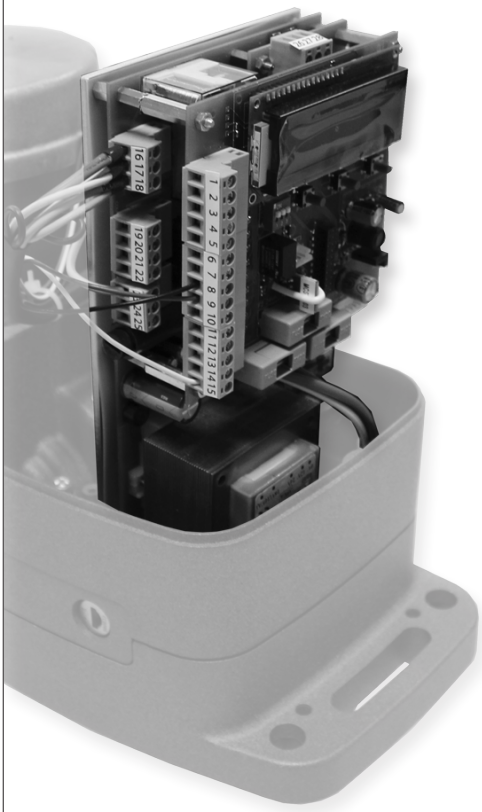
ALLMATIC

INSTRUCTION
INVERTER COMPACT
FOR SLIDING GATES

6-1622616 /R0 10/11/2017



CE

1. INTRO

The control unit INVERTER COMPACT is integrated in the motor **KALOS XL**. It is a device suitable for operating and controlling the sliding gate in a way easy and complete; it is designed in order to satisfy all possible needs.
The inverter on board allows to set the maximum torque limits along with the possibility to modify the frequency (the speed of the motor).
The possibility to use motors with encoder allows the unit to detect possible obstacles along the run and reverse its direction of motion. It is suitable to command and control automatics accesses equipped with three-phase motors 230/400Vac delta-connected max 1,5KW (current limited to 10A). Every control board is equipped with a memory module that stores all personal settings and parameters needed for operating the control board (these data can be transferred from one unit to another one). It is equipped with inputs for self-tested photocells, keys for SS (step-by-step), PED (partial opening), OPEN and CLOSE, switch limits, security stops and a wide display with 3 keys for settings. It is also equipped with a molex connector for a plug-in receiver, output for courtesy and flashing light. It is possible to connect an additional card (R1) to operate an electric lock.

WARNING: DO NOT INSTALL THE CONTROL UNIT WITHOUT READING THE INSTRUCTIONS FIRST!
- Make sure you have installed the electric limit switches and to correctly adjusted them.

Note: To use the obstacle detection function, a compatible encoder must be installed first

Fuses	Fuses features:
F1: Protection line 230V	T 10A
F2: Input protection	F 250mA
F3: Photocells protections	F 250mA
F4: 24Vac auxiliaries protection	F 500mA

For the connection of the motor we recommend to use a screened cables 3 poles + earth 1.5 mm2 (type FD781CY)
For the connection of the possible encoder we recommend to use a screened cable 3 x 0,75mm2 (type OLFLEX-110CH)

NOTE: Inputs EDGE, PHOTO and STOP normally closed (NC), if not used, must be excluded trought related dip switches. Set the dip corresponding to the unused input to ON.

WARNING! Before activating the installation, make sure that the installed safety devices are functioning properly.

It is FUNDAMENTAL to connect the motor and the unit to the EARTH in order to operate the control unit correctly! In case an encoder is applied, it is compulsory to use a shielded cable with the screening connected to the EARTH only by one end of the cable itself.

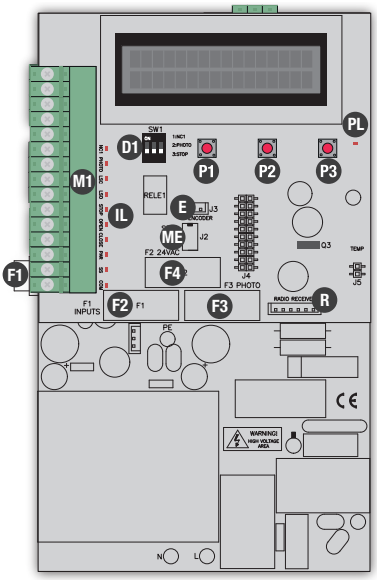
WARNING!! DELTA CONNECTION OF THE MOTOR IS REQUIRED.

Technical features of control unit INVERTER COMPACT	
Input power supply	230 Vac +15%, -15% ; 50Hz single-phase
Photocells power supply	24 Vdc 5W MAX
Accessories power supply	24 Vac 10W MAX
Motor output	230 Vac three-phase 1,5KW Max (current limited at 10A), cosF > 0.8
Flashing light output	230 Vac 60W MAX for FIX light, without flashing circuit
Courtesy light output	230Vac 100W MAX
Elettrobrake / Electrical lock output	250Vac 16A Max, 24Vdc 16A Max

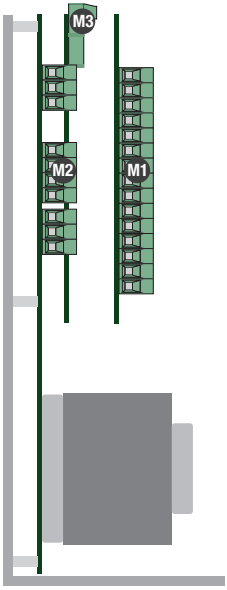
6-1622616 /R0 06/10/2017

2. CONNECTIONS

Front view



Side View



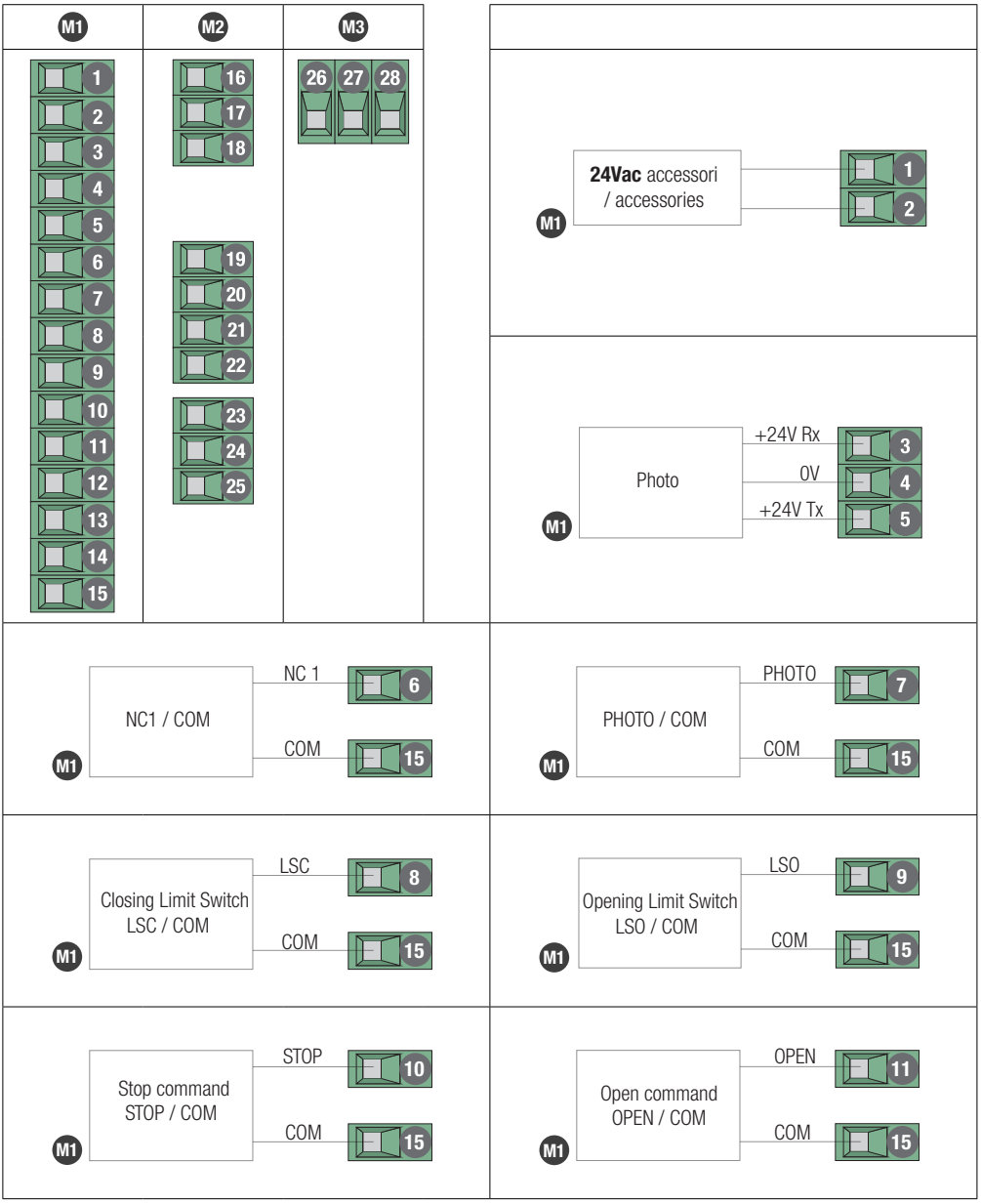
Board details

- **M1** Terminal block 1
- **M2** Terminal block 2
- **M3** Terminal block 3
- **P1** Button 1
- **P2** Button 2
- **P3** Button 3
- **D1** Dip switches inputs N.C. disabling
- **R** Radio receiver connector
- **ME** Extractable memory
- **IL** Input led
- **PL** Power supply led
- **E** Encoder (optional)
- **F1** Fuse 1, Line 230Vac
- **F2** Fuse 2, inputs
- **F3** Fuse 3, photocells
- **F4** Fuse 4, auxiliaries 24V

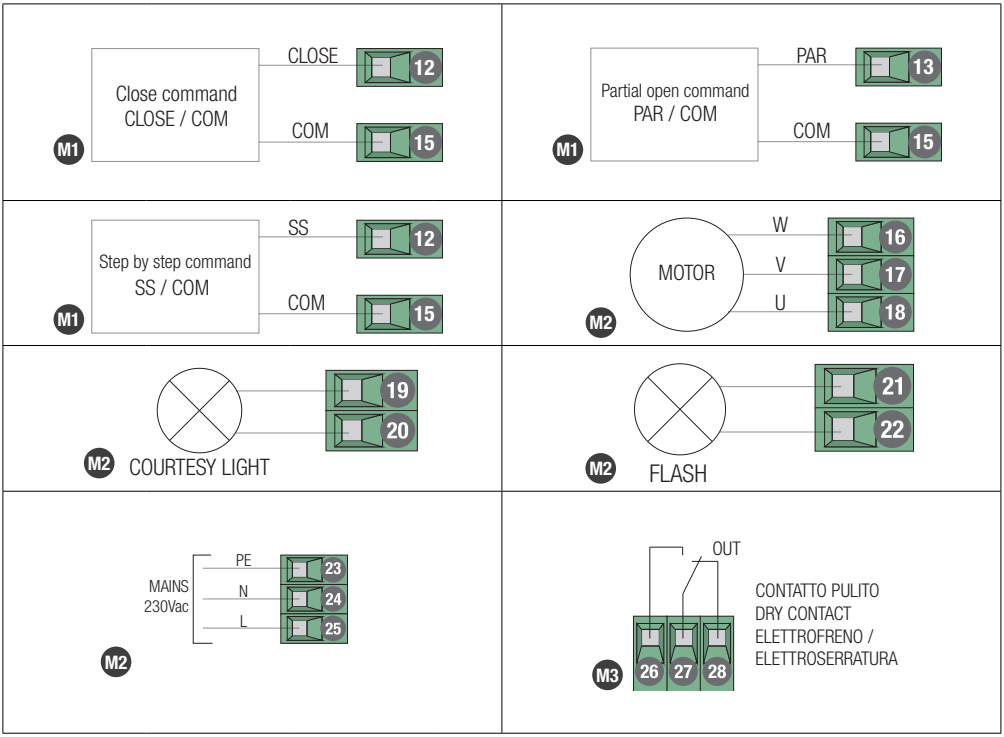
1-2	ACCESSORIES OUTPUT 24Vac 10W.	
3-4-5	PHOTOCELLS POWER SUPPLY Connect the clamp 3 of the control unit to the clamp + of the power supply of the photocells receiver. Connect the clamp 4 of the control unit to the power supply clamp - of the photocells receiver and of the transmitter. Connect the clamp 5 of the control unit to the power supply clamp of the trasnmitter of the photocells	The photocells test test is activated by the MENU A. ATTENTION: the control unit gives a voltage of 24 Vdc and can supply a maximum power of 5W. For the safety edges test connect the test device of the safety edge on the power supply pins of the TX (test activated wiht low logic signal 0Vdc). Please refer to the manual of the safety edge.
6-15	SAFETY EDGE INPUT Connect the contact NORMALLY CLOSED of the SAFETY EDGE between the clamps 6 and 15 of the terminal board. ATTENTION: jumper the inputs if not used	The safety edge mode of opearation can be modified in the MENU A.
7-15	PHOTOCELL INPUT Connect the NORMALLY CLOSED contact of the photocell (PHOTO) between the clamps 7 and 15 of the terminal board. ATTENTION: jumper the inputs if not used	The functioning of the photocells can be modified in the MENU A
8-15	INPUT CLOSING LIMIT SWITCH Connect the contact NORMALLY CLOSED of the CLOSING LIMIT SWITCH (L.S.CL.) between the clamps 8 and 15 of the control board	Before activating the installation make sure that the limit switches are functioning and correctly cabled
9-15	IINPUT OPENING LIMIT SWITCH Connect the contact NORMALLY CLOSED of the OPENING LIMIT SWITCH (L.S.CL.) between the clamps 9 and 15 of the terminal board.	Before activating the installation make sure that the limit switches are functioning and correctly cabled
10-15	STOP INPUT Connect the contact NORMALLY CLOSED of the STOP between the clamps 10 and 15 of the terminal board.	ATTENTION: Move the DIP STOP on ON position if not used

6-1622616 /R0 06/10/2017

11-15	OPEN INPUT Connect the button OPEN between the clamps 11 and 15 of the terminal board.	ATTENTION: leave it open if not used
12-15	CLOSE INPUT Connect the button CLOSE between the clamps 12 and 15 of the terminal board.	ATTENTION: leave it open if not used
13-15	PARTIAL OPENING INPUT Connect the PARTIAL OPENING button (PED.) between the clamps 13 and 15 of the terminal board.	ATTENTION: leave it open if not use
14-15	STEP BY STEP INPUT Connect the STEP-BY-STEP BUTTON (S.S.) between the clamps 14 and 15.	Under the dead man mode the STEP BY STEP BUTTON operates as OPEN. ATTENTION: leave it open if not used
16-17-18	MOTOR OUTPUT Connect the three phases of the motor in the terminals 16-17-18 (M2) **WARNING!! THE MOTOR MUST BE CONNECTED AS TRIANGLE / DELTA MODE** Δ Only for stand alone connection For the connection of the motor we recommend to use a screened cables 3 poles + earth 1.5 mm2 (type FD781CY)	Before activating the automation make sure that all the safey devices are correctly cabled and functioning, refer to the preliminary checkings  **WARNING! Risk of electric shock**
19-20	COURTESY LIGHT Connect the courtesy light to the clamps 19 and 20, 230Vac 100W MAX.	It is possible to light up the action area of the automatism during each motion. The functioning of the auxiliary light is controlled by the MENU A [P1].
21-22	FLASHING LIGHT Connect the flashing light to the clamps 21 and 22 [M2].	Use a flashing light without self flashing card 230Vac 60W MAX
23	Ground connection	
24-25	POWER SUPPLY Connect the power supply cable between the terminals 24 and 25. Use a cable with an adequate section based on the current absorbed by the motor	Do not connect the card directly to the electric network. Put a device which can ensure the disconnection of each pole from the power supply of the control unit.
26-27-28	ELECTRICAL BRAKE / ELECTRICAL LOCK power supply Connect the ELECTRICAL BRAKE / ELECTRICAL LOCK between the terminals **26-27** if needs of normally closed dry contact (16A MAX)	
Connector E	ENCODER INPUT Connect the encoder to the control unit on the specific connector	The activation / deactivation of the encoder functions is managed in the MENU A



6-1622616 /R0 06/10/2017

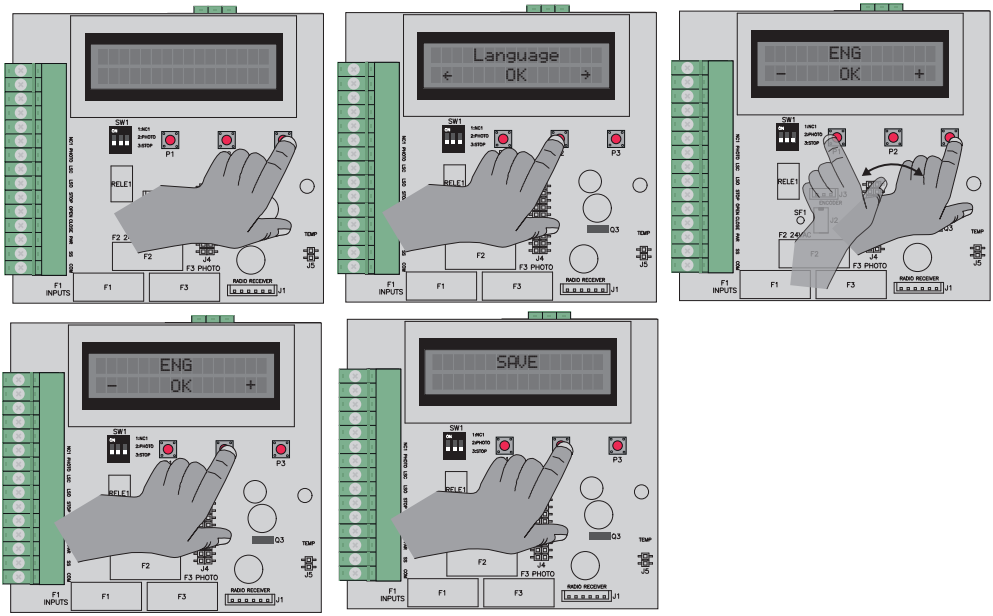


4. PROGRAMMING

4.1 Activation and selection of the programming menu

The INVERTER COMPACT control unit it is equipped with 3 user menu (**MENU A**, **MENU B**, **MENU C**), with which you can adjust, program and modify all the functional parameters. During the programming phases follow the indications shown on the display.

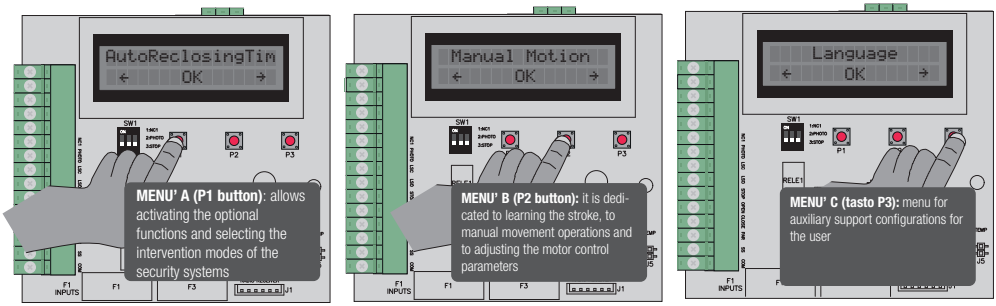
It is advisable to select the language as the first operation:
1. Press the P3 key for 2 seconds.
2. Confirm with the P2 button.
3. Select the desired language by pressing P1 or P3.
4. Confirm with P2.



4.2 Structure and use of the menu

MENU A - allows activating the optional functions and selecting the intervention modes of the security systems.
MENU B - is dedicated to learning the stroke, to manual movement operations and to adjusting the motor control parameters.
MENU C - menu for auxiliary support configurations for the user.

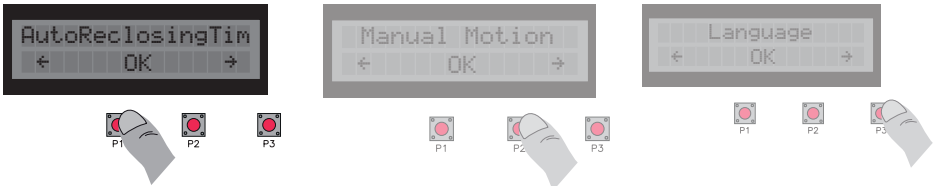
The figures below show the first items of the respective menus, see paragraphs 4.3, 4.4, 4.5 for the list of items.



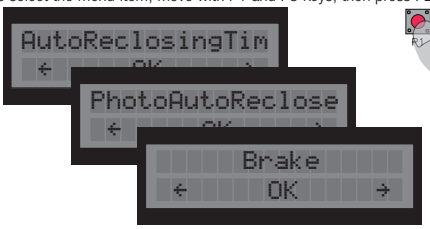
WARNING! Some parts of the control unit are subject to dangerous voltages! Pay attention during the manual access steps to the panel.

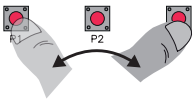
The following is EXAMPLE of "Motor Brake" configuration, item configurable in the A menu:

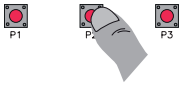
To enter the desired menu, press for 2 seconds a key between P1, P2 and P3 (see chapter items section 4.3)



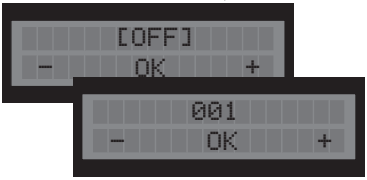
To select the menu item, move with P1 and P3 keys, then press P2 to access the menu item.

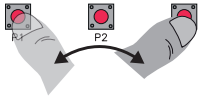


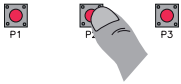




To increase or decrease the value, move with P1 and P3, then press P2 to confirm







Wait for saving data set

1. Stop the motor and get in safety conditions, The display must not show any indications. Press and keep pressed key P1 for 2 seconds in order to activate MENU A, The display shows the first entry available
2. To activate the desired menu, press and hold for 2 seconds the appropriate button.
Once accessed the desired menu (A, B, C), you can scroll it with the P1 and P3 buttons, you can access the desired item (enter) with P2 (central button) and you can confirm the desired parameter (saving).
3. Select the desired menu item (see the following chart) by shortly pressing the P3 button to skip to the next item or the P1 button to return to the previous one. The display shows the selected menu item.
4. Confirm the selection of the item by pressing the P2 button.
5. Change the parameter status by following the indications on the second line of the display, using the P1 and P3 button. The first line of the display indicates the current setting for the selected function. The second line shows the possible modification according to the selected parameter (see the specific paragraphs).
6. Confirm the setting by pressing the P2 button. The display indicates the saving followed by the selected menu item.
7. It is possible to modify further menu items (go back to point 3) or exit the programming menu by selecting EXIT (confirm with P2 button). The exit is confirmed by the absence of any indication on the display.

AUTOMATIC EXIT FROM MENU: in case of extended inactivity (15 seconds) the menu will be automatically disabled.

4.3 Programming menu A (key P1)- List of parameters

The following table lists the entries of menu A and reports a short description of the parameters that can be adjusted; refer to paragraph ADVANCED FUNCTIONS for more details

MENÙ A	Display		
→	AutoReclosingTim ← OK →	OFF: HH:MM:SS:	Timed closure of the gate (only from total or pedestrian opening)
	PhotoAutoReclose ← OK →	OFF ON	Immediate closing after the intervention of the photocell (only from total or pedestrian opening) disabled the gate closes 3 seconds after the contact between photocell has restored
	Brake ← OK →	OFF 1 2 3	Electronic brake operation (for motors with high inertia). disable Electonic brake. activation of the contact for external brake, active with motor switched off. activation of the contact for external brake, active with motor switched on.
	Dead Man ← OK →	OFF ON	“Dead Man” mode. The motor moves only by means of a permanent command disabled enabled (WARNING: automatic motions are disabled)
	Condominium ← OK →	OFF ON	Condominium function. The commands S.S. and PED allow only the opening of the gate disabled enabled (WARNING: enable the “Automatic Re-Closure” in order to close)
	Photo Inv ← OK →	OFF ON	Photocell intervention modality the gate stays still until the obstacle is removed, and then opens completely the gate opens completely (this function does not apply in opening)
	Photo Test ← OK →	OFF ON	Functional test of the photocell; it is executed before the gate moves disabled test activated (WARNING: supply the photocell with power as shown in the scheme)
	Edge Inv ← OK →	OFF ON	Modality of operation of the safety edge (sensible edge) the gate stops the gate opens completely (this function does not apply in opening)
	Edge Test ← OK →	OFF ON	Functional test of the safety edge; it is executed before the gate moves disabled test activated (WARNING: supply the safety edge with power as specified in the chap. 2.8)
	Preblink ← OK →	OFF ON	Short flash before the motion of the gate disabled enabled
	Area Light ← OK →	OFF ON	Modality of functioning of the auxiliary output for lighting courtesy light zone light (lit-off only when the gate is completely closed)
	Lighting time ← OK →	OFF HH:MM:SS	Auxiliary light’s switching-off delay for lighting Auxiliary light’s output disabled switching-off delay - auxiliary light’s output enabled

6-1622616 /R0 06/10/2017

	Clock ← OK →		Programmed opening function OFF disabled ON the gate opens and stays open until the OPEN input is active
	Water Hammer OP ← OK →		Water hammer before the gate opens OFF disabled XX.Xs enabled. Adjustment of pressure time (in seconds) applied to the mechanical stop in closing
	Encoder ← OK →		Functioning with encoder (only for motors equipped with a suitable encoder) OFF disabled ON enabled (WARNING: the re-programming of the runs is needed)
	Sensor Level ← OK →		Level of operation of the "motor still sensor" (with active encoder only) OFF sensor disabled NNN sensor enabled - adjustment of operation's sensitivity
	Sensor Inv ← OK →		Modality of operation of the "motor still sensor" (with active encoder only) OFF the gate stops ON reverses shortly in opening; opens completely in closing
	EXIT ← OK →		

4.4 Programming menu B (key P2) - List of parameters

The following table lists the entries of menu A and reports a short description of the parameters that can be adjusted; refer to paragraphs dedicated to each function for more information

MENÙ B	Display		
→	Manual Motion ← OK →		Allows to move the gate at low speed by using the keys located on the control board. This function is fundamental in order to check the motion during the installation
	End Position ← OK →		Learning the full run of the gate, both in opening and in closing WARNING: this operation must start when the gate is completely closed
	Ped. Position ← OK →		Learning of the opening partial position WARNING: this operation must start when the gate is completely closed
	High Speed OP ← OK →	NNNHz	Regulation of the normal speed of the gate during the opening phase speed expressed in Hz (frequency of the wave supplied to the motor)
	Low Speed OP ← OK →	NNNHz	Regulation of the speed of the gate during the opening phase when approaching the end of the run NNN: speed expressed in Hz (frequency of the wave supplied to the motor)

		NNNHz	Regulation of the normal speed of the gate during the closing phase speed expressed in Hz (frequency of the wave supplied to the motor)
		NNNHz	Regulation of the speed of the gate during the closing phase when approaching the end of the run speed expressed in Hz (frequency of the wave supplied to the motor)
		NNN%	Torque supplied to the motor during the opening phase at normal speed percentage of torque supplied to the motor (000%...100%)
		NNN%	Torque supplied to the motor during the opening phase when approaching the end of the run NNN: percentage of torque supplied to the motor (000%...100%)
		NNN%	Torque supplied to the motor during the closing phase at normal speed percentage of torque supplied to the motor(000%...100%).
		NNN%	Torque supplied to the motor during the closing phase when approaching the end of the run percentage of torque supplied to the motor (000%...100%).
			
			

4.5 Programming menu C (key P3) - List of parameters

The following table lists the entries of menu A and reports a short description of the parameters that can be adjusted; refer to paragraphs dedicated to each function for more information

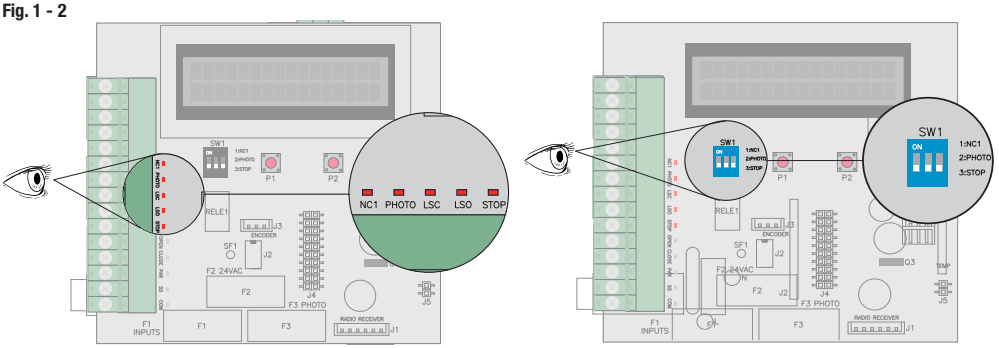
MENÙ C	Display		
			Select the language (where applicable)
		OFF ON	Backlighting of the display the light of the display is disabled the light of the display is enabled and its automatic switching-off is timed (Energy saving)
			Total reset of factory settings of the control board. WARNING: all programming operations and the setting of the control board must be repeated after this operation
			
			

5. Preliminary checks

The preliminary checks must be carried out only by professionals and by paying maximum attention. The correct wiring of the motor and the limit switches is very important for the correct functioning of the automation.

1	Unlock the motor and supply the system with power only after controlling the wiring connections and checking the absence of short circuits		Check the status of the LEDs input by considering that all normally closed (NC) inputs must have their corresponding led alighted.
2	Manually bring the gate to a total opening position and check the status of led LS.OP.		Led LS.OP is off. Correct functioning Led LS.OP is on, but led LS.CL is off; check the connection of the limit switches.
3	Manually bring the gate to a total closing position and check the status of led LS.OP.		Led LS.CL is off. Correct functioning. Led LS.CL is on, but led LS.OP is off; check the connection of the limit switches
4	Manually bring the gate to the middle of the run and then lock the motor. Enter the parameter Manual Movement of MENU B and command the closure of the gate. WARNING: pay attention with the moving gate!		The motor starts to move. Watch its sense of rotation: If the gate opens, then stop the manual motion, disconnect the system from the power and reverse the motor connections. Then try again. If the gate closes, then stop the manual motion and go to the following phase
5	Enter the parameter Manual Movement of MENU B and command the opening of the gate. WARNING: pay attention with the moving gate!		The motor starts to move. Watch its sense of rotation: If the gate closes, then stop the manual motion, disconnect the system from the power and reverse the motor connections. Then try again. If the gate opens, then stop the manual motion and go to the following phase
6	Once all above operations are successfully terminated, close the automation and lock the motor.		

Fig. 1 - 2



WARNING! Before starting the motor, check the status of the input LEDs considering that all the normally closed (NC) inputs must have the corresponding LED on (Fig. 1).

If necessary, position the dip switches related to the safety devices in the ON position. After installation, move the DIP to OFF and check that the safety devices are working properly.

6. Manual motion (Menu B - Manual movement)

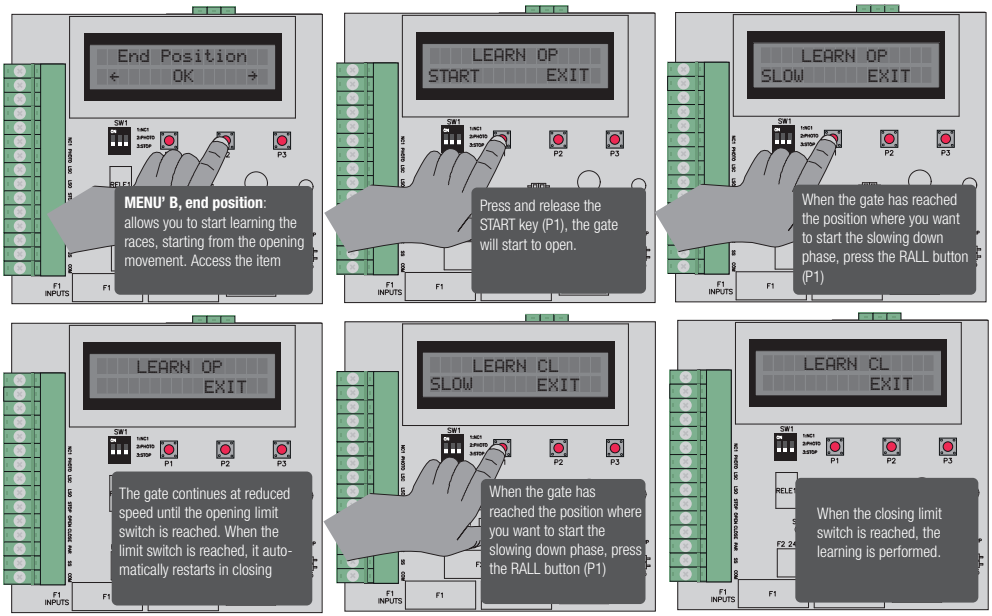
This operation must be carried-out only by qualified personnel and by paying maximum attention. The manual motion is an operation planned only for the phase of installation; it allows to move the gate at a limited speed in both directions.

WARNING: the photocells and the safety edge are not monitored during this phase!

WARNING! during this phase the photocells and the coast are not monitored! Access the manual movement item of MENU B and confirm by pressing the P2 key. Move the gate using the P1 and P3 keys. To exit the menu, press the P2 button or wait for 15 seconds.

7. LEARNING

Learning the run of the gate (Menu B - Final position). Learning the run allows to define the parameters of the run of the gate, such as the width of the run at normal speed and at slowed speed. Check that the adjustment of the torque and the speed of the gate are set before carrying out the learning phase. Check that the gate is closed before starting the learning phase.



7.1 Learning the partial opening phase (Menu B – Ped. Position). Make sure that the electric limit switches are assembled and properly adjusted.

Learning the pedestrian run allows to define the position of partial opening that allows the pedestrians accessing (PED command)
Check that the adjustment of the torque and the speed of the gate are set before carrying out the learning phase. Check that the gate is closed before starting the learning phase.
Enter the parameter Ped. Position of MENU B and confirm by pressing key P2. Start moving the gate by pressing and releasing key P1 (START) or a Step-by-Step key. When the gate reaches the position of pedestrian opening, then push key P1 (START) or a step-by-step key
The gate moves again in closing. When the gate hits the limit in closing, then the programming is terminated. Exit the menu by scrolling the entries until you find EXIT

7.2 Adjustment of the speed and the torque (Menu B - Speed and torque)

The entries of menu B - Speed and torque - once the parameters themselves are entered allow to adjust the corresponding parameters from a minimum up to a maximum value, according to the indications shown on the display. The versatility of the control board allows an infinity of possible combinations: however it is recommended to adjust the settings by keeping into account the dimensions and weight of the gate. High speeds may be dangerous, as well as high torques. Such regulations must be carried out only by professionals. It is recommended to check the correct functioning of the automation after any regulation. It is highly recommended to learn the runs of the gate each time these parameters are changed.

8. ADVANCED FUNCTIONS

These are functions and/or functional modalities that can be activated by the user through the programming menu.

8.1 AUTOMATIC RECLOSURE

Timed closing of the gate from totally open position or pedestrian opening position. The “stop" command disables the automatic closing until a new

6-1622616 /R0 06/10/2017

command given by the user is received (S.S., CLOSE, etc).

8.2 PHOTO AUTORECLOSE

The gate closes 3 seconds after the photocell intervenes in case the gate is in a totally open or in a pedestrian open position.

8.3 MOTOR BRAKE

Electronic braking function to be used with motors with a strong inertia and the necessity to quickly stop the automation. Pay attention as the mechanics must be sized accordingly.

8.4 Dead Man

The motor moves only with permanent a command and not with just impulses: the motor opens if the key “open” is kept pressed, and the opposite operation applies with the key “close”. WARNING: this modality forbids all operations of automatic motion!

8.5 Condominium

All commands given via radio or by a step-by-step and/or a pedestrian keys involve only the opening of the gate. The closing is related to the function of automatic closing, which MUST BE ABSOLUTELY ACTIVATED since every command of closing is ignored.

8.6 Inv. On photocells

Allows to set if, once the photocell beam is interrupted, the gate must reverse immediately (only in closing) or just after the removal of the obstacle (it applies both in opening and in closing)

8.7 Photocell test

This control unit is equipped with a function which allows to control the proper functioning of photocells before any operation of the motor is made. The security of the system is therefore higher in case the photo-device breaks down (for example, if the relay of exit is stuck) or there is a undesired short circuit on the input of the photocells. The control board indicates a possible fault by flashing only once when any key is pressed and also by not moving at all. This check is made after the control board receives a command to move, but before the control board itself gives power to the motor.

8.8 Edge Inv.

Allows to set if, once the safety edge alarms itself, the gate must stop or it must stop and then reverse (applies only in the phase of closing).

8.9 Test Costa

Test funzionale della costa. Collegare la costa come indicato nelle istruzioni utilizzando il morsetto di alimentazione TX Photo.

8.10 Edge Test

Functional test of the safety edge. Connect the safety edge as shown in the instructions by using the photocell test’s clamp.

8.11 Area light

Possibility to use the auxiliary light output as courtesy light, or as area light (it stays on until the gate is closed).

8.12 Auxiliary light timeout

There is the possibility to set the delay of switching-off of the auxiliary light after the automation stops

8.13 Clock function

Input OPEN becomes input clock in case it is possible to connect a timer for the programmed opening of the automation. The contact is understood as a command to opening and to stay open as long as this status stays closed. When the contact is opened, then the unit reset its normal functioning, waiting for a command given by the user (if the automatic closing is required, then it must be enabled from the menu).

8.14 Water hammer in opening

If the automation is equipped with an electronic lock, then it is advisable that, when the gate is closed, the motor shortly operates in closing before it starts the opening phase (water hammer). This function allows to unlock the electronic lock in any case, even when the weather conditions are very bad (for example in case of ice). The activation of this function enables also the electronic lock’s output.

8.15 Encoder (optional)

If the motor is equipped with a suitable encoder, then it is possible to enable the functionalities of the encoder. In such way the control board does not work any longer “by time” but “with encoder” instead. It is possible to detect the possible blocking of the motor.

8.16 Sensor level (optional)

If it is enabled, it allows to modify the intervention sensitivity of the “stop motor” sensor. Decrease the value that is set in order to have higher sensitivity. If the sensitivity is too high and the sensor operates without any apparent reason, then increase the value

8.17 Sensor inversion (optional)

Allows to define the reaction of the gate in case the “stop motor” sensor applies. If the reversing is not activated, then the gate stops and waits for a new command. If the reversing is activated, then the gate reverses shortly in case the sensor applies during the opening; it open completely in case the sensor applies during the closing phase of the gate.

8.18 RESET of the control unit (Menù C - Reset)

6-1622616 /R0 06/10/2017

Reset of the unit according to the display indications; this reset the control board to its factory settings
WARNING: all programming and personal settings must be repeated after the reset of the control board!

8.19 Backlighting of the display (Menù C - Display Light)
Enter MENU C and follow the instructions shown on the display in order to enable/disable the backlighting of the display itself.
The control board operates the function Energy saving which automatically switches off the display after the unit is inactive since some minutes. The backlighting is automatically reactivated (if this function is enabled) when the user operates on the control board.

9. Electronic lock output
The functioning of the output is subordinated to the value assigned to the parameter "Motor brake": Parameter "Motor brake" OFF-1: On the output a dry contact (without voltage) is available for the activation of the electric lock. The electric lock output can be activated after enabling the water hammer during opening. Parameter "Engine brake": A clean contact (without voltage) is available at the output for the activation of an external electric brake.

10. Tips for a successful installation
10.1 High speed movements

Problem	Solution
1) The motor stops for the effort during the movements. 2) It is easy to stop the automation during the movements counteracting the movement. 3) The gate moves slowly despite having set an high speed	Raise the torque supplied to the motor until problem is solved. High Torque OP, High Torque OP. Lower the speed of the motor until problem is solved. High Speed OP, High Speed CL.
The motor stops and the control unit shows FAULT on the display or 10 seconds of fast blinking.	Lower the torque supplied to the motor until problem is solved. High Torque OP, High Torque OP. Lower the speed of the motor until problem is solved. High Speed OP, High Speed CL.

10.2 Low speed movements (slowing down)

- The motor stops for the effort during the movements. - It is easy to stop the automation during the movements counteracting the movement. - The gate moves slowly despite having set an high speed.	- Raise the torque supplied to the motor until problem is solved. Low Torque OP, Low Torque CL. - Lower the speed of the motor until problem is solved. Low Speed OP, Low Speed CL.

The correct setting of parameter is when you are not able to stop the automation when trying counteracting the movement.
The use of safety devices is absolutely necessary to ensure the safety of the automation.

11. Warning and advices
Avoid putting the connection cables of buttons, security devices and inputs close to those of the power supply of the control unit and of the motor.
Some parts of the control unit are subject to dangerous voltage. The control unit must be installed and programmed only by qualified professionals.
Always use a device that ensures the disconnection of all poles of the control unit's power supply.
This device can be a switch (connected directly to the power supply terminals) with a contact's minimum distance of 3 mm for each pole, or it can be a device connected to the power network.
For connecting the card and the motors we recommend to use cables with double isolation as in compliance to the laws in force; the minimum cross section of the single conductor must not be less than 1,5 mm^2 and not more than 2.5mm^2.

WARRANTY - In compliance with legislation, the manufacturer's warranty is valid from the date stamped on the product and is restricted to the repair or free replacement of the parts accepted by the manufacturer as being defective due to poor quality materials or manufacturing defects. The warranty does not cover damage or defects caused by external agents, faulty maintenance, overloading, natural wear and tear, choice of incorrect product, assembly errors, or any other cause not imputable to the manufacturer. Products that have been misused will not be guaranteed or repaired.
Printed specifications are only indicative. The manufacturer does not accept any responsibility for range reductions or malfunctions caused by environmental interference. The manufacturer's responsibility for damage caused to persons resulting from accidents of any nature caused by our defective products, are only those responsibilities that come under Italian law.

6-1622616 /R0 06/10/2017

NOTE

6-1622616 /R0 06/10/2017