SEA®

Automatic Gate Openers

International registered trademark n. 804888

CE UKCA

ENGLISH

GATE 2 DG R1B

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

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67411385 REV. 20 - 10/2023

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PRELIMINARY

● **The GATE 2 DG control unit requires the programming of the working times** ***(chapter 14)***; 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 **03.03;** 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

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 13)***

● 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

● 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

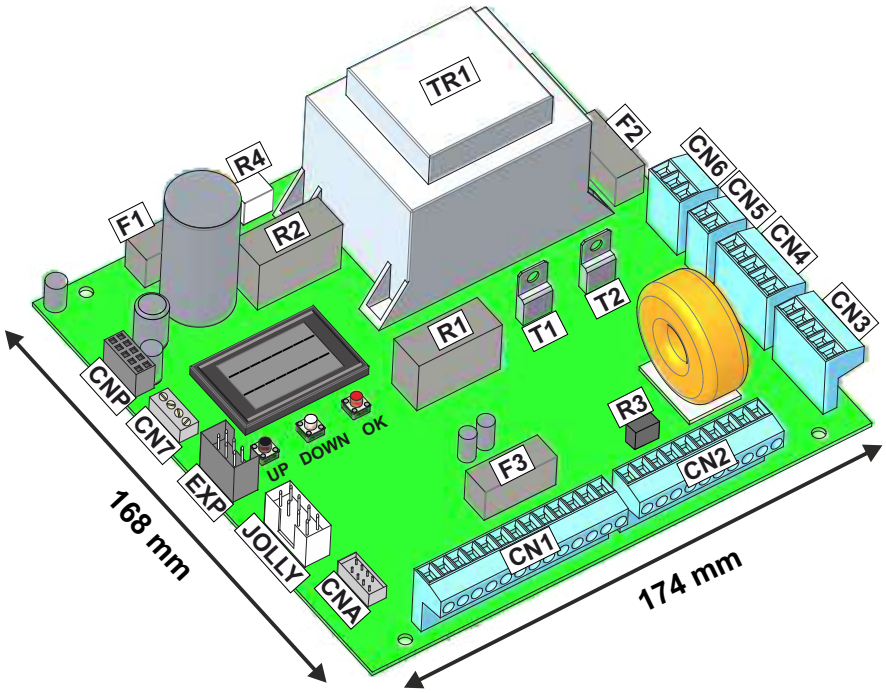
● If installed, enable the encoder or the potentiometer on menu 32 - ***paragraph 14.2***

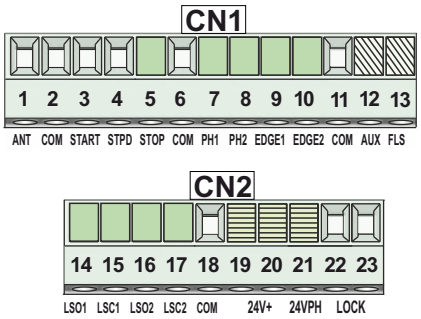
32 ENCODER

● Start the working times learning by following the procedure in ***chapter 14***

1 - WIRINGS

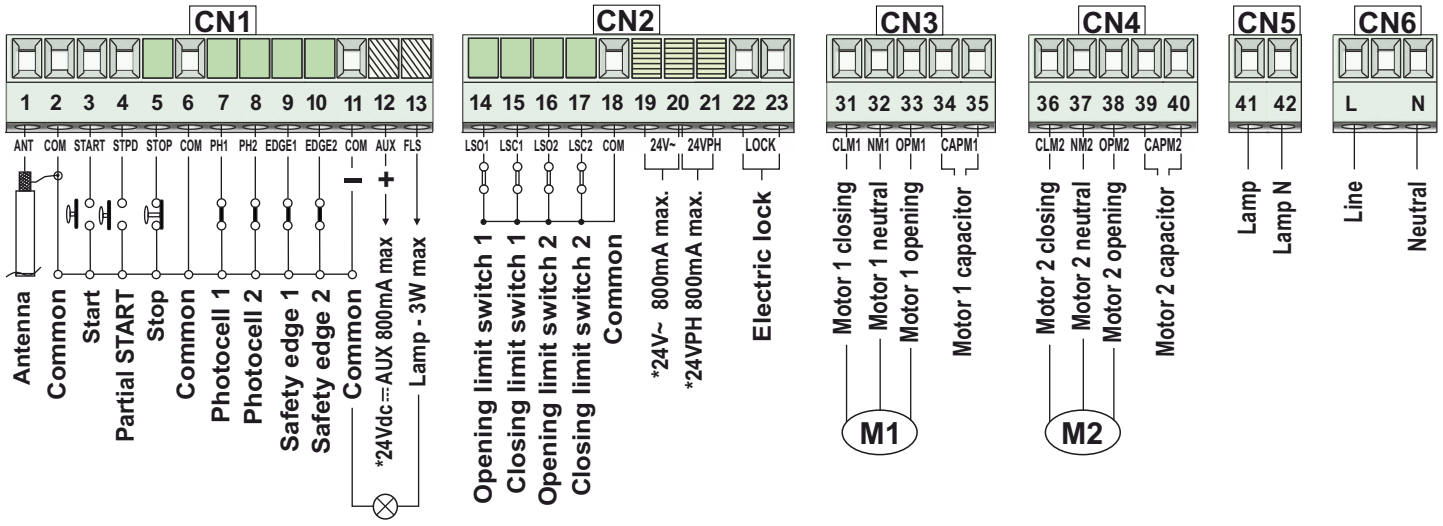
Make all the wirings when the control unit is not powered!
Keep the power cables separate from the command cables - always run cables in separate sheaths to prevent interferences!

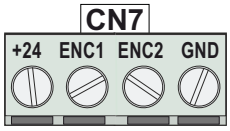




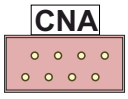
N.C. CONTACTS 24V DC 24V AC

- **Automatic recognition of the N.C. inputs not in use**
  NO JUMPERS REQUIRED ON THE N.C. CONTACTS!
- **To restore the excluded inputs use the «INPUTS MANAGEMENT» menu *(chapter 13)***
  NO NEED TO SET UP THE UNIT AGAIN!



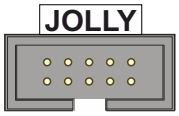


ENCODER CONNECTOR

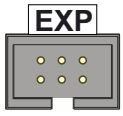


RECEIVER CONNECTOR

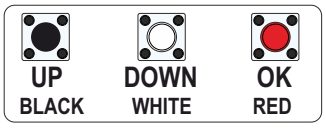
OPEN *(Firmware update)*



JOLLY3 SEACLOUD CONNECTOR



EXTERNAL MODULE CONNECTOR

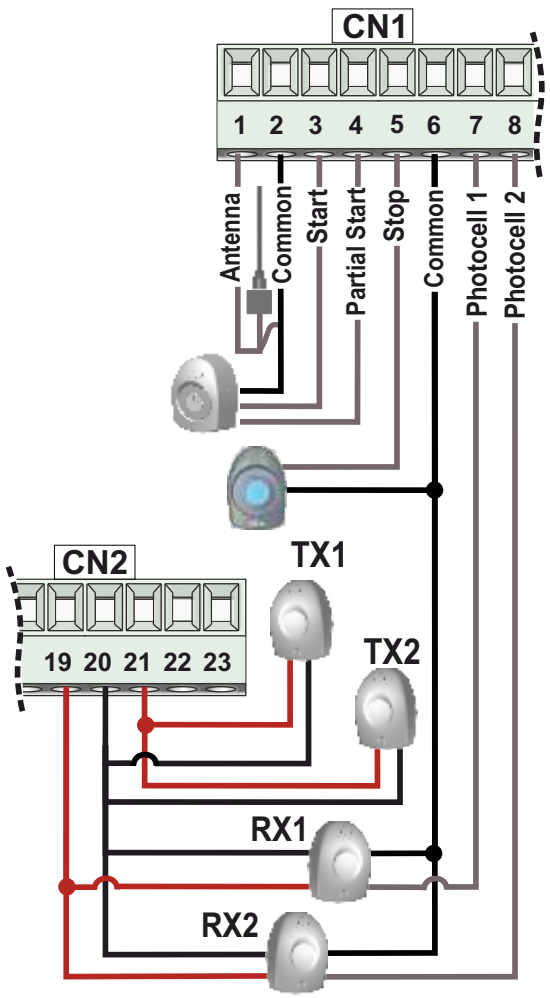


PROGRAMMING BUTTONS

R1	=	MOTOR RELAY	T1	=	MOTOR CONTROL TRIAC
R2	=	COURTESY LIGHT RELAY	T2	=	MOTOR CONTROL TRIAC
R3	=	PHOTOCELL SELF-TEST RELAY	F1	=	FUSE ACCESSORIES 1A
R4	=	ELECTRIC LOCK RELAY	F2	=	FUSE 6.3AT (230V) OR 10AT (115V)
TR1	=	POWER TRANSFORMER	F3	=	ELECTRIC LOCK FUSE 6.3A

** All the 24V inputs support a maximum load of 800 mA - 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 *(or 2)*
- Logics to be linked to the **«START»** command in ***chapter 15***

⇨ *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»** on clamps 4 and 6 *(or 2)*
- Logics to be linked to the **«PARTIAL START»** in ***chapter 15***
- 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 wired via SEM unit, it is possible to enable the opening or closing priority linked to the **«START»** or **«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 800 mA - COM (0V) (clamps 19 - 20)*** ***24VPH max 800 mA - COM (0V) (clamps 21 - 20)***
  PH1 = Photocell 1 (clamp 7) ***PH2 = Photocell 2 (clamp 8)***
- Management **97 PHOTOCELL 1** **98 PHOTOCELL 2**
- **«PHOTOTEST» function**: connect the Tx-photocell positive cable on the clamp 12 then choose which photocell to test among the options of the menu 95 — **95 PHOTOTEST**

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

⇨ *THE USE OF **SHIELDED PHOTOCELLS IS MANDATORY !***

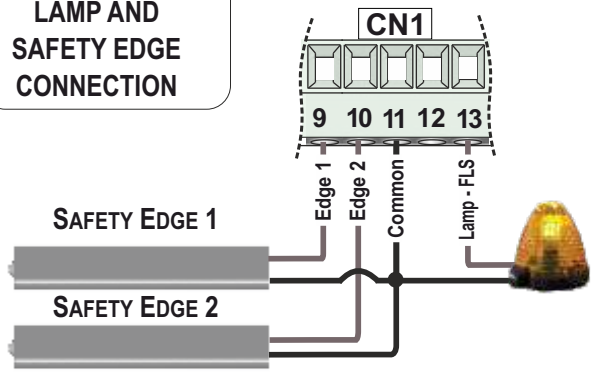
2.5 - TIMER (N.O.) - EXTERNAL CLOCK

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



2.6 - 24V⎓ FLASHING LIGHT - MAX 3W

- Connect the flashing light on clamps 11 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 18***

2.7 - 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

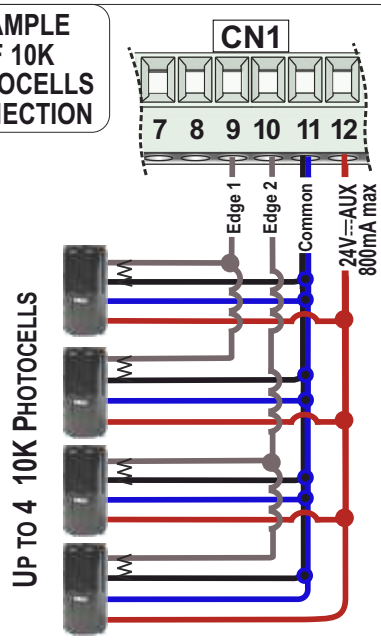
100 SAFETY EDGE 1 | **101** SAFETY EDGE 2 | **102** EDGE 1 DIRECTION | **103** EDGE 2 DIRECTION

⇨ BALANCED 8K2 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

EXAMPLE OF 10K PHOTOCELLS CONNECTION



2.8 - 10K PHOTOCELL SINGLE OR DOUBLE

- Connect 10K photocells on clamps 9 - 11 - 12 and 10 - 11 - 12
- Up to four 10K photocells can be connected;
  set the menus 100 or 101 on **«PHOTO 1 10K»** or **«PHOTO 1 10K DOUBLE»**

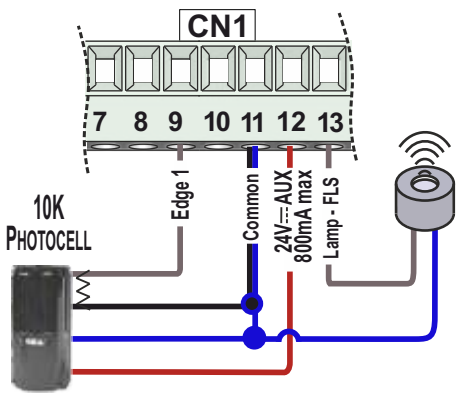
100 SAFETY EDGE 1 → OK → UP → PHOTO1 10K → UP → PHOTO1 10K DOUBLE → OK

- 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



2.9 - BUZZER 24V ⎓

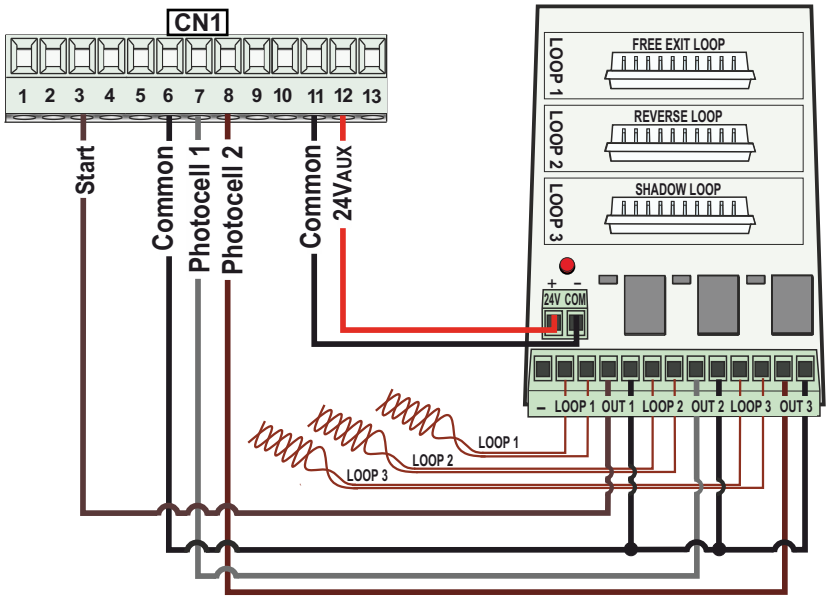
- Connect the buzzer on clamps 12 and 13
- Use a 24V⎓ and 100 dB oscillating Buzzer
- The Buzzer can be connected instead of the flashing light; ***it is necessary to set the menu 86 to «BUZZER»***

86 FLASHING LIGHT → OK → UP → BUZZER → OK

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

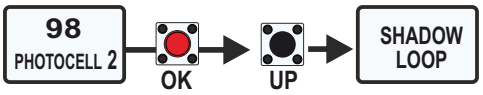
⇨ Press the STOP button to turn off the buzzer; anyway, the sound switches off automatically after 5 minutes and the operator remains stopped waiting for a new command

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



2.10 - 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

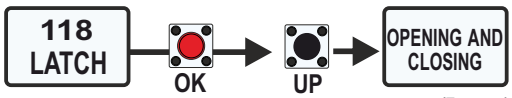


⇨ ***USE THE SAFETY LOOP COMBINED WITH THE «ULTRA LOOP PLUG» (23105142)***

2.11 - LATCH OPENING OR LATCH CLOSING BUTTON

- Connect the button to use as LATCH on clamps 4 and 6

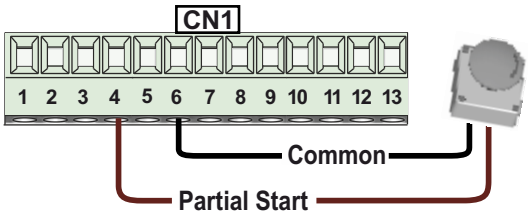
⚠ ***THE PARTIAL START FUNCTION WILL BE DISABLED***

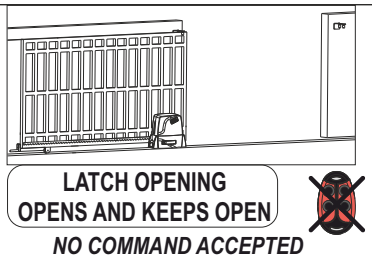


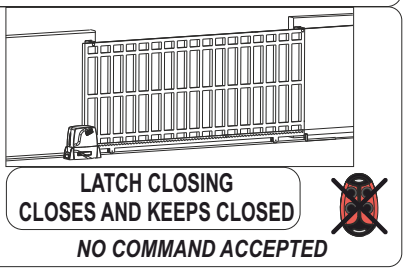
(EXAMPLE)

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

⇨ *The LATCH command can also be sent from SEACLOUD or enabled on the second channel of the transmitter **(paragraph 17.4)**, thus keeping the PARTIAL START input free;*

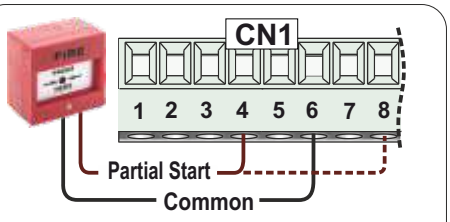




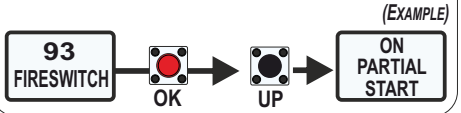


2.12 - «FIRE SWITCH» FUNCTION

- 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 menu 93



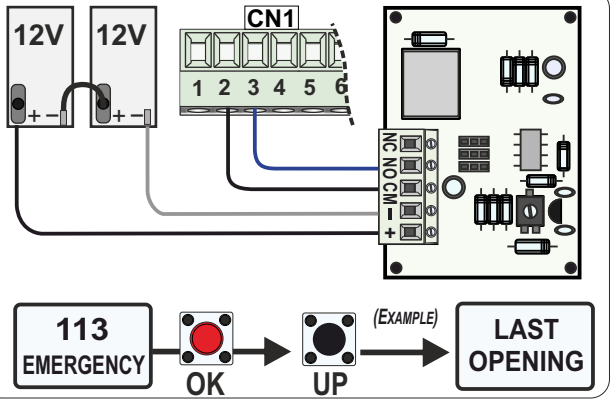
(EXAMPLE)



2.13 - EMERGENCY BATTERY CONNECTION VIA «LB» CIRCUIT

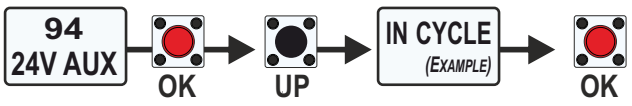
- The **«STAR 400/800»** emergency battery pack can be connected through the management unit **«LB»**
- The **«LB»** management unit controls the charge of the batteries and allows one last operation before the batteries are completely discharged
- The last operation can be in opening or in closing; on menu 113 you can set the desired option

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



2.14 - 24V ⎓ DC AUX INPUT OPTIONS - *CLAMP 12 - MAX 800mA*

- Management: on menu 94 choose how to have voltage on the AUX input, according to the type of accessory you have wired

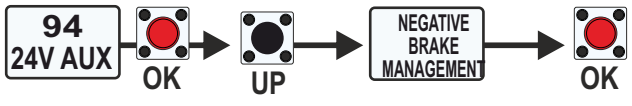


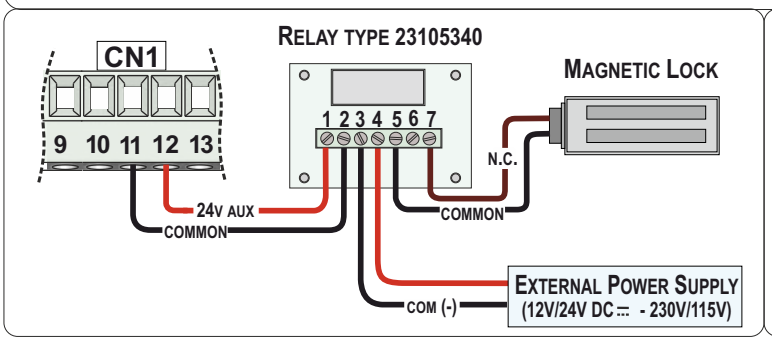
CONNECT THE ACCESSORY ONLY AFTER SETTING THE MENU 94 ON THE DESIRED OPTION!

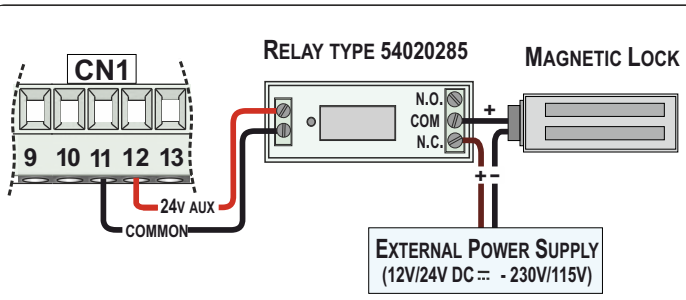
- ***A RELAY CAN BE CONNECTED TO THE 24VAUX INPUT***; the relay allows the connection and the management of additional accessories *(courtesy light, locks etc.)*; some examples below, including the menu 94 settings

MAGNETIC LOCK - *BY THE USE OF TWO DIFFERENT RELAY MODELS*

- To use the magnetic lock set the menu 94 on «NEGATIVE BRAKE MANAGEMENT» (24Vaux input powered during the cycle and 1 second before starting)

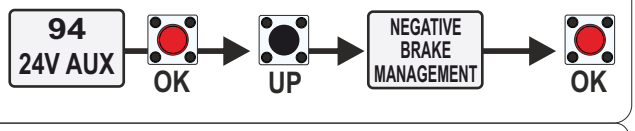


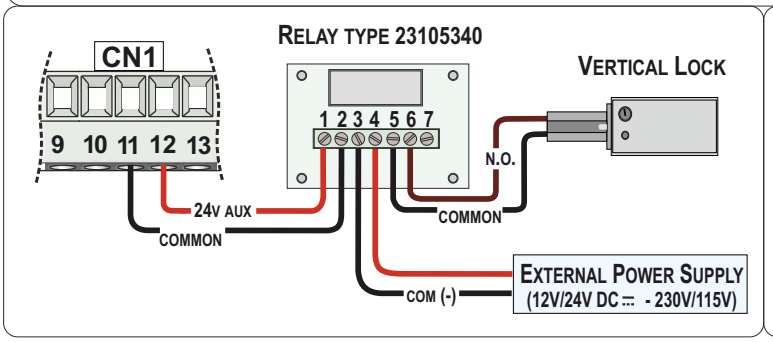


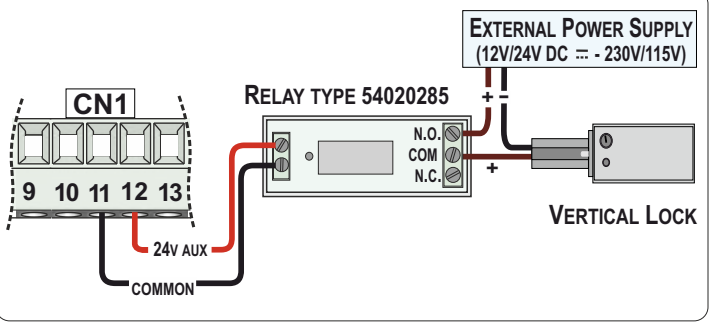


VERTICAL LOCK - *BY THE USE OF TWO DIFFERENT RELAY MODELS*

- To use the vertical lock set the menu 94 on «NEGATIVE BRAKE MANAGEMENT» (24Vaux input powered during the cycle and 1 second before starting)

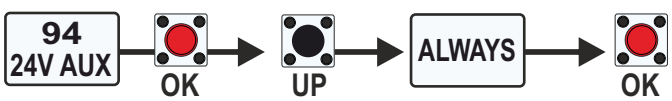


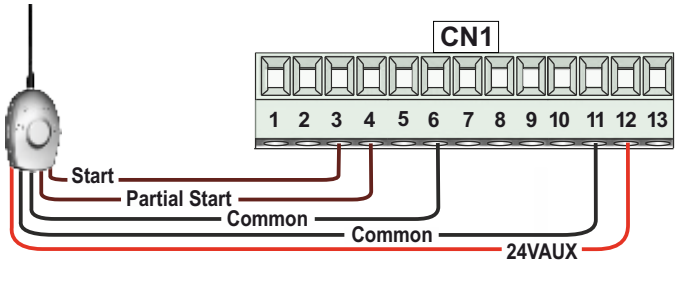




EXTERNAL RECEIVER

- To use the external receiver, set the menu 94 to **«ALWAYS»** for a continuous power supply; wire the receiver as shown below.





3 - CONNECTIONS ON CN2

3.1 - LIMIT SWITCH

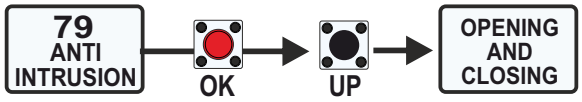
- Connect the opening and closing limit switch as shown

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

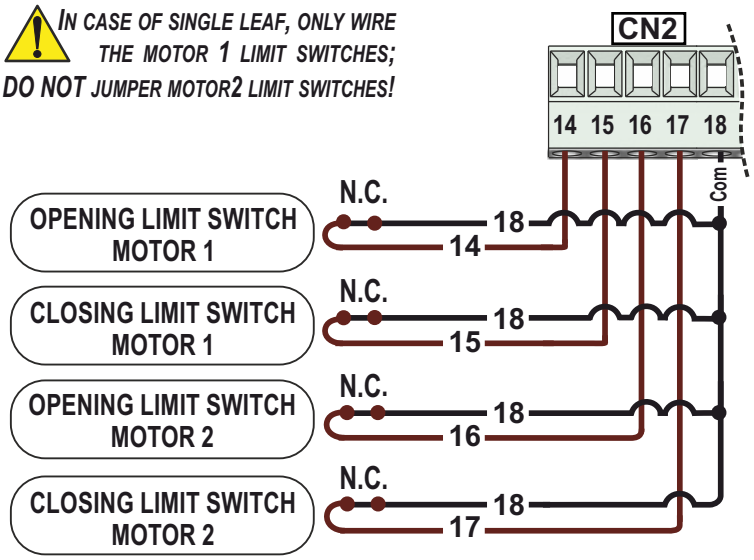
ANTI-INTRUSION FUNCTION:

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

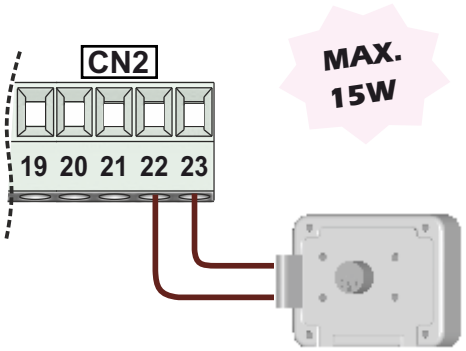
(EXAMPLE)



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

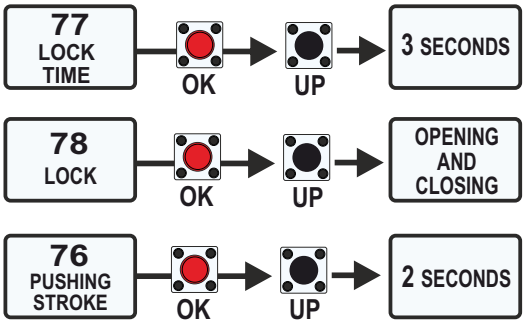


3.2 - 12V ELECTRIC LOCK



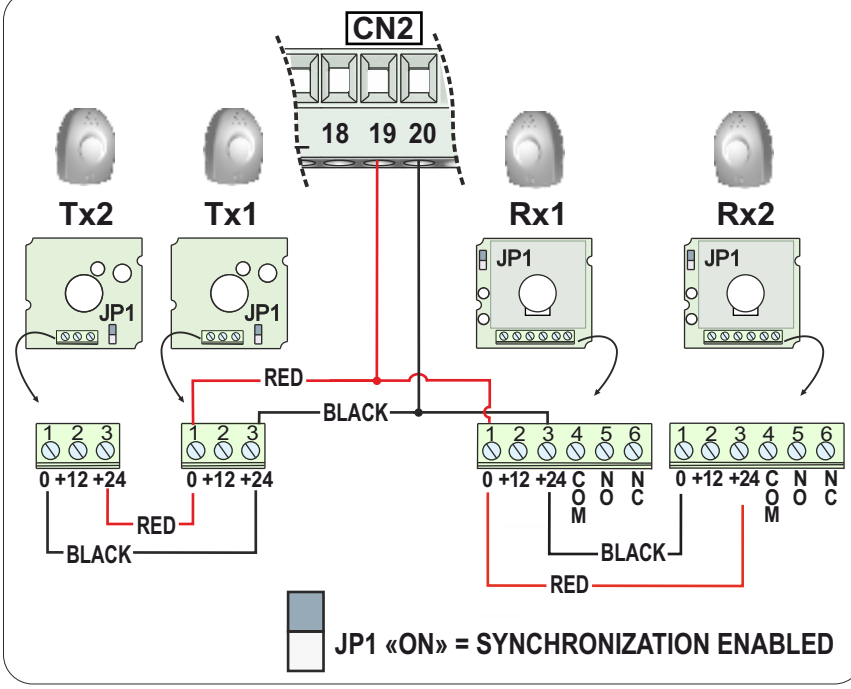
- 12V - max 15W electric lock wirings on clamps 22 and 23
- Lock release time adjustment: menu 77
- Lock activation mode adjustment: menu 78

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



(EXAMPLES OF SETTINGS)

3.3 - SYNCHRONIZED PHOTOCELLS



- Wiring diagram for one or two couple of synchronized photocells on CN2 *(24Vac - max. 150 mA)*
- Set the desired operation mode via the menus «photocell»

97 PHOTOCELL 1

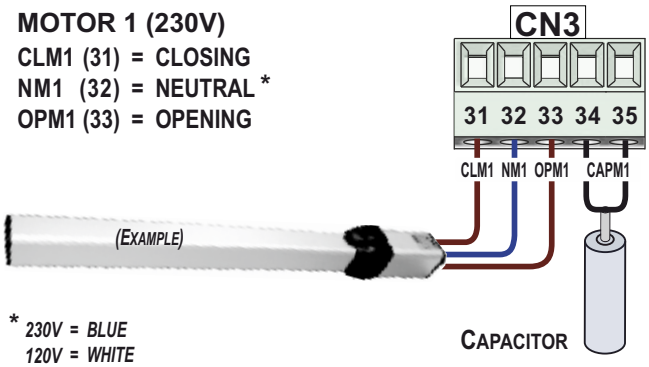
98 PHOTOCELL 2

⇨ *For more details on synchronized photocells, see the relative technical instruction*

4 - CONNECTIONS ON CN3 and CN4

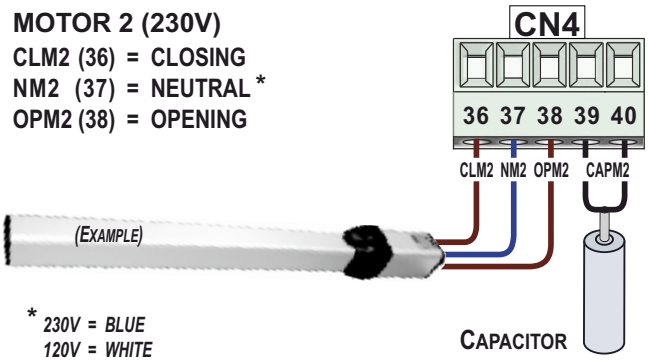
4.1 - MOTORS CONNECTION ON THE CONTROL UNIT

MOTOR 1 (230V)
CLM1 (31) = CLOSING
NM1 (32) = NEUTRAL *
OPM1 (33) = OPENING



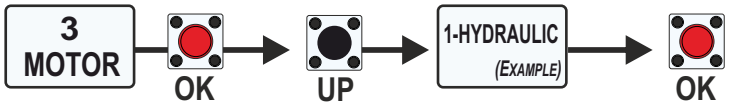
* 230V = BLUE
120V = WHITE

MOTOR 2 (230V)
CLM2 (36) = CLOSING
NM2 (37) = NEUTRAL *
OPM2 (38) = OPENING



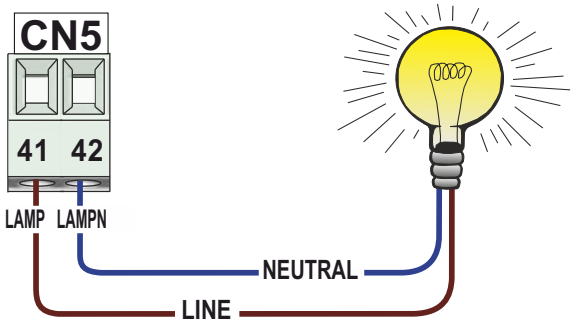
* 230V = BLUE
120V = WHITE

- According to the model of operator in use, set the menu 3 on the correct type!



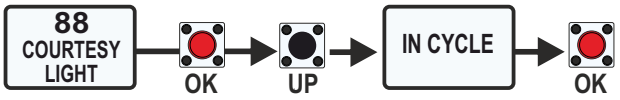
5 - CONNECTIONS ON CN5

5.1 - COURTESY LIGHT

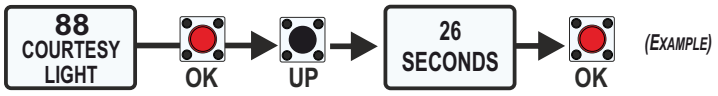


Max. 50W ⟶ 230V Max. 100W ⟶ 115V

- Wire the courtesy light as shown in the diagram
- Courtesy light operation can be managed by menu 88

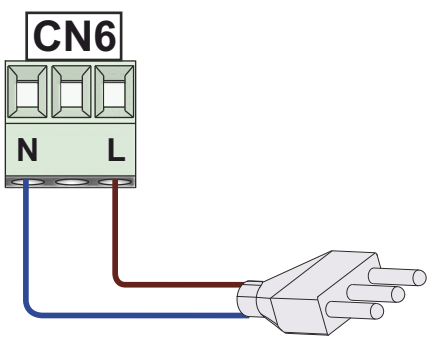


- The timing can be set from 0 to 240 seconds



6 - POWER SUPPLY CONNECTIONS ON CN6

6.1 - CONTROL UNIT POWER SUPPLY



- *Fuse 16AT delayed on 230V~ power supply*
  Fuse 16AT 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

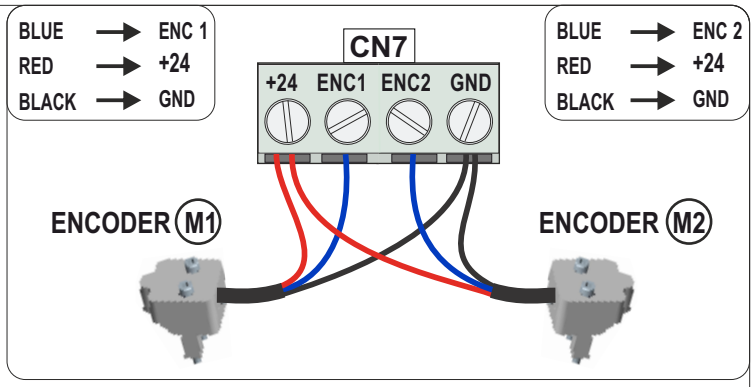
For the connection to the power grid respect the laws in force

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

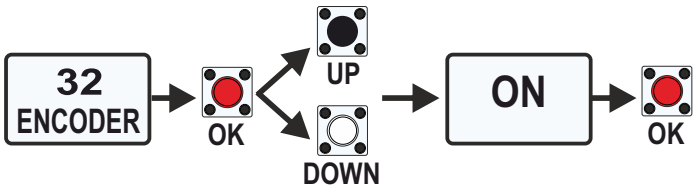
7 - CONNECTIONS ON CN7

7.1 - ENCODER STANDARD

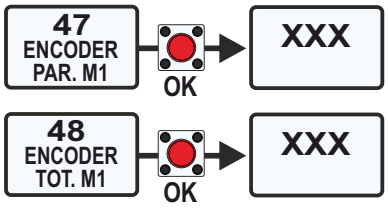
- Connect one or two **ENCODERS** on CN7; respect the cable colors:



- 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»***

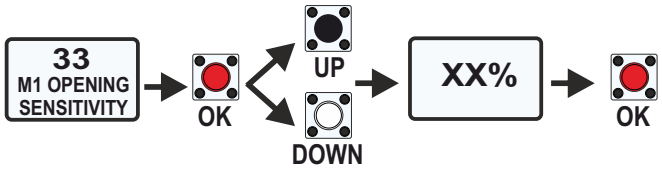
⇨ *The Example refers only to MOTOR 1 (M1); For MOTOR 2 (M2) parameters go to the menus 49 and 50*

7.2 - ENCODER PARAMETERS ADJUSTMENT

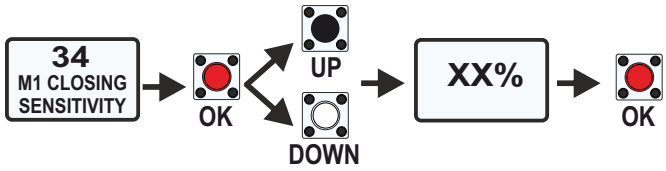
- Settable values: minimum 10% (rapid intervention) - maximum 99% (slow intervention)

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

- Opening intervention time adjustment



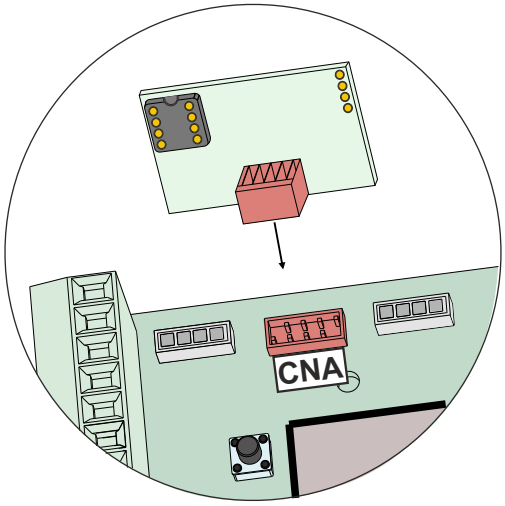
- Closing intervention time adjustment



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

8 - RECEIVER CONNECTIONS ON CNA

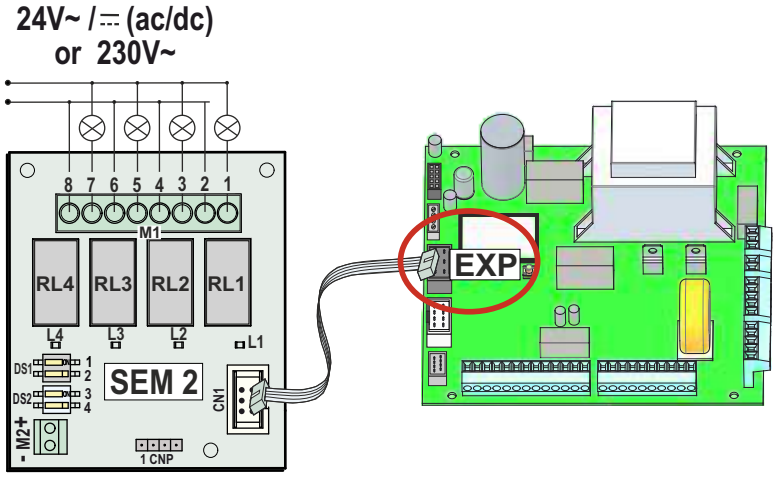
RF UNI
RF UNI PG



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

9 - CONNECTIONS ON EXP

9.1 - «SEM 2» MANAGEMENT UNIT

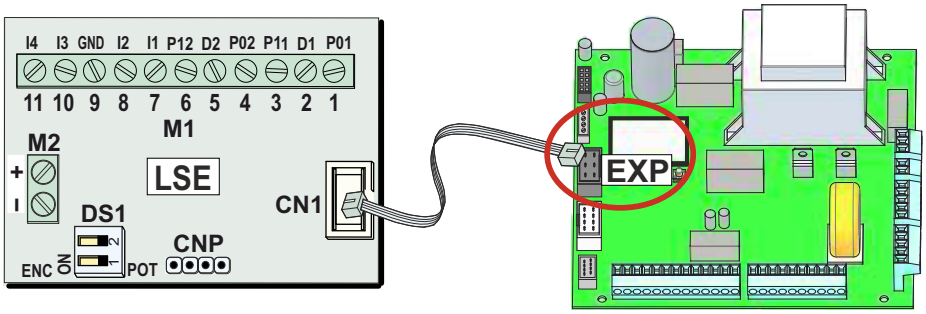


- The SEM 2 accessories management unit allows you to connect and manage the following additional accessories:
  - TRAFFIC LIGHT
  - COURTESY LIGHT
  - VERTICAL ELECTRIC LOCK
  - POSITIVE OR NEGATIVE ELECTRIC BRAKE

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

MORE DETAILS ON SEM 2 INSTRUCTIONS

9.2 - «LSE» or «LE» or «LRT» MANAGEMENT UNITS

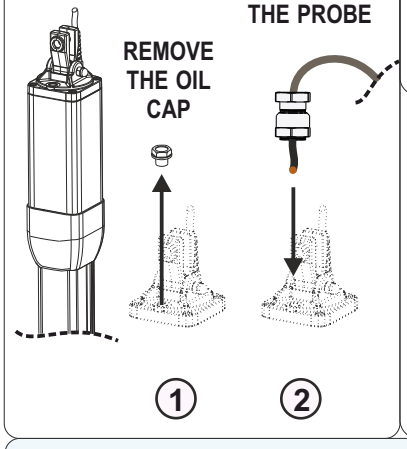


- The **LSE** ***(or LE)*** or **LRT** management circuits allow you to connect and manage different additional accessories, such as additional limit-switches, the temperature probe or the potentiometer or the **RT** encoder

More details on LSE (or LE) or LRT instructions

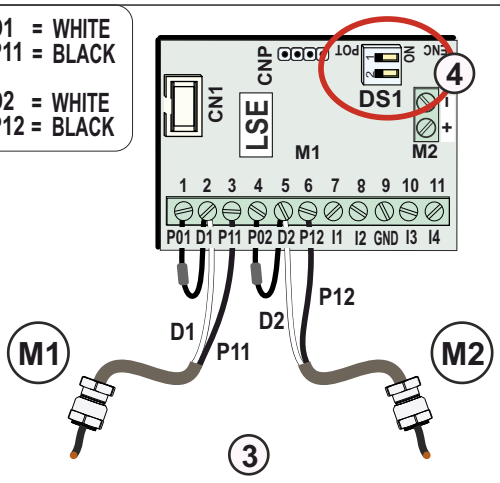
9.3 - TEMPERATURE PROBE CONNECTION VIA «LSE» or «LE» UNITS

- 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



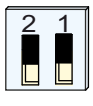
D1 = WHITE
P11 = BLACK

D2 = WHITE
P12 = BLACK



1. ***Remove the operator oil cap***
2. ***Screw the TEMPERATURE PROBE to replace the oil cap***
3. ***Wire the probe (or probes, in case of two operators) as shown in the wiring diagram aside***
4. ***Set both DS1 DIP-SWITCHES to «OFF»***

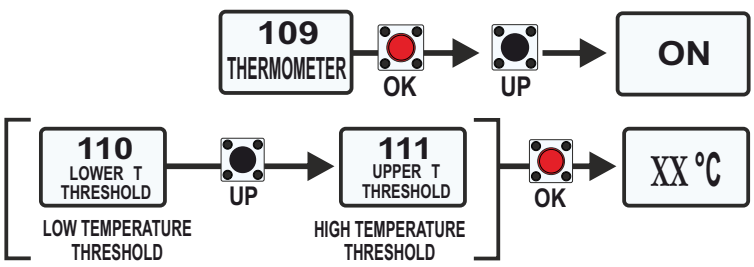
DIP SWITCH 1 = OFF
DIP SWITCH 2 = OFF



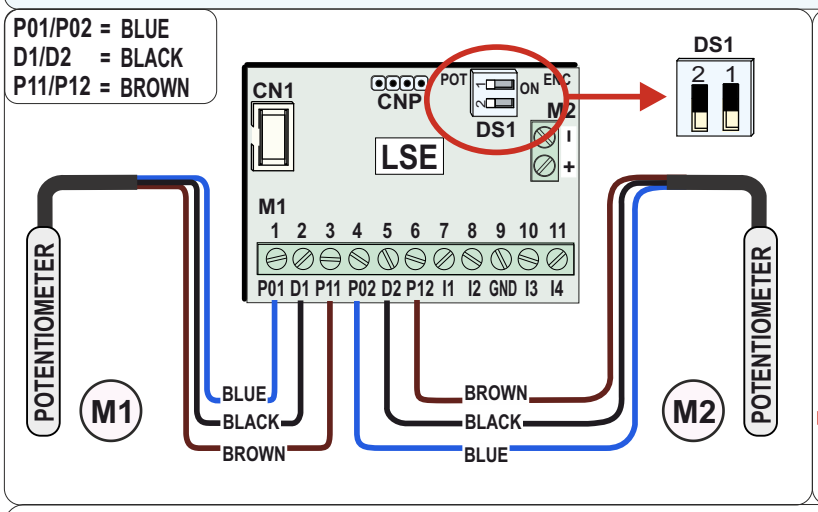
9.4 - ACTIVATION AND SETTING OF THE TEMPERATURE PROBE

- To enable the probe use the menu 109

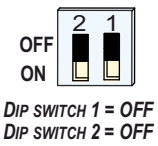
- Setting of the HIGH and LOW TEMPERATURE THRESHOLDS, to enable or disable the oil heater



9.5 - «POSITION GATE» LINEAR POTENTIOMETER CONNECTION VIA «LSE» or «LE»



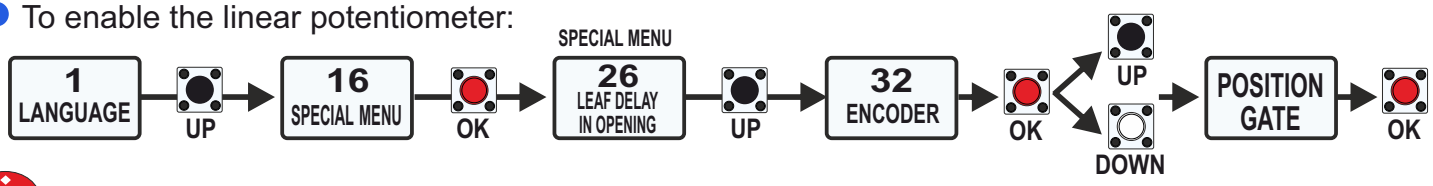
- Connect the **«POSITION GATE» linear potentiometer** for managing the correct position of the gate and the inversion on obstacles, as shown aside
- Respect the cable colors
- Set both the DS1 DIP-SWITCHES to «OFF»



DIP SWITCH 1 = OFF
DIP SWITCH 2 = OFF

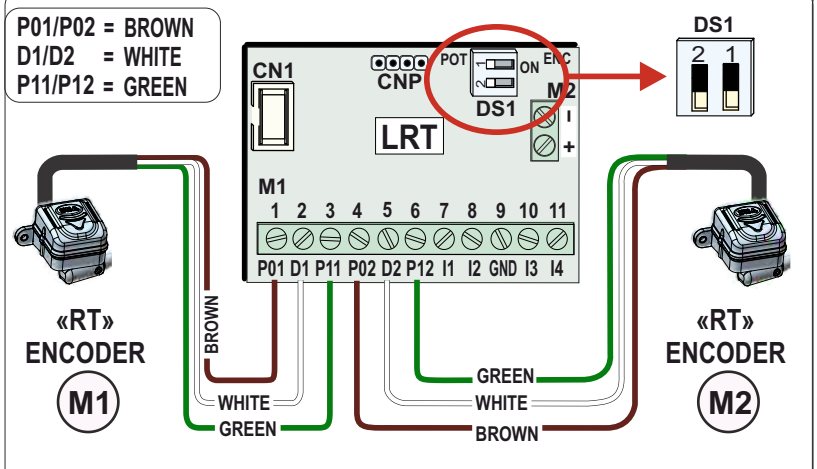
⇨ ***The use of 3-pole shielded cables is recommended - WIRE THE SHIELDS ON P11 AND P12***

- To enable the linear potentiometer:

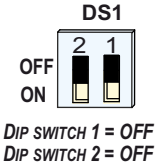


The menus 51 - 52 - 53 will be visible only if the potentiometer is enabled; the menus allow pulses to be displayed and adjusted - ***paragraph 9.7***

9.6 - «RT» ABSOLUTE ENCODER CONNECTION VIA «LRT» CIRCUIT



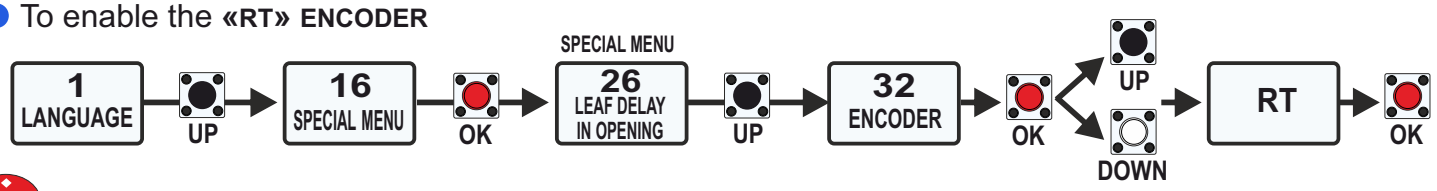
- Connect the **«RT» ABSOLUTE ENCODER** for managing the correct position of the gate and the inversion on obstacles, as shown aside
- Respect the cable colors
- Set both the DS1 DIP-SWITCHES to «OFF»



DIP SWITCH 1 = OFF
DIP SWITCH 2 = OFF

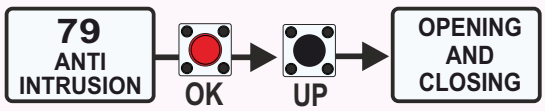
⇨ ***The use of 3-pole shielded cables is recommended - WIRE THE SHIELDS ON P11 AND P12***

- To enable the **«RT» ENCODER**



The menus 51 - 52 - 53 will be visible only if the **«RT» ENCODER** is enabled; the menus allow pulses to be displayed and adjusted - ***paragraph 9.7***

The ANTI-INTRUSION FUNCTION is also available;
It is linked to the potentiometer or the «RT» encoder activation;
If enabled via menu 79, this function restores the original position of the gate after a manual forcing or a blast of wind

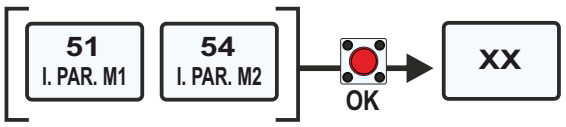


(EXAMPLE)

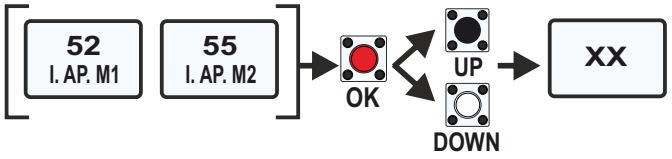
9.7 - LINEAR POTENTIOMETER or «RT» ABSOLUTE ENCODER CONFIGURATION

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

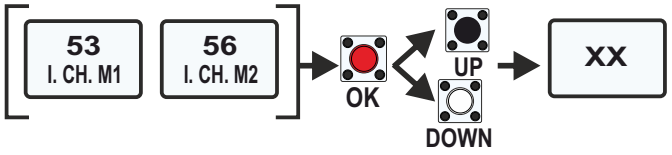
- **Motor 1 (menu 51) or motor 2 (menu 54) partial impulses;** display of the operator current position



- **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



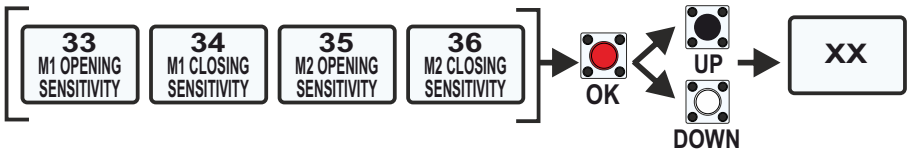
- **Motor 1 (menu 53) or motor 2 (menu 56) impulses in closing**; display of the impulses when the leaf is completely closed; possibility to increase or decrease the total pulses



9.8 - POTENTIOMETER or «RT» ENCODER PARAMETERS ADJUSTMENT

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

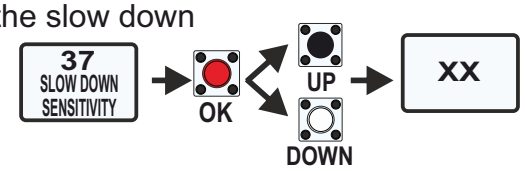
⇨ *For a quick reverse on obstacle decrease the sensitivity*



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

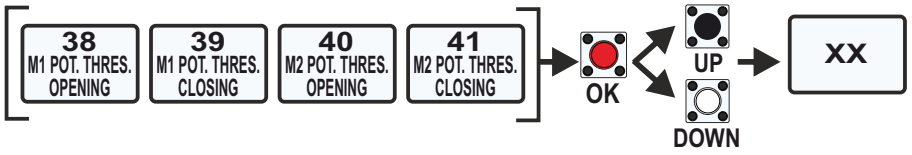
- Slowdown sensitivity menu to adjust the inversion time during the slow down

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



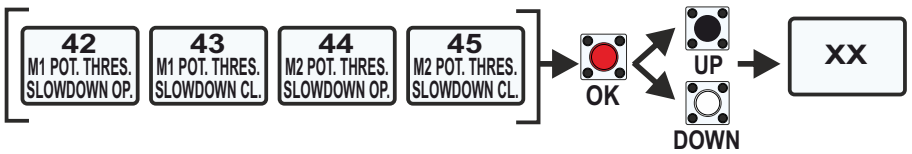
- To adjust the Encoder intervention threshold values in opening and closing (Motor 1 and Motor 2)

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



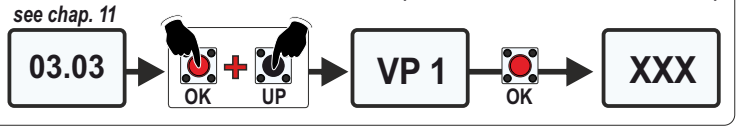
- To adjust the threshold values for the Encoder intervention during the slow down, in opening and closing (Motor 1 and Motor 2)

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



9.9 - ACCESS TO THE HIDDEN «DEBUG» MENU

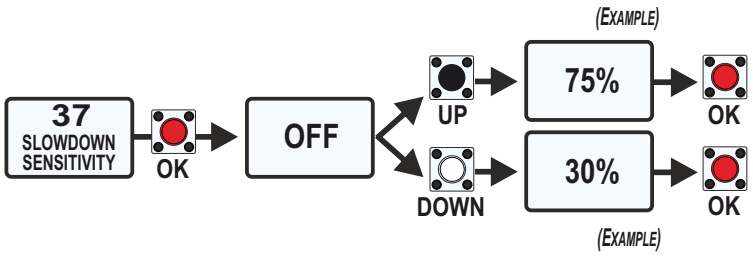
- Display of the instantaneous speed values detected **«VP1»** and **«VP2»** (motor 1 and motor 2) to adjust the thresholds above described *(thresholds must always be lower than the values shown in VP1 or VP2)*



10 - ADDITIONAL FUNCTIONS

10.1 - AMPEROMETRIC MANAGEMENT

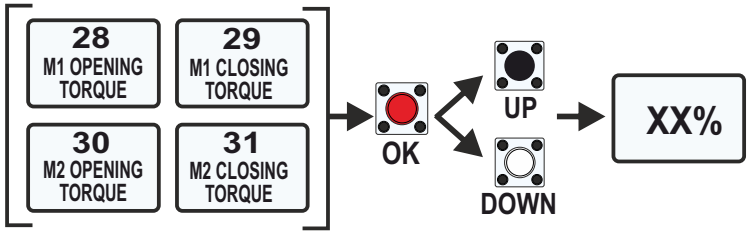
- Obstacle detection system with inversion both in OPENING and CLOSING
- Set the menu 37 on a value different from OFF *(which is set by default)* to enable the function



⇨ *the greater the value, the greater the amperometric intervention delay*

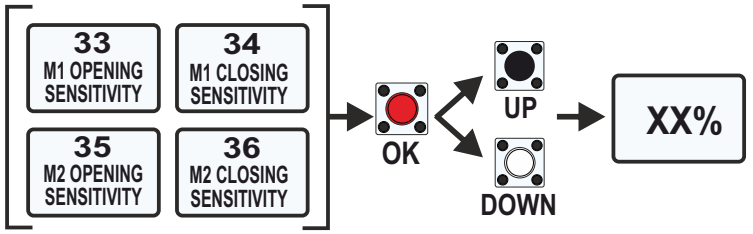
- Torque parameters setting in opening and closing for adjustment of the inversion force on obstacle

⇨ *the greater the torque, the greater the force required for the inversion*



- 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

10.2 - 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.*

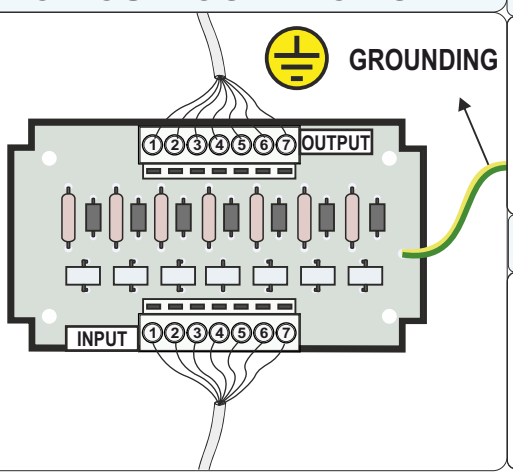
7 TIMER TO CLOSE

After a power failure, the first cycle will be performed at pre-set speed to detect the mechanical stops

10.3 - «I/O SURGE PROTECTOR» CIRCUIT CONNECTION

- 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

Connect the negative and the common cables from the main power supply to the control unit



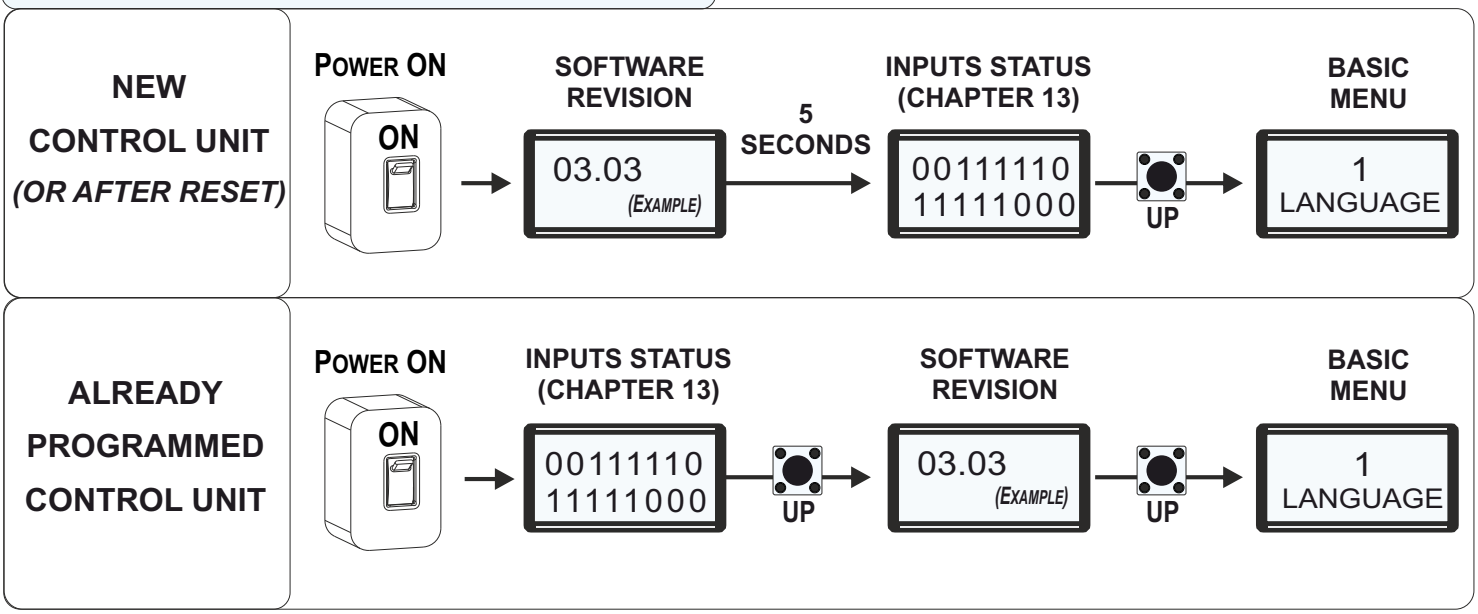
OUTPUT CONNECTION ON CONTROL UNIT	
1	24V DC ACCESSORIES
2	CONTACT 1 (Es. PHOTOCELL)
3	CONTACT 2 (Es. SAFETY EDGE)
4	CONTACT 3 (Es. START)
5	CONTACT 4
6	CONTACT 5
7	CONTACT 6

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

11 - DISPLAY and PROGRAMMING

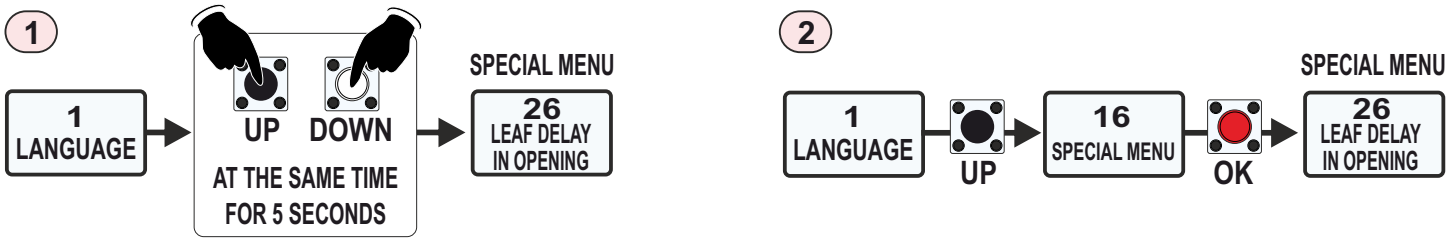
CONNECT ALL THE ACCESSORIES WHEN THE CONTROL UNIT IS SWITCHED OFF!
AFTER ALL CONNECTIONS HAVE BEEN MADE, POWER ON THE UNIT FOR SETTINGS

11.1 - POWER ON THE CONTROL UNIT



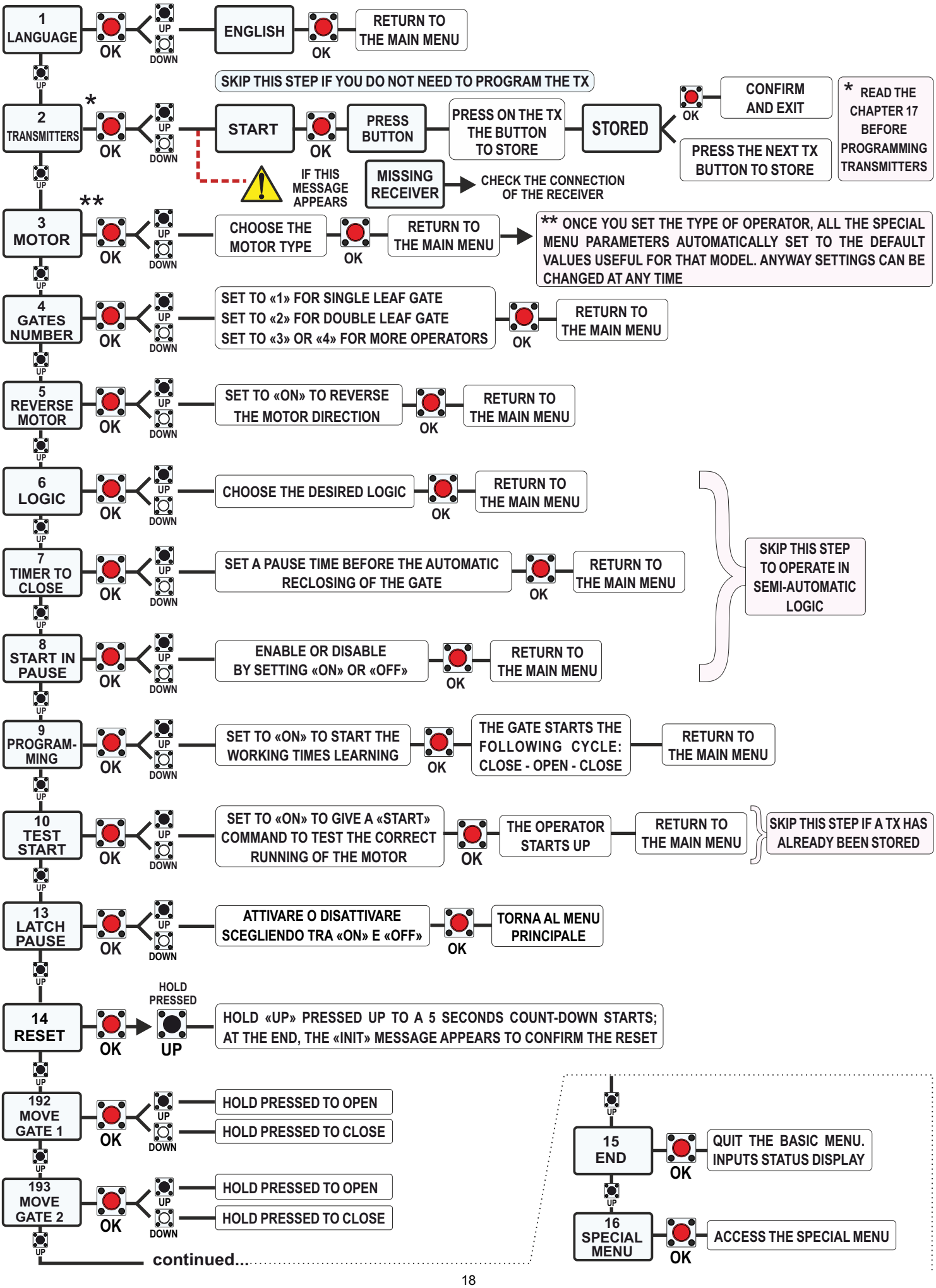
11.2 - BASIC MENU and SPECIAL MENU

- The control unit has a **BASIC MENU** ***(chapter 12)*** 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*

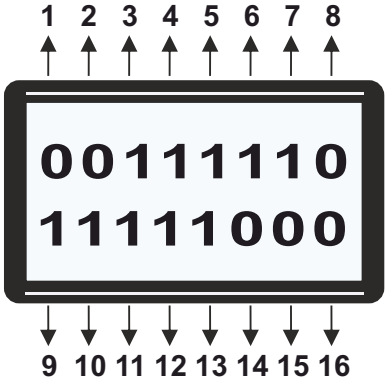
12 - BASIC MENU



13 - 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)**

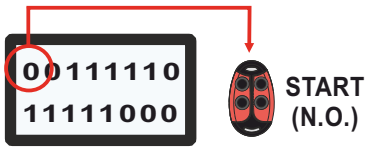
0 **N.O. - NORMALLY OPEN** **1** **N.C. - NORMALLY CLOSED**

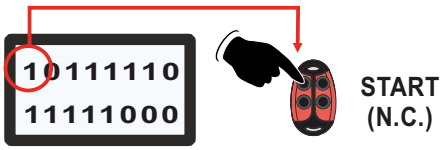


1	START (*)	9	MOTOR 1 OPENING LIMIT SWITCH
2	PARTIAL START	10	MOTOR 1 CLOSING LIMIT SWITCH
3	STOP	11	MOTOR 2 OPENING LIMIT SWITCH
4	PHOTOCELL 1	12	MOTOR 2 CLOSING LIMIT SWITCH
5	PHOTOCELL 2	13	MOTOR FAULT CHECKING
6	SAFETY EDGE 1	14	NOT IN USE
7	SAFETY EDGE 2	15	NOT IN USE
8	NOT IN USE	16	NOT IN USE

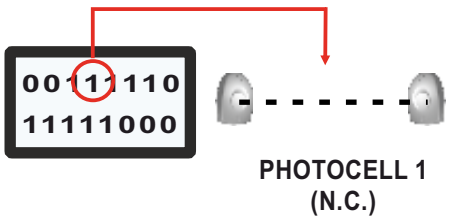
* ***If a TIMER is connected to the START input, it keeps the contact normally closed; in this case the display will show «T» on position n° 1***

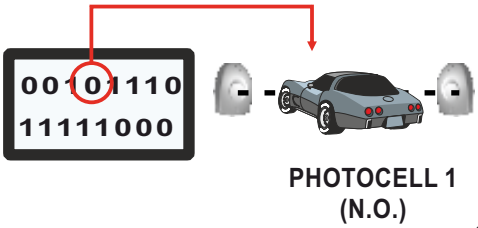
- *Example: if you give a **«START»** command, its input switches from normally open to normally closed*



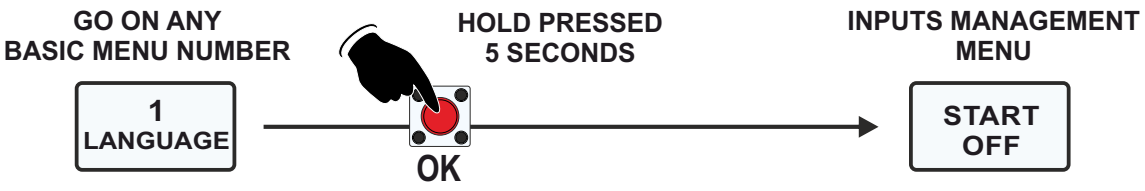


- *Example: if you pass by the photocell, its input switches from normally closed to normally open*





13.1 - 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**

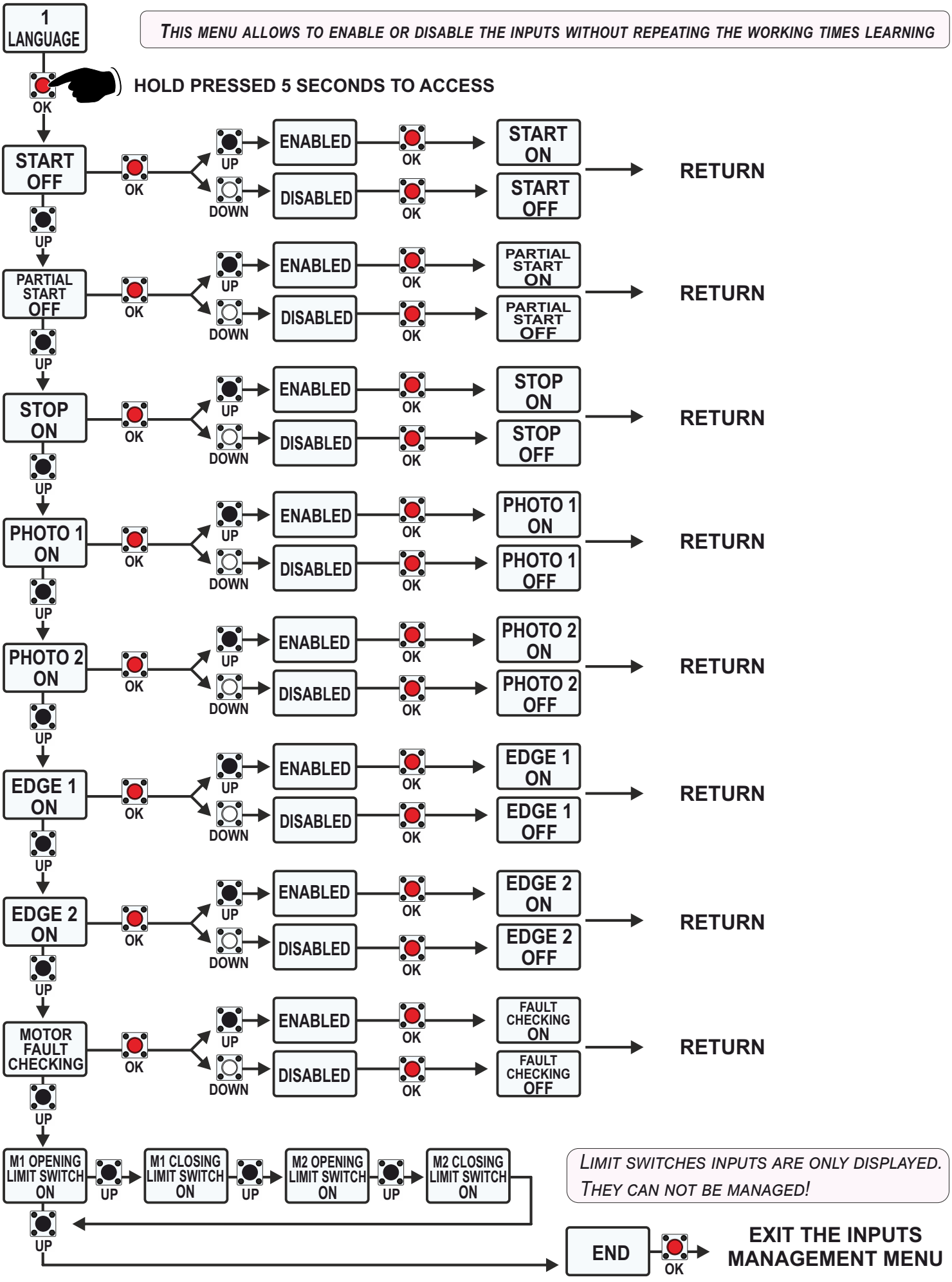
- Inside the **«INPUTS MANAGEMENT MENU»** it is possible to enable or disable the inputs; ***paragraph 13.2***

- **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)*

13.2 - INPUTS MANAGEMENT MENU



14 - WORKING TIMES LEARNING

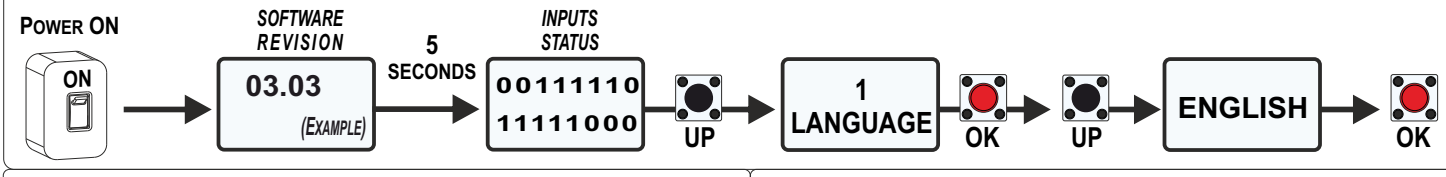
DANGER!

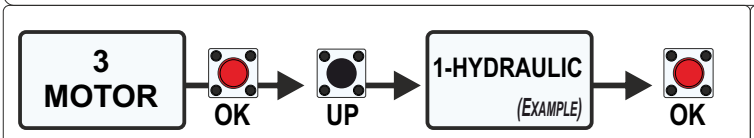
HAVE A QUALIFIED SERVICE PERSON TO CARRY OUT THE OPERATIONS IN SAFE CONDITIONS

- CHECK THE CORRECT OPERATION OF ALL ACCESSORIES (PHOTOCELLS, BUTTONS, ETC.)
- DO NOT JUMPER THE INPUTS NOT IN USE (LIMIT SWITCH, SAFETY EDGE, ETC.)

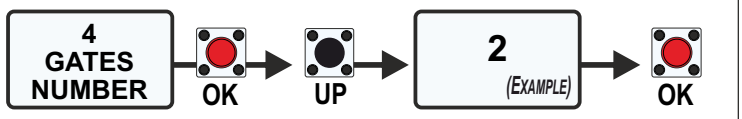
14.1 - PRELIMINARY SETTINGS

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!

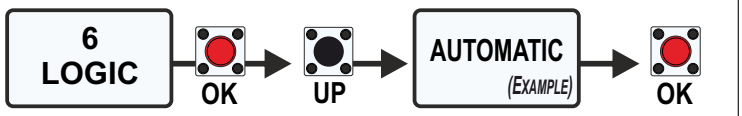




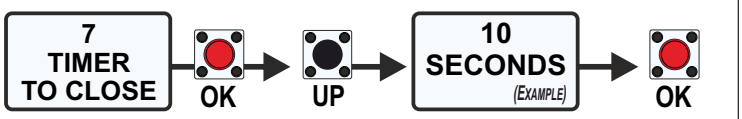
When a type is set, the parameters of the special menu automatically set to the useful values for that model!



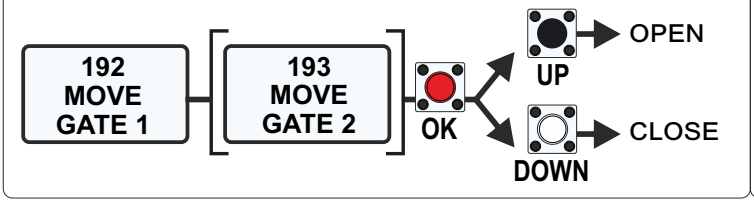
Select the number of operators to be managed by the control unit (single motor = 1 or double motor = 2)



*Select the desired operation logic **(see chapter 15)**. **Note:** If a pause time other than zero is set in the following menu, the automatic reclosing will always be active*



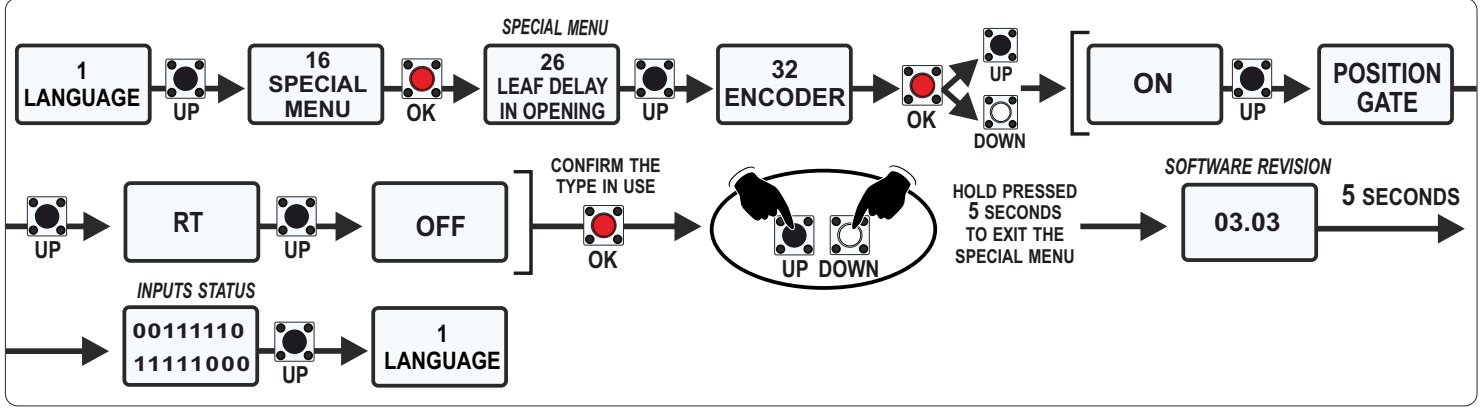
*Set a pause time other than zero to enable the automatic reclosing. If set to **«0»** the automatic reclosing will be disabled and you will have a «semi-automatic» logic*



*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)***

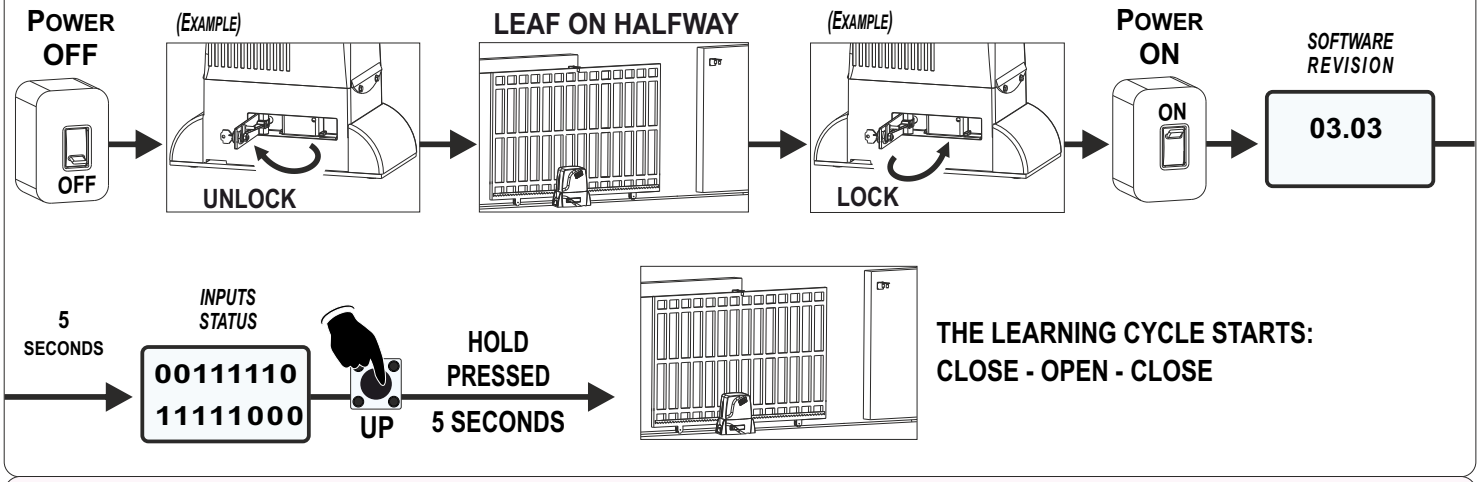
14.2 - ENCODER OR POTENTIOMETER ACTIVATION *(IF INSTALLED)*

- 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!***

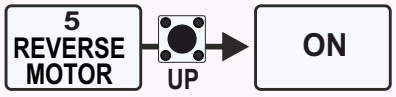


14.3 - QUICK LEARNING - *ONLY FOR SEA SLIDING OPERATORS*

- 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

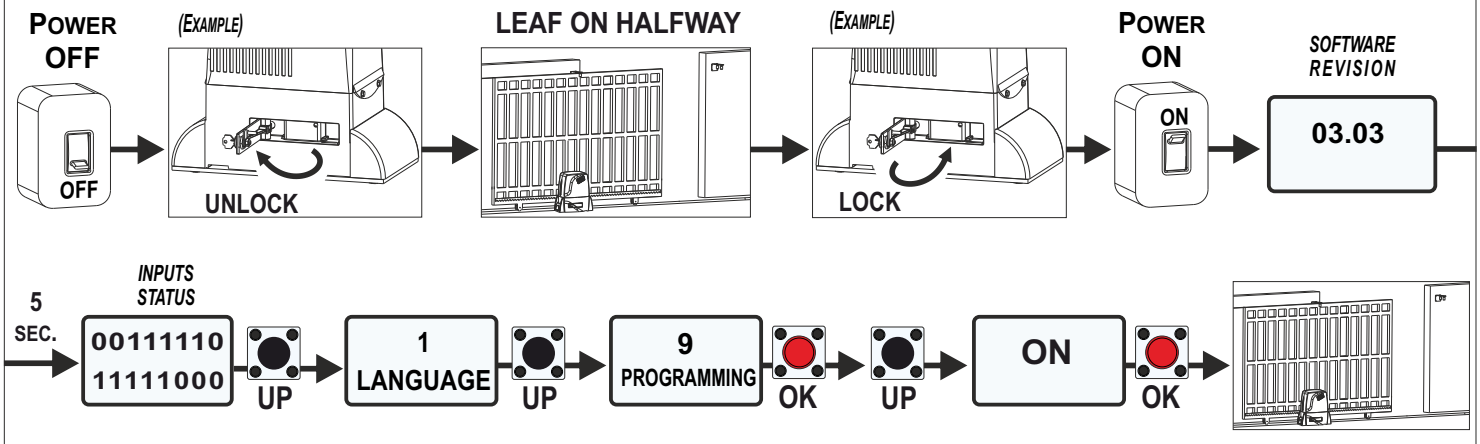


⇨ **If the operator performs the first learning cycle starting in opening, wait for the end of the cycle and reverse the motor rotation through the menu 5, then repeat the learning procedure**



14.4 - 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 14.2)***
- Check on the **INPUTS STATUS MENU** ***(chapter 13)*** that the correct limit switch is engaged for each movement direction
- Start-up the working times learning by following the procedure below:

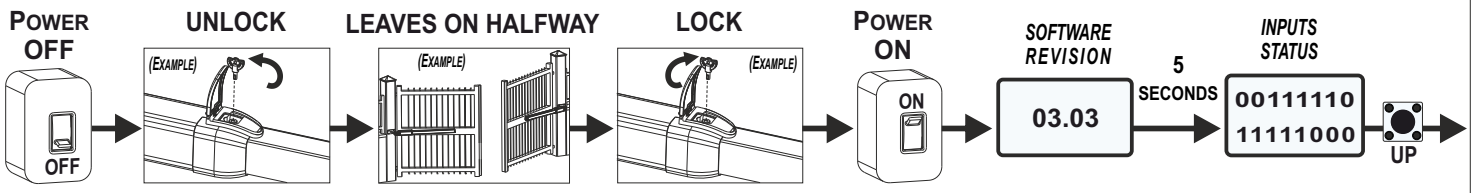


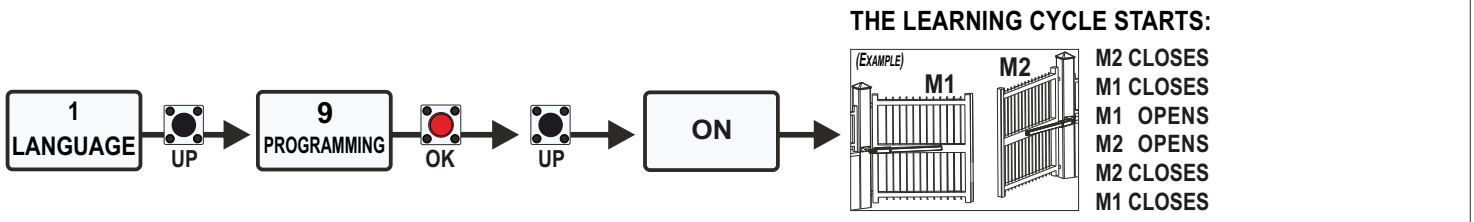
⇨ **If the motor starts closing, reaches the limit switch lever and stops, then swap the limit switch cables and repeat the procedure;**

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

14.5 - WORKING TIMES LEARNING BY STANDARD ENCODER

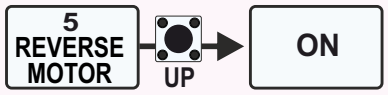
- Working times learning through automatic detection of the end-of-stroke points
- Check that the correct encoder type is enabled in special menu 32 ***(see paragraph 14.2)***
- Start-up the working times learning by following the procedure below





⇨ **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 7.1)***

- After the learning, it is possible to adjust the sensitivity parameters by the following menus ***(paragraph 7.2)***

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

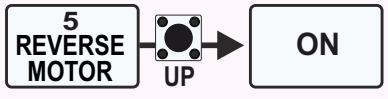
FOR «RT» ENCODER: USE THIS PROCEDURE ONLY ON SWING GATE OPERATORS!

- 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 14.2)***
- Start-up the working times learning by following the procedure above ***(see paragraph 14.5)***

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

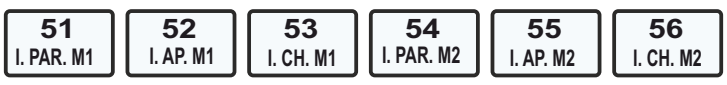
M2 CLOSES - M1 CLOSES - M1 OPENS - M2 OPENS - M2 CLOSES - M1 CLOSES - M1 OPENS WITH SLOWDOWN M2 OPENS WITH SLOWDOWN - M2 CLOSES WITH SLOWDOWN - M1 CLOSES WITH SLOWDOWN

⇨ **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 9.7):***



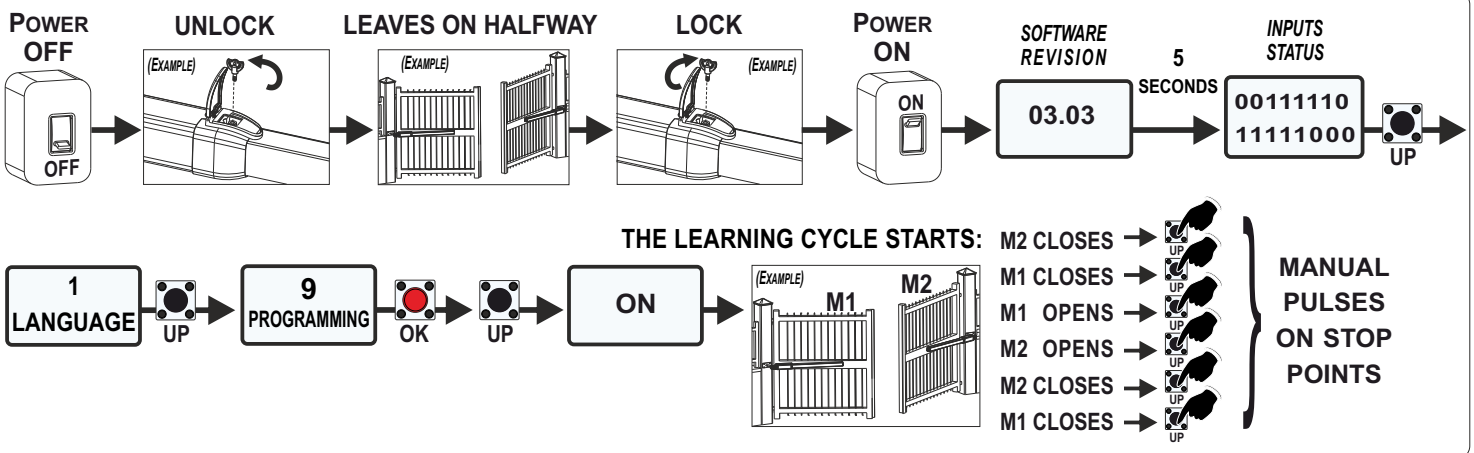
- After the learning, it is possible to adjust the sensitivity parameters by the following menus ***(paragraph 9.8):***

14.7 - WORKING TIMES LEARNING BY MANUAL PULSES

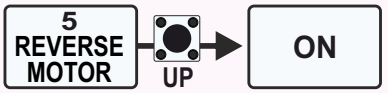
FOR OPERATORS WITHOUT LIMIT SWITCH, WITHOUT ENCODER AND WITHOUT POTENTIOMETER (I.E: DOUBLE SWING GATE OPERATORS)

- Times learning through manual pulses on the points of stop
- Check that the menu 32 is **«OFF»** ***(see paragraph 14.2)***; 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

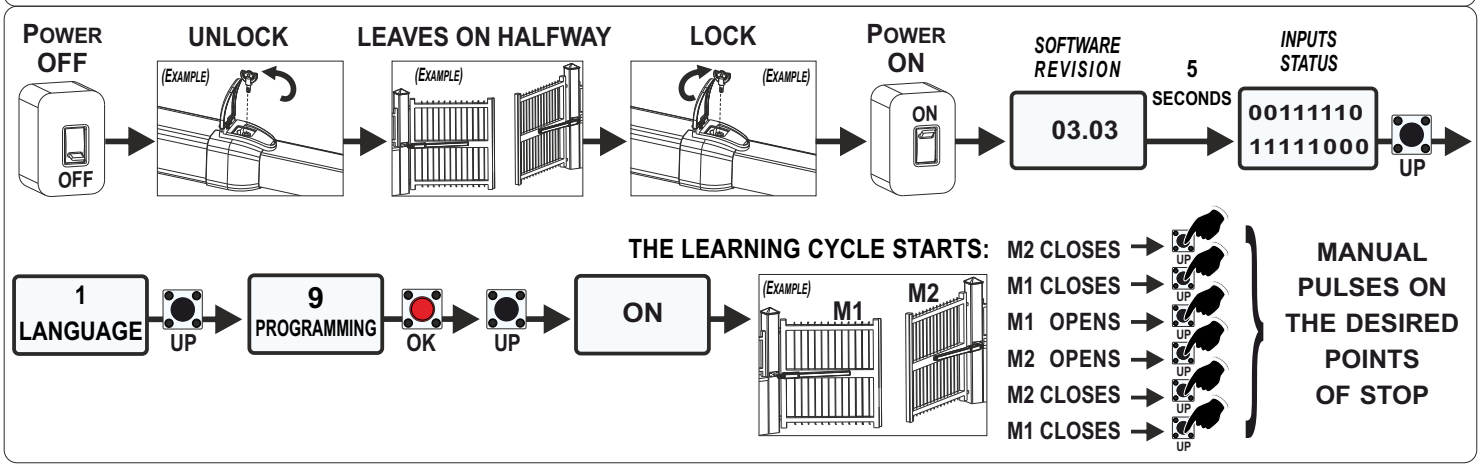


If the operators perform the first learning cycle starting in opening, wait for the end of the cycle and reverse the motors rotation through the menu 5, then repeat the learning procedure

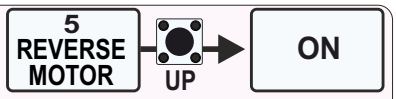


14.8 - LEARNING BY MANUAL PULSES - *with POTENTIOMETER or «RT» ENCODER*

- 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 14.2)***



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 9.7):***

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

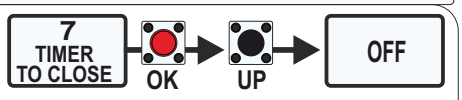
- After the learning, it is possible to adjust the sensitivity parameters by the following menus ***(paragraph 9.8):***

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

15 - LOGICS

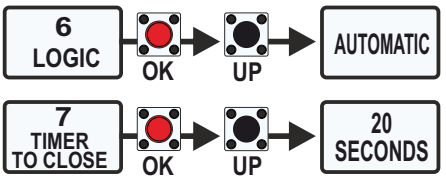
THE DEFAULT LOGIC IS «AUTOMATIC», ANYWAY IT CAN BE CHANGED AFTER THE WORKING TIMES LEARNING!

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

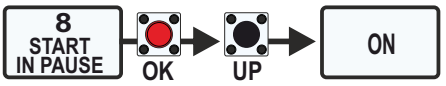


- **SEMI-AUTOMATIC** operation: a **START** command opens the gate; another **START** command closes; *In semi-automatic logic, the automatic reclosing is always disabled.*
- This logic matches with other logics *(except «AUTOMATIC»)*, keeping the automatic reclosing disabled

- **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)*

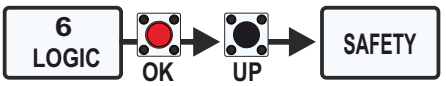


- Through the menu 8 it is possible to choose if the **START** command given during the pause time is accepted or not

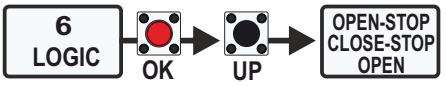


- **AUTOMATIC** operation: a **START** command opens the gate; another **START** command is not accepted if given during the opening; a **START** command reverses the movement if given during the closing

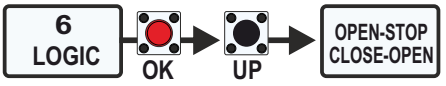
- **SAFETY LOGIC:** a **START** command opens the gate; another **START** command reverses the movement if given during the opening a **START** command reverses the movement if given during the closing



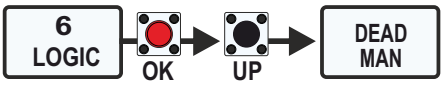
- **STEP BY STEP TYPE 1 LOGIC:** the **START** command follows the logic: **OPEN - STOP - CLOSE - STOP - OPEN**



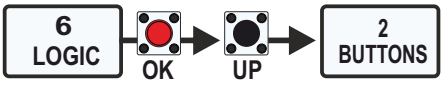
- **STEP BY STEP TYPE 2 LOGIC:** the **START** command follows the logic: **OPEN - STOP - CLOSE - OPEN**



- **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.



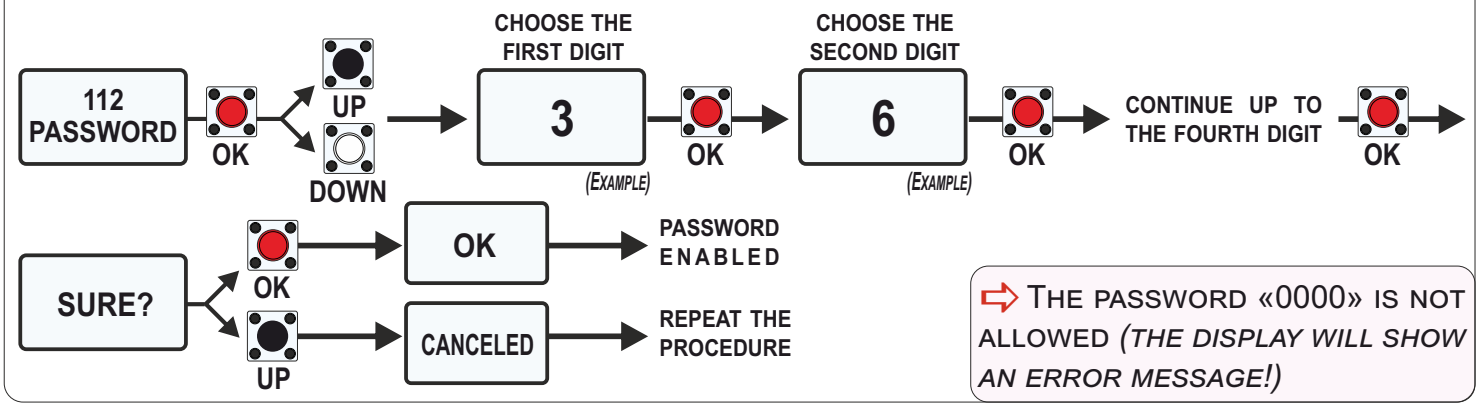
- **2 BUTTONS LOGIC:** a **START** command opens the gate; a **PARTIAL START** command closes the gate



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

16 - 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!)*

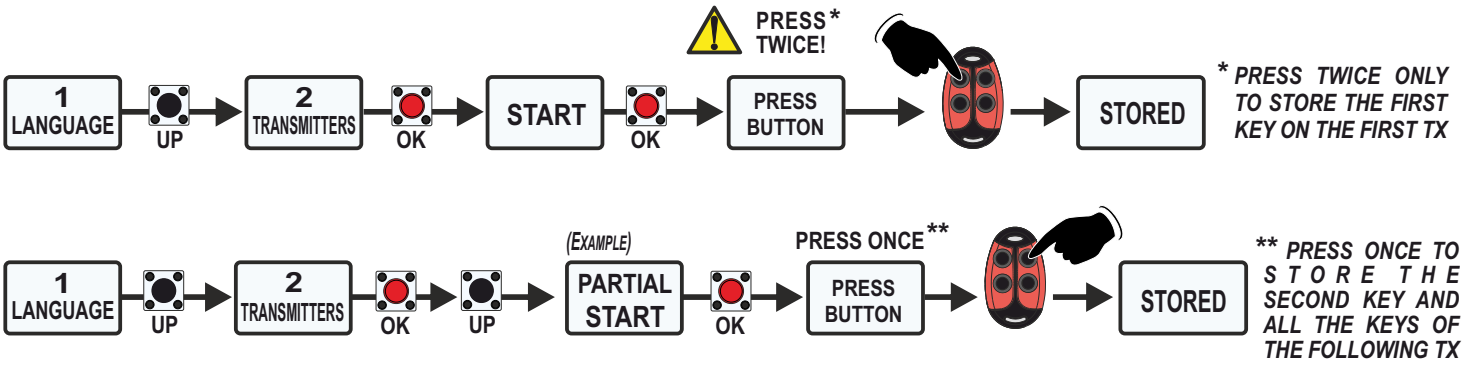
17 - RECEIVERS AND TRANSMITTERS

CONNECT THE RECEIVER CIRCUIT WHEN THE CONTROL UNIT IS NOT POWERED, AS SHOWN IN CHAPTER 8

- **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
- 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

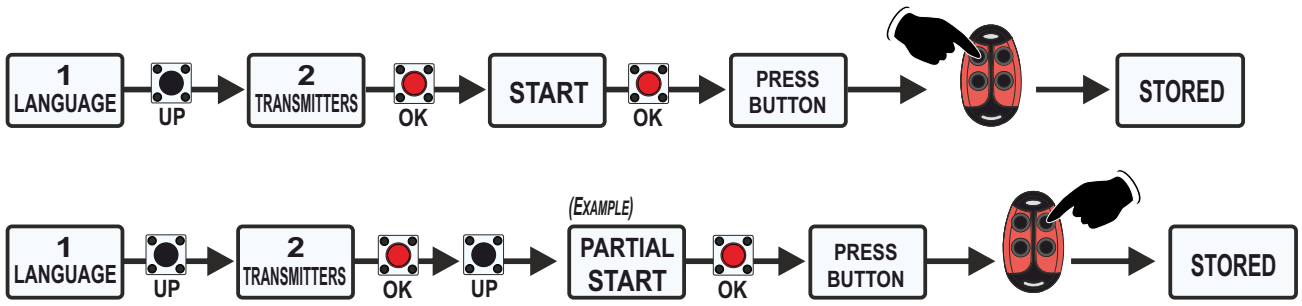
THE FIRST STORED TRANSMITTER DETERMINES THE CODING OF THE FOLLOWING ONES
if the first transmitter is stored as ROLLING CODE, then all the followings must be stored as ROLLING CODE; transmitters with different coding are not accepted - see the coding passage on Tx instruction!

17.1 - OLD «ROLLING CODE» CODING



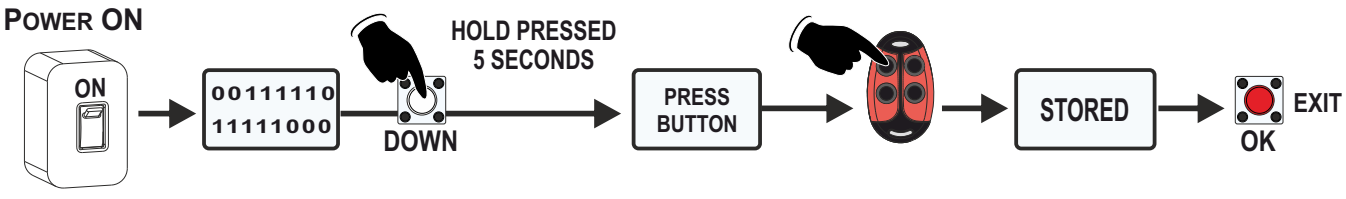
*More details on the functions available in **paragraph 17.4***

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

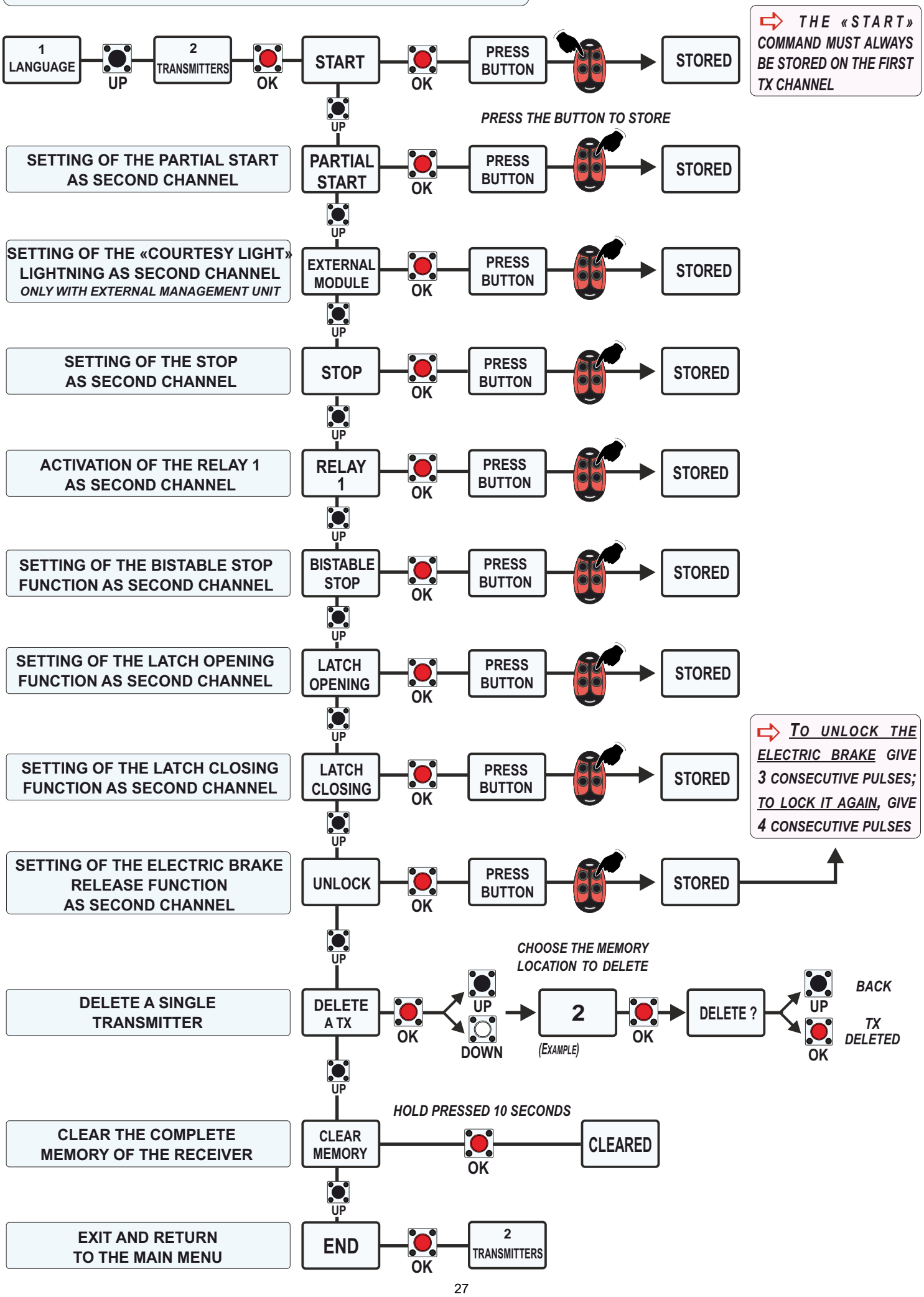


*More details on the functions available in **paragraph 17.4***

17.3 - «START» COMMAND QUICK LEARNING

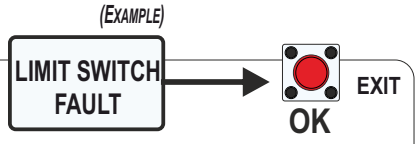


17.4 - TRANSMITTERS FUNCTIONS DIAGRAM



18 - ALARMS

18.1 - FAULTS SHOWN ON THE DISPLAY



- 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	SOLUTION
FAULT MOTOR	Motor power supply fault - Check that there are no short circuits on the motor or on the control unit; check that the gate is not blocked or stuck on a stop point. Check that the encoder *(if enabled)* is correctly wired to the control unit. Unlock the operator and give a START command to check that the motor runs: if the motor runs then disconnect the power supply, lock the operator again and restore the power supply; if the motor does not run, then it is burned
FAULT 24	24V power supply fault - Check that there are no short circuits on wirings or on the control unit; check that there is no overload
FAULT 24VAUX	24VAUX input fault - Check that there are no short circuits on wirings or on the control unit; check that there is no overload. The 24Vaux input is a programmable input and supports a maximum load of 800mA;
FAULT NET	Main power supply fault - Check that a power failure is not occurred; check that the main power supply is active; Check the fuse F2
FAULT SELF-TEST	«PHOTOCELLS SELF-TEST» function fault - Check the operation of the photocells and/or their wirings on the control unit
FAULT LIMIT SWITCH	Limit switch activation fault - Check the operation of both limit switches and that there is a correspondence between the direction of movement of the motor and the limit switch engaged
FAULT POTENTIOMETER *(1 or 2)*	Potentiometer fault - *The message appears only of the menu 32 is set to «POSITION GATE»* - the potentiometer management unit (LE / LSE) is damaged or not correctly wired
FAULT POTENTIOMETER DIRECTION	Potentiometer cable wiring error - Swap the wiring cables of the potentiometer *(swap the blue cable with the brown cable)*
FAULT POTENTIOMETER «RT» OR POSITION GATE	Potentiometer fault - *The message appears only of the menu 32 is set to «POSITION GATE»* or to «RT» the potentiometer management unit *(LE/LSE)* or the «RT» encoder management unit *(LRT)* is damaged or not correctly wired
FAULT FLASHING LIGHT	Flashing light fault - Check the wirings and / or the condition of the lamp
FAULT THERMOMETER	Thermometer *(Temperature Probe)* fault - *The message appears only of the menu 109 is set to «ON»* the temperature probe management unit *(LE / LSE)* is damaged or not correctly wired or set
FAULT SAFETY EDGE *(1 or 2)*	Safety edge fault - Check the metal wire of the safety edge and the cables wirings. Check that the contact is closed by accessing the «INPUT STATUS» menu *(paragraph 13.2)*
FAULT PHOTO 10K *(1 or 2)*	10K photocell fault - Check the photocell wirings or any short-circuits. Check that the photocell is correctly powered. Make sure that a photocell with 10K protection has actually been connected

18.2 - FAULTS SIGNALED ON THE FLASHING LIGHT

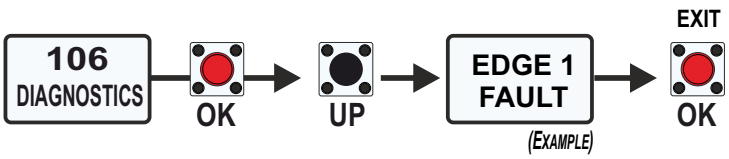
- It is also possible to visualize the warning signals through the flashing light simply by observing the number of flashes emitted *(see the table of correspondences below)*
- When an event occurs, the warning flashes will be issued at each **«START»** command

ALARM TYPE	NUMBER OF FLASHES
MOTOR FAILURE - DAMAGED HARDWARE *(M1 OR M2)*	9 SLOW (EVERY 0.5 SEC) 10 TIMES
MOTOR FAILURE - NO ABSORPTION *(M1 OR M2)*	8 SLOW (EVERY 0.5 SEC) 10 TIMES
PHOTOCELL FAILURE DURING CLOSING	2 SLOW (EVERY 0.5 SEC) 5 TIMES
PHOTOCELL FAILURE DURING OPENING	3 SLOW (EVERY 0.5 SEC) 5 TIMES
COLLISION - OBSTACLE DETECTED DURING OPENING	6 SLOW (EVERY 0.5 SEC) 10 TIMES
COLLISION - OBSTACLE DETECTED DURING CLOSING	6 SLOW (EVERY 0.5 SEC) 10 TIMES
SAFETY EDGE FAILURE	4 FAST (EVERY 0.2 SEC) 3 TIMES
«RT» POTENTIOMETER OR «POSITION GATE» FAULT	11 FAST (EVERY 0.2 SEC) 4 TIMES
FAULT ON STOP CONTACT	5 SLOW (EVERY 0.5 SEC) 1 TIME
LIMIT SWITCH FAILURE OR ERROR	4 FAST (EVERY 0.2 SEC) 10 TIMES
MAX. CYCLES ACHIEVED-MAINTENANCE REQUIRED	7 SLOW (EVERY 0.5 SEC) 1 TIME

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

18.3 - «DIAGNOSTICS» MENU TO DISPLAY LATEST EVENTS

- The warnings and the alarms remain in the control unit memory, up to a max. of 10 events. To see the stored events, access the menu 106. Below is the table with the type of events saved in the diagnostics



⇨ If the fault message holds out, carry out the required checks or disconnect the device generating the fault

TYPE OF EVENT	WARNING MESSAGE STORED
EVENTS OR ALARMS REGARDING FAULTS ON MOTOR	MOTOR FAULT
EVENTS OR ALARMS REGARDING FAULTS ON PHOTOCELL 1 OR PHOTOCELL 2 IN OPENING	PHOTO OPENING
EVENTS OR ALARMS REGARDING FAULTS ON PHOTOCELL 1 OR PHOTOCELL 2 IN CLOSING	PHOTO CLOSING
EVENTS OR ALARMS REGARDING FAULTS ON 10K PHOTOCELLS	10K PHOTOCELL
EVENTS OR ALARMS REGARDING THE DETECTION OF OBSTACLES IN THE OPENING PHASE	OBSTACLE IN OPENING
EVENTS OR ALARMS CONCERNING THE DETECTION OF OBSTACLES IN THE CLOSING PHASE	OBSTACLE IN CLOSING
EVENTS OR ALARMS CONCERNING FAULTS ON THE SAFETY EDGE 1	SAFETY EDGE 1 FAULT
EVENTS OR ALARMS CONCERNING FAULTS ON THE SAFETY EDGE 2	SAFETY EDGE 2 FAULT
EVENTS OR ALARMS CONCERNING FAULTS ON THE ABSOLUTE POTENTIOMETER	POT.1 FAULT
EVENTS OR ALARMS CONCERNING FAULTS ON THE «STOP» CONTACT	STOP
REACHING OF THE MAXIMUM CYCLES ESTABLISHED - MAINTENANCE REQUIRED	MAINTENANCE
EVENTS OR ALARMS CONCERNING FAULTS ON THE MAIN POWER SUPPLY	MISSING NETWORK
EVENTS OR ALARMS CONCERNING FAULTS ON THE OPENING OR CLOSING LIMIT SWITCHES	LIMIT SWITCH
EVENTS OR ALARMS CONCERNING THE EMERGENCY MANŒUVRES PERFORMED	CLOSE ALWAYS
EVENTS OR ALARMS CONCERNING THE EMERGENCY MANŒUVRES PERFORMED	EMERGENCY

IT IS ALWAYS RECOMMENDED TO CONSULT THE CHAPTER 19 DEDICATED TO TROUBLESHOOTING. MOST OF THE PROBLEMS CAN BE SOLVED BY FOLLOWING THE GIVEN INSTRUCTIONS!

19 - 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 DG MENU FUNCTIONS TABLE

MENU		SET	DESCRIPTION	DEFAULT	NOTE
1	LANGUAGE	*Italiano*	Italian	*English*	
		English	English		
		Français	French		
		Español	Spanish		
		Dutch	Dutch		
2	TRANSMITTERS	*Start*	Start	*Start* *Partial Opening*	
		Partial opening	Partial opening		
		External module	External module		
		Stop	Stop		
		Bistable Stop	Pressed once, it stops the gate. Pressed twice, it reactivates the START input		
		Latch opening	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)		
		Clear memory	To delete the full transmitters memory on the receiver		
		End	To exit the menu «transmitters»		
3	MOTOR	***1-** Hydraulic*	Hydraulic operators	*Mechanic*	
		***2-** Sliding*	Sliding operators		
		***3-** Reversible Sliding*	Reversible sliding operators		
		***4-** Mechanic Swing*	Electromechanic swing operators		
		***5-** Three-phase - Bollards*	Three-phase operators and Bollards		
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 and 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 the working times learning	*Off*	
10	TEST START	*Off On*	To give a Start command for testing the automation ***(It can be used only on units already programmed!)***	*Off*	
13	LATCH PAUSE	*Off On*	If «ON» the operator complies with the pause time set when the function «LATCH OPENING» is disabled. When «OFF» the pause time set is not respected	*Off*	
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***					
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*			

UP DOWN

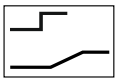
SPECIAL MENU

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

SPECIAL MENU		SET		DESCRIPTION	DEFAULT	NOTE
26	LEAF DELAY IN OPENING	*Off*	*6*	Adjustable from **OFF** to **6 seconds**	*1,5*	
27	LEAF DELAY IN CLOSING	*Off*	*20*	Adjustable from **OFF** to **20 seconds**	*2,5*	
28	OPENING TORQ 1	*10%*	*100 %*	**Motor 1 torque in opening:** the higher the torque value, the more force is required to execute the inversion in case of obstacle. ***The torque is set to 100% on hydraulic operators***	*75%*	
29	CLOSING TORQ 1	*10%*	*100 %*	**Motor 1 torque in closing:** the higher the torque value, the more force is required to execute the inversion in case of obstacle. ***The torque is set to 100% on hydraulic operators***	*75%*	
30	OPENING TORQ 2	*10%*	*100 %*	**Motor 2 torque in opening:** the higher the torque value, the more force is required to execute the inversion in case of obstacle. ***The torque is set to 100% on hydraulic operators***	*75%*	
31	CLOSING TORQ 2	*10%*	*100 %*	**Motor 2 torque in closing:** the higher the torque value, the more force is required to execute the inversion in case of obstacle. ***The torque is set to 100% on hydraulic operators***	*75%*	
NOTE: The range of values that can be set in all the TORQUE menus may vary according to the operator model						
32	ENCODER	*ON* ***(only if connected via LE or LSE management unit)***		**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)**		
32	ENCODER	*Position Gate*		To enable the linear potentiometer «POSITION GATE» ***(only if connected via LE or LSE management unit)***	*Off*	
		RT		To enable the «RT» absolute encoder ***(only if connected via LRT management unit)***		
	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***

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
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		
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 model*	
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 model*	
43	M1 POTENTIOMETER THRESHOLD IN SLOWDOWN - CLOSING				
44	M2 POTENTIOMETER THRESHOLD IN SLOWDOWN - OPENING				
45	M2 POTENTIOMETER THRESHOLD IN SLOWDOWN - CLOSING				

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
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					
59	OPENING SLOWDOWN 1	*Off (*) 50% Hydraulic*	Adjustable from OFF *(disabled)* to the 50% of the stroke. ***On hydraulic operators, the slowdown is automatically set to «Hydraulic» if the value exceeds 50%***	*It depends on model*	
60	CLOSING SLOWDOWN 1	*Off (*) 50% Hydraulic*	Adjustable from OFF *(disabled)* to the 50% of the stroke. ***On hydraulic operators, the slowdown is automatically set to «Hydraulic» if the value exceeds 50%***	*It depends on model*	
61	OPENING SLOWDOWN 2	*Off (*) 50% Hydraulic*	Adjustable from OFF *(disabled)* to the 50% of the stroke. ***On hydraulic operators, the slowdown is automatically set to «Hydraulic» if the value exceeds 50%***	*It depends on model*	
62	CLOSING SLOWDOWN 2	*Off (*) 50% Hydraulic*	Adjustable from OFF *(disabled)* to the 50% of the stroke. ***On hydraulic operators, the slowdown is automatically set to «Hydraulic» if the value exceeds 50%***	*It depends on model*	
**** For motors with hydraulic brake (CF) or double hydraulic brake (2CF) this parameter must be set to HYDRAULIC***					
63	DECELERATION	*0%*  *100%*	To adjust the change from normal speed to slowdown speed	*100%*	
64	ACCELERATION	*0%*  *100%*	Acceleration ramp. To adjust the motor start up speed	*100%*	
The menus 65 - 66 - 67 - 68 are shown only if the menu 32- ENCODER = OFF					
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		
70	OPENING POSITION RECOVERY	*0 20 seconds*	After a STOP or inversion command given during opening, the gate recovers the excess space traveled by inertia	*It depends on model*	
71	CLOSING POSITION RECOVERY	*0 20 seconds*	After a STOP or inversion command given during closing, the gate recovers the excess space traveled by inertia	*It depends on model*	
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	*0%*	
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	*0%*	
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	*0%*	
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	*0%*	
**** With «RT» Encoder: 0% = 20 impulses 100% = 200 impulses*** ***With «POSITION GATE» : 0% = 20 impulses 100% = 500 impulses***					

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
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*	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*	
		Only closing			
		Opening and closing			
		Off			
80	PUSHOVER	*Off*	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*	
		Opening and closing			
		Only closing			
		Only opening			
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*	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	*Off* *(Hydraulic)* *0.1* *(Mechanic)*	
		Closing 1 *Off - 3 s*			
		Opening 2 *Off - 3 s*			
		Closing 2 *Off - 3 s*			
		End			
83	EXTRA TIME *	*0.0 s* *10 s*	If the limit switches are installed, it is possible to add an extra time ***(max. 10 seconds)*** to the movement of the operator after the reading of the limit switches ***Note: If an Encoder is installed, the space can be set by impulses (from 0 to 100)***	*0.0 s*	
**** Only if the operator is equipped with hydraulic slowdown and one or more slowdown-menus (from 59 to 62) are set to «HYDRAULIC». (EXTRA TIME will be applied to the operator and to the moving direction of the menu set to «HYDRAULIC»)***					
84	BRAKE	*Off* *100%*	To adjust the braking on the limit switch	*Off*	
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		

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
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).* ***Function available only if a traffic light is wired via SEM unit***	*Off*	
90	PARTIAL OPENING	*20% 100%*	Adjustable from 20% to 100%	*100%*	
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			
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. 800 mA)*** ***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		
		Positive brake management	AUX output powered only when the gate is stationary ***ie.: positive electric brake connected via relay***		
		Negative brake MAGLOCK management	AUX output powered during cycle and 1 second before starting the movement ***ie.: negative electric brake connected via relay***		
		Negative brake Photocell management	AUX output powered during cycle and 1 second before starting the movement ; AUX not powered when the photocell is activated ***ie.: negative electric brake connected via relay***		
		Open gate warning light	**1 flash per second** - during opening **2 flashes per second** - during closing **Steady lit** - gate in «STOP» or «OPEN» status		
		Start 3 s	AUX output powered at every START input or at every photocells or safety edge intervention, for 3 seconds ***ie.: a courtesy light connected via relay***		
		Barrier Led lights	**Closed barrier** - the light is switched-on **Open barrier** - the light is switched-off **Moving barrier** - the light blinks		
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		

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
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 continues		
		Close	The photocell stops the gate until it is occupied in both opening and closing; when released, it send a closing input ***(the gate closes 1s after the photocell release)***		
		Pause reload	If the photocell is occupied during opening or closing, it stops the gate movement; when released, the movement continues. If the photocell is occupied during the pause, it recharges the pause time set		
		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		
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	*Stop and open*	
		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 it 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; when released the closing movement continues		
		Close	The photocell stops the gate until it is occupied in both opening and closing; when released, the photocell gives a closing command ***(the gate closes one second after the photocell release)***		
		Pause reload	If the photocell is occupied during opening or closing, it stops the gate movement; when released, the movement continues. If the photocell is occupied during the pause, it recharges the pause time set		
		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
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		
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	*Automatic*	Automatic detection of the limit switch	*Automatic*	
		Only opening	Limit switch enabled only in opening		
		Only closing	Limit switch enabled only in closing		
		Ext	Limit switch connected on the external interface ***for 4 cams limit switches***		
		Motor internal	To be enabled if the operator is equipped with an inner limit switch that stops the motor phase		
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	*On* *Off*	To enable the probe for measuring the piston oil temperature; ***The temperature probe must be connected via the LE or LSE management circuit***	*Off*	
110	LOWER TEMPERATURE THRESHOLD	*From -20° to +50°*	To adjust the temperature threshold to enable the oil heater ***(This menu is shown only if the menu 109-Thermometer is set to ON)***	*-10°*	
111	UPPER TEMPERATURE THRESHOLD	*From -20° to +50°*	To adjust the temperature threshold to disable the oil heater ***(This menu is shown only if the menu 109-Thermometer is set to ON)***	*0°*	
112	PASSWORD	***Note: «0000» setting is not allowed***	To enter a password for blocking the control unit parameters modification	- - - -	

SPECIAL MENU		SET	DESCRIPTION	DEFAULT	NOTE
113	EMERGENCY	*Off*	Disabled	*Off*	
		Last opening	In case of power failure, as soon as the battery charge drops below 22V, the gate opens one last time and remains open until the power is restored		
		Last closing	In case of power failure, as soon as the battery charge drops below 22V, the gate closes one last time and remains closed until the power is restored		
116	REPEAT LEAF DELAY	*On* *Off*	In case of a STOP command when the gate is halfway, the leaves will repeat the "leaf delay" set (menu 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 «Partial Start» N.O. input; ***(Partial Start function 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 «Partial Start» N.O. input; ***(Partial Start function will be disabled)*** after a LATCH button command the gate closes and stay closed till a new LATCH button command		
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 PARTIAL START input free***					
119	DISPLAY WRITING SPEED	*From 30% to 100%*	See Note 2 at the end of the table	*80%*	
120	BASIC MENU	Press OK to exit the special menu. The special menu switches off automatically after 20 minutes			

Note 1: after initialization, the parameters set on **menu 3 - MOTOR** and **104 - SELECT LIMIT SWITCH** always remain set to the value chosen during the programming operation

Note 2: if the menu **119 - DISPLAY WRITING SPEED** is set to the minimum value of 30%, the display writing speed will be low**.** On the contrary, if it is set to the maximum value of 100%, the writing speed will be very high
Please note: the writing speed will not change on the JOLLY 3 programmer

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

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 R1B *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**23023025**	**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

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L'Amministratore
The Administrator
Ennio Di Saverio

CE UKCA

SEA®

Automatic Gate Openers

International registered trademark n. 804888

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