU		SET	DESCRIPTION	DEFAULT	NOTE
7	TIMER TO CLOSE	*Off*	Semi-automatic logic enabled ***a START command opens and another START closes the gate - automatic reclosing disabled***	*Off*	
		1 240	To set a pause time (from 1 second to 4 minutes) before the automatic reclosing		
8	START IN PAUSE	*Off*	The START command is not accepted during pause	*Off*	
		On	The START command is accepted during pause		
9	PROGRAMMING	*Off On*	To start up the working times learning	*Off*	
When the learning cycle starts up, the display shows the motor that is moving (1 or 2) and the direction of movement (opening = OP or closing = CL)					
10	TEST START	*Off On*	To give a START command for testing the operator ***(This command can be used only if the unit has already been programmed!)***	*Off*	
11	LEAF LENGTH	*2m - 3m - 4m - 5m - 6m*	This menu will be shown only if the option **10-JOINT is set in the menu 3-MOTORS**. It allows to set the leaf length ***(values in meters)***	- - - -	
14	RESET	A count-down of 5 seconds will start by holding the UP button; at its end «INIT» will appear on the display as confirmation of the control board reset			
192	MOVE GATE 1 *	Allows to move the gate in order to test the motor running or simply to position the gate as desired. The command works in a temporary «dead man» mode: HOLD **UP** PRESSED = THE GATE OPENS HOLD **DOWN** PRESSED = THE GATE CLOSES 		- - - -	
193	MOVE GATE 2 *	Allows to move the gate in order to test the motor running or simply to position the gate as desired. The command works in a temporary «dead man» mode: HOLD **UP** PRESSED = THE GATE OPENS HOLD **DOWN** PRESSED = THE GATE CLOSES 		- - - -	
**** The command is accepted only at the end of the cycle or after a STOP command; it is not accepted during the cycle and during the pause***					
194	SINGLE-PHASE MOTOR	*Off*	Set to **OFF** if a **THREE-PHASE** operator is in use	*Off*	
		On	Set to **ON** if a **SINGLEE-PHASE** operator is in use		
CAUTION! <u>DO NOT CONNECT THE CAPACITORS</u> neither for SINGLE-PHASE nor THREE-PHASE operators - see chapter 5					
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*			

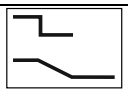
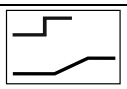
SPECIAL MENU

UP DOWN

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

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
17	OPENING SPEED 1	*10% 100%*	Motor 1 speed in opening	*80%*	
18	CLOSING SPEED 1	*10% 100%*	Motor 1 speed in closing	*80%*	
19	OPENING SPEED 2	*10% 100%*	Motor 2 speed in opening	*80%*	
20	CLOSING SPEED 2	*10% 100%*	Motor 2 speed in closing	*80%*	
21	SLOWDOWN SPEED IN OPENING 1	*From 10% to 60% of the maximum speed*	Motor 1 slowdown speed in opening	*30%*	
22	SLOWDOWN SPEED IN CLOSING 1	*From 10% to 60% of the maximum speed*	Motor 1 slowdown speed in closing	*30%*	
23	SLOWDOWN SPEED IN OPENING 2	*From 10% to 60% of the maximum speed*	Motor 2 slowdown speed in opening	*30%*	
24	SLOWDOWN SPEED IN CLOSING 2	*From 10% to 60% of the maximum speed*	Motor 2 slowdown speed in closing	*30%*	
25	LEARNING SPEED	*10% 100%*	To adjust the working times learning speed. This parameter can change according to the motor type set	*50%*	
NOTE: The range of values that can be set in all the SPEED menus may vary according to the operator model					
26	LEAF DELAY IN OPENING	*Off 6 Total*	Adjustable from **OFF** to **6 seconds** or to **TOTAL** ***(If set to «Total» the Motor 2 will start opening only after the Motor 1 has completed the movement)***	*1,5*	
27	LEAF DELAY IN CLOSING	*Off 20 Total*	Adjustable from **OFF** to **20 seconds** or to **TOTAL** ***(If set to «Total» the Motor 1 will start opening only after the Motor 2 has completed the movement)***	*2,5*	
28	OPENING TORQ 1	*30% 100 %*	**Motor 1 torque in opening:** the higher the torque value, the more force is required to execute the inversion in case of obstacle	*100%*	
29	CLOSING TORQ 1	*30% 100 %*	**Motor 1 torque in closing:** the higher the torque value, the more force is required to execute the inversion in case of obstacle	*100%*	
30	OPENING TORQ 2	*30% 100 %*	**Motor 2 torque in opening:** the higher the torque value, the more force is required to execute the inversion in case of obstacle	*100%*	
31	CLOSING TORQ 2	*30% 100 %*	**Motor 2 torque in closing:** the higher the torque value, the more force is required to execute the inversion in case of obstacle	*100%*	
NOTE: The range of values that can be set in all the TORQUE menus may vary according to the operator model					
32	ENCODER	*ON*	**ON** = Standard Encoder Enabled **OFF** = Standard Encoder Disabled ***(when OFF, only the learnt working times are shown)***	*Off*	
	47 ENCODER PAR. M1	*xxx.*	Impulses read by Encoder during operation **(Motor 1)**		
	48 ENCODER TOT. M1	*xxx.*	Impulses stored during programming **(Motor 1)**		
	49 ENCODER PAR. M2	*xxx.*	Impulses read by Encoder during operation **(Motor 2)**		
	50 ENCODER TOT. M2	*xxx.*	Impulses stored during programming **(Motor 2)**		

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
32	ENCODER	*Position Gate*	To enable the linear potentiometer «POSITION GATE»	*Off*	
		RT	To enable the «RT» absolute encoder		
		RS 485	To enable the «RS485» absolute rotary encoder		
	51 I.PAR.M1 *	- - - - - - - -	To show the current position of the potentiometer/absolute encoder on the leaf moved by **Motor 1**. This parameter is useful to see if the potentiometer or the absolute encoder are correctly read		
	52 I.AP.M1	From the value learned to ± 100 pulses	To show the impulses stored by the control unit when the leaf moved by **Motor 1** is fully open		
	53 I.CH.M1	From the value learned to ± 100 pulses	To show the impulses stored by the control unit when the leaf moved by **Motor 1** is fully close		
	54 I.PAR.M2 *	- - - - - - - -	To show the current position of the potentiometer/absolute encoder on the leaf moved by **Motor 2**. This parameter is useful to see if the potentiometer or the absolute encoder are correctly read		
	55 I.AP.M2	From the value learned to ± 100 pulses	To show the impulses stored by the control unit when the leaf moved by **Motor 2** is fully open		
	56 I.CH.M2	From the value learned to ± 100 pulses	To show the impulses stored by the control unit when the leaf moved by **Motor 2** is fully close		
**** While the partial impulses are displayed, it is possible to OPEN (by pressing UP) or CLOSE (by pressing DOWN) the operator to verify the correct reading of the potentiometer***					
32	ENCODER	*OFF*	**ON** = Standard Encoder Enabled **OFF** = Standard Encoder Disabled ***(when OFF, only the learnt working times are shown)***	*Off*	
	65 OPENING TIME M1	*xxx.s*	To display the learnt value during the working times self learning, in opening and closing ***(Motor 1)*** . With UP or DOWN it is possible to increase or reduce the working times		
	66 CLOSING TIME M1	*xxx.s*			
	67 OPENING TIME M2	*xxx.s*	To display the learnt value during the working times self learning, in opening and closing ***(Motor 2)*** . With UP or DOWN it is possible to increase or reduce the working times		
	68 CLOSING TIME M2	*xxx.s*			
33	OPENING SENSITIVITY MOTOR 1	*10% (Fast intervention)* *99% (Slow intervention)*	To adjust the Encoder or Potentiometer or «RT» Encoder intervention time on the Motor 1 in opening	*Off*	
		Off (Intervention excluded)	Disabled		
34	CLOSING SENSITIVITY MOTOR 1	*10% (Fast intervention)* *99% (Slow intervention)*	To adjust the Encoder or Potentiometer or «RT» Encoder intervention time on the Motor 1 in closing	*Off*	
		Off (Intervention excluded)	Disabled		
35	OPENING SENSITIVITY MOTOR 2	*10% (Fast intervention)* *99% (Slow intervention)*	To adjust the Encoder or Potentiometer or «RT» Encoder intervention time on the Motor 2 in opening	*Off*	
		Off (Intervention excluded)	Disabled		
36	CLOSING SENSITIVITY MOTOR 2	*10% (Fast intervention)* *99% (Slow intervention)*	To adjust the Encoder or Potentiometer or «RT» Encoder intervention time on the Motor 2 in closing	*Off*	
		Off (Intervention excluded)	Disabled		
37	SLOWDOWN SENSITIVITY	*10% (Fast intervention)* *99% (Slow intervention)*	To adjust the Encoder or Potentiometer or «RT» Encoder intervention on the Motor during the slowdown	*Off*	
		Off (Intervention excluded)	Disabled		

	SPECIAL MENU	SET	DESCRIPTION	DEFAULT	NOTE
38	M1 POTENTIOMETER THRESHOLD IN OPENING	*0 1000* ***(available only if the «Position Gate» or the «RT» Encoder have been wired and the menu 32 correctly set)***	**To adjust the threshold of the Potentiometer or «RT» Encoder intervention**. This parameter self-determines during the working times learning but can also be adjusted later, on the condition that the set value is lower than the value shown in VP1 or VP2 (instantaneous speed values which can be shown by accessing the DEBUG menu). ***NOTE: The lower the threshold value, the slower is the response of the potentiometer.***	*It depends on motor*	
39	M1 POTENTIOMETER THRESHOLD IN CLOSING				
40	M2 POTENTIOMETER THRESHOLD IN OPENING				
41	M2 POTENTIOMETER THRESHOLD IN CLOSING				
42	M1 POTENTIOMETER THRESHOLD IN SLOWDOWN - OPENING	*0 100* ***(available only if the «Position Gate» or the «RT» Encoder have been wired and the menu 32 correctly set)***	**To adjust the threshold of the Potentiometer or «RT» Encoder intervention during the slowdown.** The value can be manually increased on the condition that the set value is lower than the value shown in VP1 or VP2 ***(instantaneous speed values which can be shown by accessing the DEBUG menu)***	*It depends on motor*	
43	M1 POTENTIOMETER THRESHOLD IN SLOWDOWN - CLOSING				
44	M2 POTENTIOMETER THRESHOLD IN SLOWDOWN - OPENING				
45	M2 POTENTIOMETER THRESHOLD IN SLOWDOWN - CLOSING				
46	CLOSING INVERSION	*Total*	In case of obstacle or safety edge intervention during the closing, the gate totally reverses the movement. If the automatic reclosing is enabled ***(automatic logic)***, it is attempted for 5 times	*Total*	
		Partial	In case of obstacle or safety edge / potentiometer / «RT» Encoder intervention, the gate partially reverses direction ***(of about 30 cm)*** then stops		
The menus 47 - 48 - 49 - 50 are shown only if the menu 32- ENCODER = ON					
The menus 51 - 52 - 53 - 54 - 55 - 56 are shown only if the menu 32- ENCODER = Position Gate or RT					
57	WORKING CURRENT 1	*…… Ampere*	To display the absorbed current during the Motor 1 operation	- - - -	
58	WORKING CURRENT 2	*…… Ampere*	To display the absorbed current during the Motor 2 operation	- - - -	
59	OPENING SLOWDOWN 1	*0% 50%*	Adjustable from 0% to the 50% of the stroke ***(0% = slowdown excluded)***	*30%*	
60	CLOSING SLOWDOWN 1	*0% 50%*	Adjustable from 0% to the 50% of the stroke ***(0% = slowdown excluded)***	*30%*	
61	OPENING SLOWDOWN 2	*0% 50%*	Adjustable from 0% to the 50% of the stroke ***(0% = slowdown excluded)***	*30%*	
62	CLOSING SLOWDOWN 2	*0% 50%*	Adjustable from 0% to the 50% of the stroke ***(0% = slowdown excluded)***	*30%*	
63	DECELERATION	*0% 100%* 	To adjust the change from normal speed to slowdown speed	*It depends on motor*	
64	ACCELERATION	*0,1 s 6 s* 	Acceleration ramp. To adjust the motor start up speed	*It depends on motor*	
The menus 65 - 66 - 67 - 68 are shown only if the menu 32- ENCODER = OFF or 32- ENCODER = ON					
69	ANTI OVERLAP	*Off*	To disable the anti-overlapping control of the leaves allowing their separate control	*Off*	
		On	To enable the anti-overlapping control of the leaves		

	SPECIAL MENU	SET	DESCRIPTION	DEFAULT	NOTE
70	OPENING POSITION RECOVERY	*0 20 seconds* ***only if 32-Encoder is OFF***	After an inversion or a STOP command given during the opening, the gate recovers the excess space traveled by inertia	*It depends on motor*	
71	CLOSING POSITION RECOVERY	*0 20 seconds* ***only if 32-Encoder is OFF***	After a STOP or an inversion command given during the closing, the gate recovers the excess space traveled by inertia	*It depends on motor*	
72	OPENING TOLERANCE MOTOR 1	*0% 100%* ***(*)***	To adjust the tolerance space between the recognition of the mechanical stop in opening and the recognition of the obstacle - In case of obstacle within the tolerance space, this will be considered as mechanical stop	*20%*	
73	CLOSING TOLERANCE MOTOR 1	*0% 100%* ***(*)***	To adjust the tolerance space between the recognition of the mechanical stop in closing and the recognition of the obstacle - In case of obstacle within the tolerance space, this will be considered as mechanical stop	*20%*	
74	OPENING TOLERANCE MOTOR 2	*0% 100%* ***(*)***	To adjust the tolerance space between the recognition of the mechanical stop in opening and the recognition of the obstacle - In case of obstacle within the tolerance space, this will be considered as mechanical stop	*20%*	
75	CLOSING TOLERANCE MOTOR 2	*0% 100%* ***(*)***	To adjust the tolerance space between the recognition of the mechanical stop in closing and the recognition of the obstacle - In case of obstacle within the tolerance space, this will be considered as mechanical stop	*20%*	
**** With «RT» Encoder: 0% = 20 impulses 100% = 200 impulses*** ***With «POSITION GATE» : 0% = 20 impulses 100% = 500 impulses***					
76	PUSHING STROKE	*Time Pushing Stroke* *Off - 3 sec*	Before opening, the motor starts up in closing for the time set, in order to simplify the lock release	Off	
		Repeat Lock Release *Off - On*	If **ON**, the lock will be released both before and after the pushing stroke		
		End	To exit the menu		
77	LOCK TIME	*Off 5 seconds*	To adjust the lock release time from 0 to 5 seconds	*3 s*	
78	LOCK	*Only opening*	To enable the lock only before opening	*Only opening*	
		Only closing	To enable the lock only before closing		
		Opening and closing	To enable the lock before both opening and closing		
79	ANTI INTRUSION	*Only opening* *Only closing* *Opening and closing* *Off*	If the gate moves, whether due to wind or manual forcing, the function starts up the operator to restore the initial position. ***(function available only if limit switch or potentiometer or «RT» encoder are installed)***	*Off*	
80	PUSHOVER	*Off* *Opening and closing* *Only closing* *Only opening*	The gate leaf makes an extra movement at the maximum torque to ensure the tightening of the gate ***In case of a STOP command, the Pushover function is restored only after a new START command***	*Off*	
81	PERIODIC PUSHOVER	*Off 8h* ***If the pushover is enabled***	To activate the repetition of the pushover function at a time distance adjustable from 0 to 8 hours, at hourly intervals	*Off*	
82	MOTOR RELEASE	*Opening 1 Off - 3 s* *Closing 1 Off - 3 s* *Opening 2 Off - 3 s* *Closing 2 Off - 3 s* *End*	If different than OFF, the motor slightly reverses the rotation direction for the set time ***(up to 3 seconds)*** at the end of the cycle	*It depends on motor*	
83	EXTRA TIME	*Opening 1 Off - 10 s* *Closing 1 Off - 10 s* *Opening 2 Off - 10 s* *Closing 2 Off - 10 s* *EXIT*	If the limit switches are installed, it is possible to add an extra time ***(max. 10 seconds)*** to the movement of the operators after the reading of the limit switches ; ***Note: if the Encoder is installed, the space can be set by impulses (from 0 to 100)***	*1.0 s*	

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
85	PRE-FLASHING	*Only closing*	To enable the pre-flashing only before closing ***(To access this option: press DOWN when 0.0 is shown)***	*Off*	
		0.0 5.0 s	To set the pre-flashing duration		
86	FLASHING LIGHT	*Normal*	Normal	*Normal*	
		Light	Warning lamp function		
		Always	Always ON		
		Buzzer	Buzzer		
87	FLASHING LIGHT AND TIMER	*Off*	Flashing light will be OFF with enabled timer and open gate	*Off*	
		On	Flashing light will be ON with enabled timer and open gate		
88	COURTESY LIGHT	*Off*	Disabled	*In cycle*	
		1 240	Adjustable from 1 second to 4 minutes		
		In cycle	Courtesy light only in cycle		
89	TRAFFIC LIGHT RESERVATION	*Off On*	To get the priority in entry *(via a **START** command)* or in exit *(via a **PARTIAL START** command)* . ***The function is available only if a traffic light is wired***	*Off*	
90	PARTIAL OPENING	*5% 100%*	Adjustable from 5% to 100%	*50%*	
91	PARTIAL PAUSE	*= Start*	The pause time in partial opening is the same as in total opening	*= Start*	
		Off	Disabled		
		1 240	Adjustable from 1 second to 4 minutes		
92	TIMER	*Off*	To turn the selected input into an input to which an external clock can be connected	*Off*	
		On Photocell 2			
		On Partial Start			
		Clock			
93	FIRE SWITCH	*Off*	Disabled	*Off*	
		On Photocell 2	The function can be enabled on the Photocell 2 input		
		On Partial Start	The function can be enabled on the Partial Start input		
94	24V AUX ***(Max. 1 A)*** ***The AUX output allows the wiring of additional accessories via relay; accessories will work according to the chosen option***	*Always*	AUX output always powered	*Always*	
		In cycle	AUX output powered only during cycle		
		Opening	AUX output powered only during opening		
		Closing	AUX output powered only during closing		
		In pause	AUX output powered only during pause		
		Phototest	AUX output powered for safety devices testing		
		In cycle and phototest	AUX output powered only during cycle and for safety devices testing		
		In cycle and pause	AUX output powered during cycle and during pause		
		Courtesy light	To enable an additional courtesy light wired via external relay. The courtesy light will work according to the settings of the **menu 88 - COURTESY LIGHT**		
		Barrier and Bollard LED lights	**Closed operator -** the light is switched-on **Open operator -** the light is switched-off **Moving operator -** the light blinks		
		Open gate warning light	**1 flash per second -** during opening **2 flashes per second -** during closing **Steady lit -** gate in «STOP» or «OPEN» status		

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
95	PHOTO-TEST	*Photocell 1*	Self-test enabled only on photocell 1	*Off*	
		Photocell 2	Self-test enabled only on photocell 2		
		Photocells 1 and 2	Self-test enabled on photocells 1 and 2		
		Off	Disabled		
96	SAFETY EDGE SELF-TEST	*Safety Edge 1*	Self-test enabled only on safety edge 1	*Off*	
		Safety Edge 2	Self-test enabled only on safety edge 2		
		Safety Edges 1 and 2	Self-test enabled on safety edges 1 and 2		
		Off	Disabled		
97	PHOTOCELL 1	*Closing*	If the photocell is occupied during closing, the gate reverses the movement; If the photocell is occupied during the pause, it prevents the gate reclosing	*Closing*	
		Opening and closing	If the photocell is occupied during opening or closing, it stops the gate movement; when the photocell is released, the 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 gate 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)***		
		Closing *Pause reloading*	If the photocell is occupied during the pause, it reloads the same pause time set. If the photocell is occupied in closing, it reverses the gate movement		
		Opening and Closing *Pause reloading*	If the photocell is occupied during the pause, it reloads the pause time set. If the photocell is occupied during the closing, it reverses the movement; If the photocell is occupied during the opening, it stops the gate and when released, the opening continues		
		Shadow loop	When the gate is open, the shadow loop prevents the reclosing until it is occupied. The Shadow loop is switched off during closing		
		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		
		Shadow loop PR ***(pause reloading)***	When the gate is open, the shadow loop prevents the reclosing until it is occupied. When released, the gate repeats the pause time set, then it closes. The Shadow loop is switched off during closing		

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
98	PHOTOCELL 2	*Closing*	If the photocell is occupied during closing, the gate reverses the movement; If the photocell is occupied during the pause, it prevents the gate reclosing	*Opening and Closing*	
		Opening and closing	If the photocell is occupied during opening or closing, it stops the gate movement; when the photocell is released, the 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 open	If the photocell is occupied during opening, the gate will stop; when released, the gate continues the opening movement. The photocell is ignored during closing		
		Stop and close	If the photocell is occupied during closing, it stops the gate 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)***		
		Opening *Pause reloading*	If the photocell is occupied during the pause, it recharges the same pause time set. If the photocell is occupied during the opening, the gate stops and when released, the movement continues		
		Opening and Closing *Pause reloading*	If the photocell is occupied during the pause, it reloads the pause time set. If the photocell is occupied during the closing, it reverses the movement; If the photocell is occupied during the opening, it stops the gate and when released, the opening continues		
		Shadow loop	When the gate is open, the shadow loop prevents the reclosing until it is occupied. The Shadow loop is switched off during closing		
		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		
		Shadow loop PR ***(pause reloading)***	When the gate is open, the shadow loop prevents the reclosing until it is occupied. When released, the gate repeats the pause time set, then it closes. The Shadow loop is switched off during closing		
		Pause reload *Photo closing*	If the photocell is occupied during the pause, it reloads the pause time set. If the photocell is occupied during closing, the gate reverses the movement		
100	SAFETY EDGE 1	*Normal*	Standard safety edge - N.C. contact	*Normal*	
		8K2 N.C.	Safety edge protected by a 8K2 resistor enabled		
		8K2 N.C. Double	Two safety edges protected by 8K2 resistor enabled		
		8K2 RES	Resistive edge protected by 8K2 resistor enabled		
		8K2 RES Double	Two resistive edges protected by 8K2 RES enabled		
101	SAFETY EDGE 2	*Normal*	Standard safety edge - N.C. contact	*Normal*	
		8K2 N.C.	Safety edge protected by a 8K2 resistor enabled		
		8K2 N.C. Double	Two safety edges protected by 8K2 resistor enabled		
		8K2 RES	Resistive edge protected by 8K2 resistor enabled		
		8K2 RES Double	Two resistive edges protected by 8K2 RES enabled		
102	SAFETY EDGE 1 DIRECTION	*Opening and closing*	Safety edge enabled in opening and closing	*Opening and Closing*	
		Only opening	Safety edge enabled only in opening		
		Only closing	Safety edge enabled only in closing		

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
103	SAFETY EDGE 2 DIRECTION	*Opening and closing*	Safety edge enabled in opening and closing	*Opening and Closing*	
		Only opening	Safety edge enabled only in opening		
		Only closing	Safety edge enabled only in closing		
104	SELECT LIMIT SWITCH	*N. C.*	Limit switch type N.C. ***(Normally Closed)*** ***Example: inductive limit switch or with lever***	*N.C.*	
		Ext	Limit switch connected on the external interface ***for 4 cams limit switches***		
		N.O.	Limit switch type N.O. ***(Normally Open)*** ***Example: magnetic limit switch***		
106	DIAGNOSTICS	*1 10*	To display the last 10 events *(alarms)* ***(See Chapter «ALARMS»)***	- - - -	
107	MAINTENANCE CYCLES	*100 240000*	Adjustable from 100 to 240000 cycles	*100000*	
108	PERFORMED CYCLES	*0 240000*	To display the executed cycles. ***Hold pressed OK to reset the cycles***	*0*	
109	THERMOMETER *	*xx °C (xx °C)*	To display the temperature if a probe is connected. ***The connection of up to two temperature probes is allowed and in this case, the display will show both temperatures detected***	*Off*	
110	LOWER TEMPERATURE THRESHOLD *	*From -20° to +50°*	To adjust the temperature threshold to enable the oil heater	*-10°*	
111	UPPER TEMPERATURE THRESHOLD *	*From -20° to +50°*	To adjust the temperature threshold to disable the oil heater	*0°*	
**** The menus are shown only if the temperature probe is connected to the GP3 input and the menu 139-GP3 is set to «THERMOMETER»; in case of two probes, also set menus 130-GP1 or 131-GP2 to «THERMOMETER»***					
112	PASSWORD	***Note: «0000» setting is not allowed***	To enter a password for blocking the control unit parameters modification	- - - -	
115	DECELERATION RAMP	0,1 s 5s	Deceleration management in case of inversion or Stop command	*0,5 s*	
116	REPEAT LEAF DELAY	*On Off*	In case of a STOP command when the gate is on its halfway, the leaves will repeat the «leaf delay» set on menus 26-27	*On*	
117	ALWAYS CLOSE	*Off 240 seconds*	In case of power failure, if the gate has been manually open, 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	To enable the LATCH button wired to the «Safety Edge 1» N.O. input ***(Safety Edge 1 will be disabled);*** after a LATCH button command the gate opens and stay open till a new LATCH button command		
		Closing	To enable the LATCH button wired to the «Safety Edge 2» N.O. input ***(Safety Edge 2 will be disabled);*** after a LATCH button command the gate closes and stay closed till a new LATCH button command		
		Opening and closing	To enable the LATCH buttons wired to the «Safety Edge 1» and «Safety Edge 2» N.O. inputs ***(both Safety Edges will be disabled);*** The two LATCH buttons can be used as above described		
To disable the LATCH, press one more time the same button used to enable ***The LATCH command can also be sent from Tx or SEACLOUD, thus keeping the SAFETY EDGE inputs free***					
119	DISPLAY WRITING SPEED	*From 30% to 100%*	The scrolling speed of the text can be adjusted from 30% to 100%	*80%*	
If the menu 119 is set to the minimum value of 30%, the scrolling speed will be low. ***On the contrary, if adjusted to the maximum value of 100%, the scrolling speed of the text will be very high.*** ***Note: the speed does not change on the display of the JOLLY 3 programmer!***					
120	BASIC MENU	Press OK to exit the special menu. The special menu switches off automatically after 20 minutes			

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
121	PHOTO 1 TYPE	*Normal*	Standard photocell without 10K control	*Normal*	
		Photo 1 10K	Photocell with 10K control		
		Photo 1 10K DOUBLE	Double photocell with 10K control		
122	PHOTO 2 TYPE	*Normal*	Standard photocell without 10K control	*Normal*	
		Photo 2 10K	Photocell with 10K control		
		Photo 2 10K DOUBLE	Double photocell with 10K control		
123	DATE AND TIME	*Mon - Sun* *dd/mm/yyyy* *Time*	To set the day, the date and the time for the management of the programmed openings. ***(Only with full charge buffer battery)***	- - - -	
124	CLOCK 1	*Opening time*	To set a first time band for planned openings . It is possible to set: opening time, closing time and the days on which you want to open and keep the gate open	*Off*	
		Closing time			
		Days			
		Modify	To modify the pre-set time and day		
		Exit	Exit from menu		
125	CLOCK 2	*Opening time*	To set a second time band for planned openings . It is possible to set: opening time, closing time and the days on which you want to open and keep the gate open	*Off*	
		Closing time			
		Days			
		Modify	To modify the pre-set time and day		
		Exit	Exit from menu		
126	CLOCK 3	*Opening time*	To set a third time band for planned openings . It is possible to set: opening time, closing time and the days on which you want to open and keep the gate open	*Off*	
		Closing time			
		Days			
		Modify	To modify the pre-set time and day		
		Exit	Exit from menu		
127	CLOCK 4	*Opening time*	To set a fourth time band for planned openings . It is possible to set: opening time, closing time and the days on which you want to open and keep the gate open	*Off*	
		Closing time			
		Days			
		Modify	To modify the pre-set time and day		
		Exit	Exit from menu		
130	GP1 *****	*Off*	Disabled	*Off*	
		Open	To enable an opening button wired to GP1; the button will operate in *«Dead Man»* logic and will only work when the gate is closed or after a STOP command		
		Emergency open	To enable an emergency opening button wired to GP1; the button will operate in «Dead Man» logic and will only work in case of safety devices failure or in case of stuck START button		
		Thermometer	To enable the temperature probe wired to the GP1 input ***(to detect hydraulic motors oil temperature).*** The menu 109 displays the detected value		
131	GP2 *****	*Off*	Disabled	*Off*	
		Close	To enable a closing button wired to GP2; the button will operate in *«Dead Man»* logic and will only work when the gate is open or after a STOP command		
		Emergency close	To enable an emergency closing button wired to GP2; the button will operate in «Dead Man» logic and will only work in case of safety devices failure or in case of stuck START button		
		Thermometer	To enable the temperature probe wired to the GP2 input ***(to detect hydraulic motors oil temperature).*** The menu 109 displays the detected value		

**** The menus 130-GP1 and 131-GP2 are not shown if a Potentiometer is wired on the GP1 and GP2 inputs***

MENU SPECIALE		SET	DESCRIZIONE	DEFAULT	NOTE
132	RELAY 1	*Off*	Disabled	*Off*	
		START 3s	To enable the Relay 1 for 3 seconds at every START or reopening command		
		Traffic light	The Relay 1 manages the wired traffic light as follows: The green light is switched-on only when the gate is open. The red light is switched-on when the gate is moving or closed		
		Lock copy	If a lock is wired via relay, this option replicates the management settings given to the menu 78-LOCK		
		Flashing light copy	If a flashing light is wired via relay, this option replicates the management settings given to the menu 86-FLASHING LIGHT		
		Courtesy light copy	If a courtesy light is wired via relay, this option replicates the management settings given to the menu 88-COURTESY LIGHT		
		Fire-switch copy	If a fire-switch is wired via relay, this option replicates the management settings given to the menu 93-FIRE SWITCH		
		Opening 1 limit switch	The Relay 2 will be ON if the motor 1 opening limit switch is activated or if the motor 1 is in «OPEN» status		
		Closing 1 limit switch	The Relay 2 will be ON if the motor 1 closing limit switch is activated or if the motor 1 is in «CLOSED» status		
		Opening 2 limit switch	The Relay 2 will be ON if the motor 2 opening limit switch is activated or if motor 2 is in «OPEN» status		
		Closing 2 limit switch	The Relay 2 will be ON if the motor 2 closing limit switch is activated or if the motor 2 is in «CLOSED» status		
		Tx Relay	If the function «RELAY 1» has been stored on the transmitter second channel, the Relay 1 can be activated for 3 seconds by pressing the Tx button. ***Example: to turn on a courtesy light wired via relay***		
		Negative brake and Photocell management	Negative electric brake the Relay is enabled when the gate is in cycle and 1 second before the start up. The photocell intervention disables the relay		
		Negative brake management	Negative electric brake the Relay is enabled when the gate is in cycle and 1 second before the start up		
		Positive brake management	Positive electric brake ***the Relay is enabled when the gate is stationary***		
		Opening electric-valve	To enable the operation in opening of the electric valve wired via Relay 1		
		Closing electric-valve	To enable the operation in closing of the electric valve wired via Relay 1		
		Clock	The Relay will be active in the same time band set on menus 124 - 125 - 126 - 127		

MENU SPECIALE		SET	DESCRIZIONE	DEFAULT	NOTE
137	COMIS	*0* *500 mA*	To display the absorption of the 24V accessories wired to clamps 17 (24V+) and 20 *(COMMON ACCESSORIES)* of CN2 terminal, up to a maximum load of 500 mA	- - - -	
138	COMIS THRESHOLD	*Off* *500 mA*	To set a maximum absorption threshold, beyond which an error message appears. ***In any case, the error message also appears if 500 mA is exceeded***	*Off*	
139	GP3	*Off*	Disabled	*Off*	
		Open	To enable an opening button wired to GP3; the button will operate in *«Dead Man»* logic and will only work when the gate is closed or after a STOP command		
		Close	To enable a closing button wired to GP3; the button will operate in *«Dead Man»* logic and will only work when the gate is open or after a STOP command		
		Emergency open	To enable an emergency opening button wired to GP3; the button will operate in «Dead Man» logic and will only work in case of safety devices failure or in case of stuck START button		
		Emergency close	To enable an emergency closing button wired to GP3; the button will operate in «Dead Man» logic and will only work in case of safety devices failure or in case of stuck START button		
		Thermometer	To enable the temperature probe wired to the GP3 input ***(to detect hydraulic motors oil temperature).*** The menu 109 displays the detected value		
140	THRESHOLD A OPENING 1	*0,1* *10 Ampere*	To adjust the amperometric intervention threshold of motor 1 in opening ***(over the set threshold motor will detect an obstacle)***	*It depends on motor*	
141	THRESHOLD A CLOSING 1	*0,1* *10 Ampere*	To adjust the amperometric intervention threshold of motor 1 in closing ***(over the set threshold motor will detect an obstacle)***	*It depends on motor*	
142	THRESHOLD A OPENING 2	*0,1* *10 Ampere*	To adjust the amperometric intervention threshold of motor 2 in opening ***(over the set threshold motor will detect an obstacle)***	*It depends on motor*	
143	THRESHOLD A CLOSING 2	*0,1* *10 Ampere*	To adjust the amperometric intervention threshold of motor 2 in closing ***(over the set threshold the motor will detect an obstacle)***	*It depends on motor*	
144	THRESHOLD A OPENING SLOWDOWN 1	*0,1* *10 Ampere*	To adjust the amperometric intervention threshold of motor 1 in slowdown during opening	*It depends on motor*	
145	THRESHOLD A CLOSING SLOWDOWN 1	*0,1* *10 Ampere*	To adjust the amperometric intervention threshold of motor 1 in slowdown during closing	*It depends on motor*	
146	THRESHOLD A OPENING SLOWDOWN 2	*0,1* *10 Ampere*	To adjust the amperometric intervention threshold of motor 2 in slowdown during opening	*It depends on motor*	
147	THRESHOLD A CLOSING SLOWDOWN 2	*0,1* *10 Ampere*	To adjust the amperometric intervention threshold of motor 2 in slowdown during closing	*It depends on motor*	
190	BASIC MENU	Press **OK** to exit the special menu. The special menu switches off automatically after 20 minutes			

PART FOR BOTH INSTALLER AND END-USER

MAINTENANCE: periodically, it would be advisable to reprogram the working times on the control unit according to the number of cycles performed over time and according to the type of operator, especially if changes in friction, malfunctions or non-compliance with the previously set working times are noticed. Periodically clean the optical system of the photocells.

SAFETY PRECAUTIONS: all electrical works and the choice of the operating logic should comply with the current regulations. A 16A/0,030 differential switch must be used. Separate the source cables *(operators, power supply)* and command cables *(photocells, push-buttons, etc)*. Be sure the system is properly grounded. Always run cables in separate sheaths to prevent interferences

SPARE PARTS: send request for spare parts to: ***SEA S.p.A. - Teramo - ITALY - www.seateam.com***

SAFETY AND ENVIRONMENTAL COMPATIBILITY: do not waste product packaging materials and/or circuits; do not dispose of the product 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 recommend 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 waste collection and recycling of this kind of product.

STORAGE: T = -30°C/+60°C ; Humidity = min. 5% / max. 90% (without condensation); Materials must be properly packaged, handled with care and with appropriate vehicles

WARRANTY LIMITS: - see the sales conditions

MAINTENANCE AND DECOMMISSION: must be carried out only by specialized and authorized personnel

THE MANUFACTURER CAN NOT BE DEEMED RESPONSIBLE FOR ANY DAMAGE OR INJURY CAUSED BY IMPROPER USE OF THIS PRODUCT

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.

GENERAL NOTICE

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 comply with Directives: Machine Regulation 2006/42/CE and following adjustments, Low Tension (2006/95/CE), Electromagnetic Consistency (2004/108/CE); Installation must respect 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 grounding system is perfectly constructed, and connect to it the metal parts of the gate

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 concerning the automated system safety and efficiency, if components used are not produced by SEA

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 the system 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. The 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 mm2 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 safety low voltage (SELV) or use an appropriate sheath that provides extra insulation having a thickness of 1 mm

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 S.p.A. All sales made by SEA to all customers 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 EN12453 – EN 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 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 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 or damage of the goods during transport, are at Buyer's cost

6) COMPLAINTS Any complaints 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 complaints 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 property 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 LAW**

Automatic Gate Openers
International registered trademark n. 804888

DECLARATION OF CONFORMITY
DICHIARAZIONE DI CONFORMITÀ

SEA S.p.A. declares under its proper responsibility and, if applicable, under the responsibility of its authorised representative that, by installing the appropriate safety equipment and noise filtering, the products:

La SEA S.p.A. dichiara sotto la propria responsabilità e, se applicabile, del suo rappresentante autorizzato che, con l'installazione degli adeguati dispositivi di sicurezza e di filtraggio disturbi, i prodotti:

DESCRIPTION - *DESCRIZIONE*	**MODEL** - *MODELLO*	**TRADEMARK** - *MARCA*
GATE 2 DG INVERTER *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**23023026**	**SEA**

- are 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;
- comply with the essential safety requirements related to the products within the field of applicability of the Community Directives 2014/35/UE and 2014/30/UE

- sono costruiti per essere incorporati in una macchina o per essere assemblati con altri macchinari per costruire una macchina ai sensi della Direttiva 2006/42/CE;
- sono conformi ai requisiti essenziali di sicurezza relativi ai prodotti entro il campo di applicabilità delle Direttive Comunitarie 2014/35/UE e 2014/30/UE

PLACE AND DATE OF ISSUE
LUOGO E DATA DI EMISSIONE

TERAMO, 06/09/2022

THE MANUFACTURER OR THE AUTHORIZED REPRESENTATIVE
IL COSTRUTTORE O IL RAPPRESENTATE AUTORIZZATO

SEA S.P.A.
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L'Amministratore
The Administrator
Ennio Di Saverio

NOTES

SEA®

Automatic Gate Openers

International registered trademark n. 804888

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