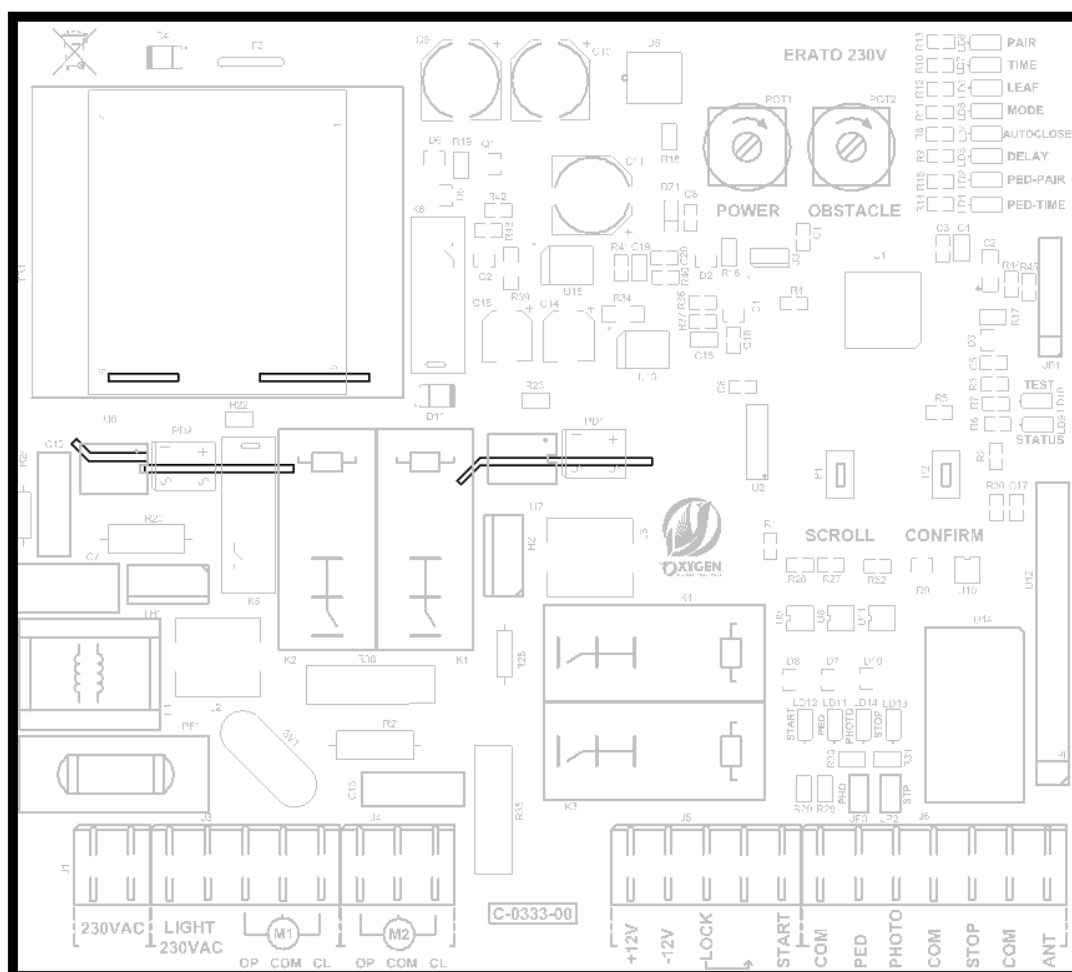


ERATO 230V



CONNECTIONS (from left to right)

Left Terminal Block (High Voltage)	
230Vac line (Phase)	
230Vac line (Neutral)	
Flashing Light 230Vac (Phase)	
Flashing Light 230Vac (Neutral)	
Motor 1 Open	
Motor 1 Common	
Motor 1 Close	
Motor 2 Open	
Motor 2 Common	
Motor 2 Close	

Right Terminal Block (Low Voltage)	
Positive Photocells (+12V)	
Negative Photocells (-12V)	
Electric lock	
Electric lock	
START Open and close input (NO)	
COM Common for START and PED inputs	
PED Pedestrian input (NO)	
PHOTO Standard Photocells (NC)	
COM Common for PHOTO and STOP devices	
STOP Safety device (NC)	
COM Antenna Ground	
ANT Antenna core	

TECHNICAL FEATURES

Main power supply	230Vac 50Hz
Flashing Light	230Vac 100W max.
Motors	230Vac 500W max.
Electric lock	12Vac 15W max.
Photocells power supply	12Vdc 3W max.
Operating temperature	10÷55 °C
Integrated receiver	Rolling Code 433Mhz
Max Number of Remotes	100 max.
Control Board size	140x125x45 mm

ERATO 230V - QUICK INSTALLATION (DO IT YOUR-SELF)

- 1) Put the gate in the closing position and block the two motors, or the motor in case of single gate, by the release key supplied with the motor.
 - 2) Connect the motors to the three terminals M1 (Motor 1) and three terminals M2 (Motor 2) as per last page diagrams:
 - Common is GRAY (or BLUE) motor wire, connect it to the COM terminal
 - Opening and Closing are the BROWN and BLACK motor wires. Connect them to OP and CL terminals without paying attention to the polarity, the right connections will be checked later.
 - The Capacitor is the cylinder with two wires supplied with the motor, it must be connected in parallel together with BROWN and BLACK wires, in the same OP and CL terminals. One capacitor for each motor

The two capacitor wires have no polarity, so it's not important to pay attention, they can be swapped.

 - Yellow/green wire is earth, it must be connected to an external terminal together with the main power earth.
 - Motor 1 (M1) is the one that open first, it's important to considered it if one gate overlaps the other one.
 - Motor 2 (M2) opens 2 seconds after Motor 1 (M1)

In case of single gate with only one motor, connect it to Motor 1 (M1). Do not connect anything to Motor 2 (M2)

The motor far from the control board needs a 4 core 1.5mm² cable. The motor close to the board doesn't need extra cables
 - 3) Connect Main Power Phase and Neutral in the first two terminals on the left, 230VAC terminals.

They have no polarity so it is not important to pay attention to the connections, Phase and Neutral can be inverted

The main power accepted range is from 200Vac up to 250Vac single phase (domestic power supply)
 - 4) - Verify that the two LEDs PHOTO and STOP are ON. They are ON when the two jumpers PHO and STP under the respective two LEDs are inserted. The two LEDs next to them, LEDs START and PED, must be OFF
 - Check that the POWER trimmer is fully turned clockwise = maximum power
 - Check that the OBSTACLE trimmer is fully turned anticlockwise = obstacle disabled
 - 5) Pair a remote control. The remote control has more buttons to trigger more automations, if you only have this gate you need to use only one button of your choice, the remaining buttons will be disabled.
 - Press the SCROLL button and keep it pressed until the PAIR LED lights up
 - Press the button you like on the remote control, the PAIR LED stays ON steady and the remote control is paired
 - Repeat the operation for all the remote controls you want to pair
 - 6) Press the button on the remote control, the gate opens, the STATUS LED on the right flashes quickly.

If one or both motors work contrariwise, i.e. they close instead of open, switch the board off and swap the BROWN and BLACK wires of the motor that is working contrariwise (or both motors if they are working contrariwise), always keeping the capacitor wires connected together with BROWN and BLACK wires

Switch the board on and open the gate by the remote control, now the gate opens when the STATUS LED flashes quickly. The STATUS LED flashes quickly while opening, it flashes slowly while closing, it is on steadily with the gate open and still, it is off with the gate closed and still.
 - 7) - By default the gate opens and closes the gates for about 15 seconds at normal speed and about 10 extra seconds at slowdown speed, with a 2 seconds delay between the two gates.

If the settings are correct, it's already ok. If the gate does not open or close fully or the motors strikes the physical ground stops at full speed, it's needed to set the correct times. Follow the step by step procedure, TIME paragraph (page 4).

 - In case of single gate with only one motor, the LEAF LED must be switched ON, refer to the LEAF paragraph (page 4).
 - In case of incorrect settings, it is always possible to restore the factory settings by pressing the SCROLL and CONFIRM buttons simultaneously for a few seconds. Keep them until all the LEDs at the top right turn on and off.
- Optional Accessories connection** (depending on the kit purchased):
- 8) Photocells: They are an important safety device and they are always supplied in pairs. The photocell with 2 terminals is the transmitter, the one with 4 terminals is the receiver. It's needed a standard 4 core 0.5mm² cable.

It is necessary to place one of them on the right pillar and the other one on the left pillar. The two photocells have to see on each other so they can make a laser beam as long as the gate itself.

We suggest to fit them on the pillars about 50cm far from the ground and about 5cm far from the gates on the outside.

Connect them as per last page diagram. When the connections are completed, remove the PHO factory jumper and check correct operation:

The PHOTO LED must be ON, and it must go OFF only when the photocell beam is broken.

If there are two pairs of photocells, connect them as per last page diagrams, i.e. the two receivers connected in series.
- 9) Connect the 17cm cable supplied with the board to ANT, the last terminal on the right, only after having paired all the remote controls. Leave the 17cm cable inside the waterproof box, do not drill the box.
- 10) Flashing light: Connect the 230V flashing light with 2 wires to the LIGHT 230VAC terminals by a 2 core 1.5mm² cable
- 11) Electric lock: Connect the electric lock to the two LOCK terminals by a 2 core 1.5mm² cable.

The board manages the electric lock fully, giving a short impulse to release the lock when the gate starts to open.
- 12) Opening devices: Connect all the desired devices, for example a button, an intercom, a key selector, etc. to the START and COM terminals. Important: All the devices must be connected by a Normally Open free contact, not powered.
- 13) Metal wired keypad: Connect it with 3 wires, RED, BLACK, ORANGE, to the control board by a standard 3 core 0.5mm² cable, as per last page diagram. Do not connect the Yellow wire. Program it as indicated at the bottom of next page
- 14) Wireless numeric keypad: it works like a remote control. After having chosen the desired code, it's needed to pair it: Press the SCROLL button and keep it pressed until the PAIR LED lights up, Insert the chosen code, the PAIR LED stays ON.

CONTROL UNIT FUNCTIONS

Flashing Light

Connect a 230Vac light to the two terminals "LIGHT 230VAC". The control unit will manage the flashing while the gate opens and closes. By the Secondary Menu it is possible to select some options: Keep the flashing light while the gate is open. Pre-flashing function and Courtesy light function. If the flashing light is not needed, just leave the two terminals disconnected.

Motors

Connect the 230V motors with the 3 wires to the OP (Opening) COM (Common) CL (Closing) terminals.

Connect the 2 capacitor wires to the OP and CL terminals together with the motor wires.

Motor 1 opens before Motor 2. If you have a gate with only one motor, connect it to Motor 1 terminals.

Electric lock

Connect a 12V electric lock to the two "LOCK" terminals. The control unit manages the electric lock automatically by providing a short release impulse while the Motor 1 starts to open. The Water Hammer and Final Stroke options can be activated by the Secondary Menu.

If the electric lock is not required, just leave the two terminals disconnected.

START and PED inputs

It is possible to connect one or more devices to control the gate, such as a button, a key selector or other devices.

All the devices must be Normally Open and Not Powered (Free Contact).

The START input is the general command for both motors (or single motor if you have a gate with only one motor)

The PED input is the command for the Pedestrian passage (Partial opening of Motor 1)

If it is not necessary to connect an external device, just leave the terminals disconnected

PHOTO safety device (Photocells)

Connect the Photocells as per last page diagrams.

When the photocells beam is broken while the gate opens, the gate continues to open.

When the photocells beam is broken while the gate closes, the gate stops and opens fully.

After connecting the photocells, the PHO jumper above the terminal must be removed.

If it is not necessary to connect the photocells, the PHO jumper above the terminal must be inserted

STOP safety device (Safety edge or emergency button)

Connect a NC safety device to the terminals STOP and COM

When the device is activated, the gate stops and remain stopped until the device is activated.

After connecting the safety device, the STP jumper above the terminal must be removed

If it is not necessary to connect a safety device, the STP jumper above the terminal must be inserted

Antenna

After pairing the remote controls, connect the supplied short cable to the ANT terminal to increase the range of the remote controls.

It is possible to increase the range of the remote controls by an external antenna too. Connect the core of the antenna to the ANT terminal and connect the Shield of the cable to the COM next to it.

Motor Power Adjustment

The control unit is equipped with a specific trimmer (POWER) that adjusts the power of the motors.

Maximum power (100%) with cursor fully clockwise, Average power (75%) with cursor halfway and Minimum power (50%) with cursor fully anticlockwise. Important note: After any trimmer adjustment, it is needed to do a new motors time programming procedure by the "TIME" LED.

Obstacle Control Sensitivity Adjustment

The control unit is equipped with a specific trimmer (OBSTACLE) that adjusts the obstacle detection.

With the cursor fully anticlockwise detection is disabled, with the cursor halfway there is standard detection, with the cursor fully clockwise obstacle detection is immediate (maximum sensitivity). Important note: with maximum sensitivity, any weather or gate condition (wind, cold, rust, not-lubricated hinges, etc..) could be detected like an obstacle.

Programming menu

The Control unit has two menus which can be viewed by the 8 LEDs at the top right.

The MAIN menu is accessed by pushing and holding the SCROLL button for 2 seconds.

The SECONDARY menu is accessed by pushing and holding the CONFIRM button for 2 seconds.

At the first access the control unit shows the main Menu. it is possible to switch from the main to the secondary menu By the CONFIRM button and vice versa. The secondary menu can be recognized by the flashing of the "PED-TIME" LED.

After 4 minutes the LEDs switch OFF to save energy. The LEDs switch ON again by pressing any of the two buttons.

The SCROLL button selects the function, the selection is indicated by the flashing of the Led. By pressing the SCROLL button, the menu is scrolled and it is possible to select the desired function. The selected function is activated for 10 seconds.

The CONFIRM button programs the selected function.

Slowdown Speed

The motor slowdown speed function is needed to avoid the striking at high speed of the gates when they hit the physical ground stops, at the end of the opening and closing cycles.

The slowdown speed can be set at the desired points, before the complete opening and closing, by the TIME setting (page 4)

Command input test

Above each command input (START, PED, PHOTO, STOP inputs), the control unit has the relative status LED, in order to quickly check the status of each input. Operating logic: LED on = input contact is closed, LED off = input contact is open.

During normal operation, the START and PED LEDs are always off and the PHOTO and STOP LEDs are always on

Factory reset

Press and hold the SCROLL and CONFIRM buttons simultaneously for a few seconds. All the LEDs at the top right turn on and off

Metal Wired Keypad fast programming

Connect the metal wired keypad by 3 wires as per last page diagram. Switch the main power on, the keypad does a bip and become Red steady.

Push * 8 8 8 8 8 # (asterisk, six time "8", hash) the keypad starts to flash in Red after the asterisk and gives a short Green flash after the hash.

Push 1, the keypad becomes yellow steady. Push 1 #, insert your **6 digits desired entry code**, push # (for example 1 # 1 2 3 4 5 6 #) the keypad gives a short Green flash and the entry code is learned. If you like to insert another code, until the keypad is Yellow steady.

Push 2 #, insert a different **6 digits entry code**, push # (for example 2 # 9 8 7 6 5 4 #) the keypad gives a short Green flash.

Wait for about 30 seconds, the keypad comes back to Red steady, or push asterisk twice to exit without waiting 30 seconds.

Now type the set code the Keypad gives a short Green flash and opens the gate (for example 1 2 3 4 5 6 without typing asterisk or hash)

MAIN MENU (access with SCROLL button)

FUNCTION	LED OFF	LED ON
PAIR - Remote control pairing	No remote controls paired	Remote controls paired
TIME - Motors learning time	15 seconds + 5 seconds slowdown	Customized time
LEAF - Number of motors	2 Motors - Double gate	1 Motor - Single gate
MODE - Working logic	Step by step mode	Collective mode
AUTOCLOSE - Automatic closing	The gate doesn't close automatically	The gate closes automatically after the set time
DELAY - Motor 2 delayed time	2 seconds	Customized time
PED-PAIR - Pedestrian button pairing	No remote controls paired	Remote controls paired
PED-TIME - Pedestrian Opening Time	10 Seconds	Customized time

PAIR: Remote controls pairing to the control board

The control board internal memory can manage up to 100 different Oxygen Automation remote controls.

Program procedure: Press the SCROLL button and keep it pressed until the PAIR LED lights up. Press the button you choose on the remote control, the PAIR LED stays on steady and the remote control is paired. Repeat the operation for all the remote controls you want to pair.

When the memory is full with 100 remote controls paired, all the LEDs will start flashing and it's not possible to pair more remote controls.

Remote controls memory reset: Press the SCROLL button, the PAIR LED starts flashing, press and hold the CONFIRM button for 5 seconds, the PAIR LED turns off and the memory is clear.

TIME: Program the correct opening and closing times

From default the motors opening and closing time is 15 seconds + 5 extra seconds with slowdown speed

This is already correct for most gates since it's a standard time.

If it is necessary to set different opening and closing times, follow this step by step procedure:

The gate must be closed and still. Push SCROLL button twice, scrolling the menu to the TIME LED (flashing)

- 1) **Push CONFIRM** --> Gate1 Opens
- 2) **Push CONFIRM** when Gate1 is about 5 seconds before the full opening ---> Gate 1 Slowdown
- 3) Gate1 reach the full opening, wait for extra 2 seconds and **Push CONFIRM** ---> Gate1 Stops and after 2 seconds Gate2 Opens
- 4) **Push CONFIRM** when Gate2 is about 5 seconds before the full opening ---> Gate2 Slowdown
- 5) Gate2 reach the full opening, wait for extra 2 seconds and **Push CONFIRM** ---> Gate2 Stops and after 2 seconds Gate2 Closes
- 6) **Push CONFIRM** when Gate2 is about 5 seconds before the full closing ---> Gate2 Slowdown
- 7) Gate2 reach the full closing, wait for extra 2 seconds and **Push CONFIRM** ---> Gate2 Stops and after 2 seconds Gate1 Closes
- 8) **Push CONFIRM** when Gate1 is about 5 seconds before the full closing ---> Gate1 Slowdown
- 9) Gate1 reach the full closing, wait for extra 2 seconds and **Push CONFIRM** ---> Gate1 Stops

LEAF: Number of Motors

From default the control unit is set for two motors. If the gate has only one motor (Single gate) it's needed to set it in the control unit.

Push SCROLL button three times, scrolling the menu to the LEAF LED and push CONFIRM, the LEAF LED stays on steady and the control unit is set for one motor (Single gate). Repeat the operation if you want to restore the original configuration with two motors, LEAF LED turns off.

MODE: Working logic

From default the control unit is set with Step by Step logic with MODE LED off. If it's needed the Collective logic:

Push SCROLL button four times, scrolling the menu to the MODE LED and push CONFIRM, the MODE LED stays on steady.

Repeat the operation if you want to restore the original configuration with the Step by Step logic, MODE LED turns off.

Important: with Collective Logic, it's needed to activate the AUTOCLOSE function

Step-by-step logic:

Using both the remote control (PAIR LED on) and the low voltage push-button panel (START) to operate the gate, the following operation will be obtained: the first impulse commands opening until the motor time expires, the second impulse commands opening closing the gate, if an impulse is sent before the motor time expires, the control unit **stops** movement both in the opening and in the closing phase. A further command determines the resumption of motion in the opposite direction.

Collective logic:

Using both the remote control (PAIR LED on) and the low voltage push-button panel (START) to operate the gate, the following operation will be obtained: the first impulse commands the opening of the gate, if a further impulse is sent:

- _ while it is opening, it is ignored.
- _ during Pause, the Pause time count is restarted (if automatic closing is activated)
- _ during closing, the control unit **reverses** motion

AUTOCLOSE: Automatic closing time programming (Max. 5 minutes)

The control unit is supplied by the manufacturer without automatic closing. If you wish to enable automatic closing, proceed as follows: use the SCROLL key to position yourself on the flashing AUTOCLOSE Led, press the CONFIRM key, then wait for the time required, press the CONFIRM key again, the automatic closing and the AUTOCLOSE Led will remain on steady. If you wish to restore the initial condition (without automatic closing), position yourself on the flashing AUTOCLOSE Led then press the CONFIRM key twice within a time interval of 2 seconds, the AUTOCLOSE Led will switch off and the operation will be completed.

DELAY: Programming the delay between the two leaves (Max 15 sec.)

The control unit is supplied by the manufacturer with an opening and closing delay between the two leaves of 2 seconds.

If it is necessary to enter a different delay time for the leaves, programming must be carried out with the gate closed as follows:

Position yourself with the SCROLL key on the flashing DELAY Led, press the CONFIRM key, then wait for the time required, press the CONFIRM key again, a delay time for the opening leaves fixed at 2 seconds will be stored, and the closing leaf delay equal to that programmed and the DELAY LED will remain on steady.

If you wish to reset the door delay, position yourself on the flashing DELAY Led then press the CONFIRM key twice within 2 seconds, the DELAY Led will switch off and the operation will be completed.

PED-PAIR: Pairing of the remote control button for pedestrian opening

The programming and cancellation procedure is similar to that described in PAIR. You need to use a different button on the remote control

PED-TIME: Pedestrian work time programming

The control unit is supplied by the manufacturer with a predefined Pedestrian time of 10 seconds.

If it is necessary to modify the Pedestrian work time, the programming must be carried out with the gate closed as follows:

Position yourself with the SCROLL key on the flashing PED-TIME Led, press the CONFIRM key, Motor 1 opens, when the desired position is reached press the CONFIRM key, after 2 seconds Motor 1 closes, wait for complete closure and press the CONFIRM key.

SECONDARY MENU (accessed with the CONFIRM button)

FUNCTION	LED OFF	LED ON
PAIR – Electric lock water hammer	Disabled	Enabled
TIME – Final blow for electric lock	Disabled	Enabled
LEAF – Pre-flashing and Courtesy Light	Disabled	Pre-flashing 3 seconds / Courtesy light 3 minutes
MODE – Flashing during pause	Disabled	Enabled
AUTOCLOSE –Soft Start	Disabled	Enabled
DELAY – START and PED input functions	START = total PED = pedestrian	START = opening PED = closing
PED-PAIR – Pressure for hydraulic motors	Disabled	Enabled
PED-TIME – Secondary menu indication	Led always Flashing to indicate the secondary menu	

PAIR: Ram stroke_ short closing stroke to unlock the lock before opening

The control unit is supplied with water hammer deactivated (PAIR Led off and PED-TIME Led flashing)

If you wish to enable water hammer, proceed as follows: keep the CONFIRM key pressed until the PED-TIME Led and the PAIR LED flash, press the CONFIRM key, the PAIR Led will light up permanently.

Repeat the operation if you want to restore the previous configuration.

TIME Final Stroke _ closing stroke at the end of closing to engage the lock or to tension the leaves

If you wish to enable the Final Stroke, proceed as follows: make sure you have enabled the Secondary Menu (highlighted by the flashing of the PED-TIME Led), position yourself with the SCROLL key on the flashing of the TIME Led, press the CONFIRM key, the TIME Led will light up permanently. Repeat the operation if you want to restore the previous configuration.

LEAF Pre-flashing and Courtesy Light

The control unit is supplied by the manufacturer with the Pre-flashing and Courtesy Light functions disabled.

Pre-flashing operation: The 230Vac flashing light output will always activate 3 seconds before the automation starts any movement. If you wish to enable the function, proceed as follows: use the SCROLL key to position yourself on the flashing LEAF LED then press the CONFIRM key, the LEAF LED will light up permanently and programming will be completed. Repeat the operation if you want to restore the previous configuration.

Courtesy light operation: The 230Vac flashing light output will activate for 3 minutes each time an opening command is given. If you want to enable the Courtesy Light function instead of the Flasher, press the SCROLL key twice (obtaining the rapid flashing of the LEAF LED) instead of once. Repeat the operation if you want to restore the previous configuration.

MODE Flashing during Pause Time

The control unit is supplied by the manufacturer with the operation of the Flashing light disabled during the Pause Time.

If you wish to enable its operation, proceed as follows: make sure you have enabled the Secondary Menu (highlighted by the flashing of the PED-TIME Led), position yourself with the SCROLL key on the flashing MODE Led then press the CONFIRM key, the MODE Led will turn on permanently and programming will be completed. Repeat the operation if you want to restore the previous configuration.

AUTOCLOSE Soft Start

The control unit is supplied by the manufacturer with the Soft Start function disabled.

If you wish to enable the function, proceed as follows: make sure you have enabled the Secondary Menu (highlighted by the flashing of the PED-TIME Led), position yourself with the SCROLL key on the flashing AUTOCLOSE Led then press the CONFIRM key, the AUTOCLOSE Led will turn on permanently and programming will be completed.

In this way, at each start of motion, the control unit will control the start of the motor, gradually bringing the force to the value set with the "POWER" trimmer in the first 2 seconds of operation. Repeat the operation if you want to restore the previous configuration.

DELAY Operating logic of the START and PED inputs

The control unit is supplied by the manufacturer with the START input for the connection of a cyclic button (NO) (Step-by-Step or Condominium) and the PED input for the connection of a Pedestrian command button (NO).

If you wish to set the START and PED inputs as separate OPEN and CLOSE commands, proceed as follows, make sure you have enabled the Secondary Menu (highlighted by the flashing of the PED-TIME Led), position yourself with the SCROLL key on the flashing of the DELAY Led then press the CONFIRM key, the DELAY Led will light up permanently and programming will be completed. Repeat the operation if you want to restore the previous configuration.

PED-PAIR: Hydraulic Motor Pressure Maintenance

The unit is supplied by the manufacturer with the pressure maintenance function on hydraulic motors disabled.

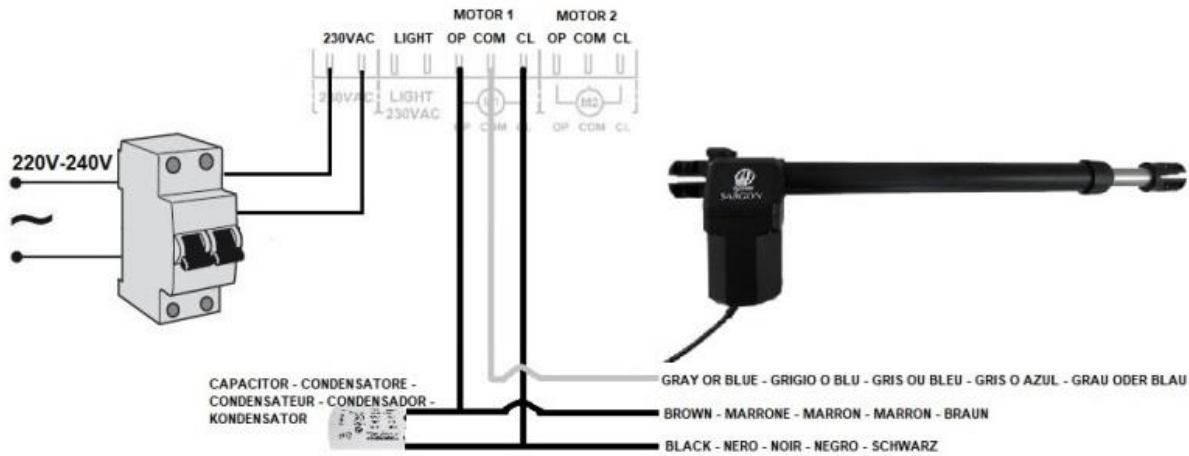
To enable the function, proceed as follows: make sure you have enabled the Secondary Menu (highlighted by the flashing of the PED-TIME Led), use the SCROLL key to position yourself on the flashing PED-PAIR Led then press the CONFIRM key, the PED-PAIR will light up permanently and programming will be finished. In this way, the control unit will send a closing command to the motors every 2 hours for 2 seconds. Repeat the operation if you want to restore the previous configuration.

IMPORTANT

This instruction manual is aimed at professional fitters of gates, garages and doors. The fitter must analyze the risks of the entire system, following the EN12453 and EN12445 standards. All the wirings must be carried out in accordance with EN60204-1 and point 5.2.2 of EN12453. The power supply must be protected considering the power of the motors (maximum current with locked rotor). The door must comply with the EN12604 standard. All the operations must be carried out by qualified personnel. Keep the door controls out of the reach of children. Command the door only when the door is completely visible. Any modification made to this product or failure to comply with safety rules and regulations releases the manufacturer from any liability resulting from damage or injury to property, people or animals.

DIAGRAMS AND CONNECTIONS

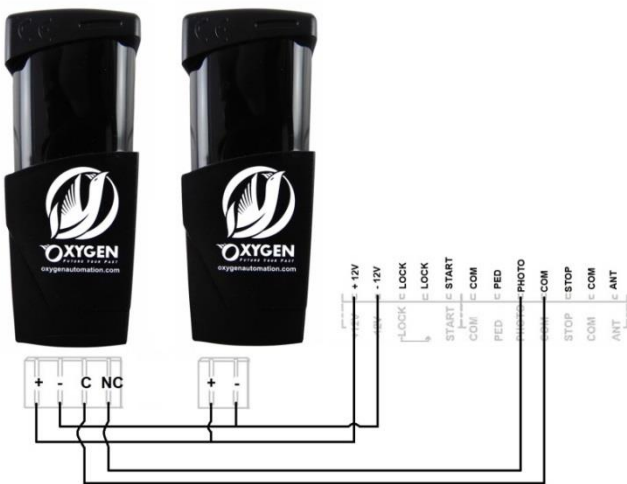
MAIN POWER AND 1ST MOTOR CONNECTION (OR SINGLE MOTOR)



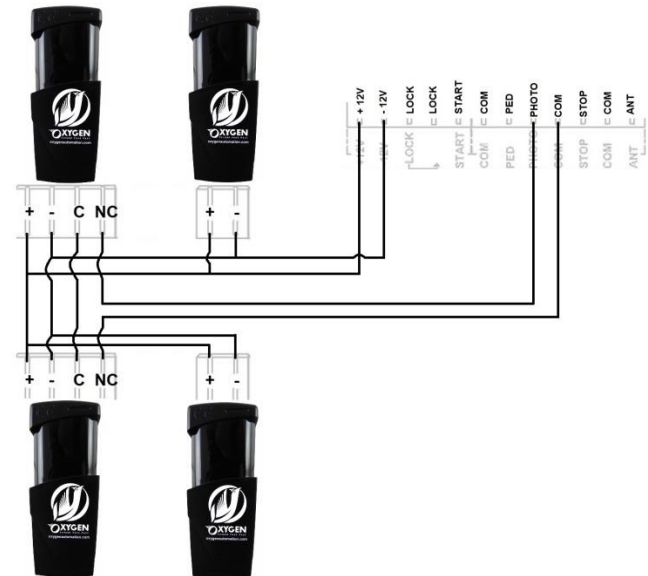
2ND MOTOR CONNECTION



STANDARD PHOTOCELLS CONNECTION



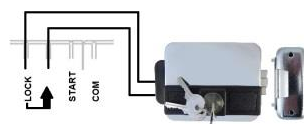
TWO PAIRS OF PHOTOCELLS CONNECTION



FLASHING LIGHT



ELECTRIC LOCK



START DEVICES



ANTENNA WIRE



METAL WIRED KEYPAD

