Parklio™ Gate

User manual

Trademarks

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Thank you for the confidence you have shown us by purchasing our Parklio Gate.

Thank you for the confidence you have shown us by purchasing our product!

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Please read this manual first!

Dear Customers,

We hope that all your expectations of this product will be fulfilled. Parklio™ Gate is manufactured using the latest technologies and has undergone rigorous quality control procedures.

The User Guide will help you use your product quickly and safely.

Read the user manual before installing and using your product.

Always follow the safety instructions.

Keep this user manual at hand for future reference.

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1. Package Contents

The product package should contain the following items:
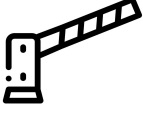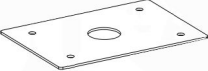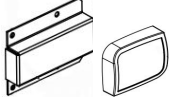
	Parklio™ Gate base with the arm
	2.4GHz Antenna
	Parklio™ Brain integrated in the Parklio™ Gate
	Base plate with 4 anchors
	Mount bracket for arm with 4 screws and washers with the plastic cover
	Pair of photocells

Table 2.1 - Table of contents

If any of the parts are incorrect, missing, or damaged, contact your Parklio™ dealer. Keep the carton, including the original packing materials, in case you need to return the product for repair.

2. User Information

- Parking Gate, in addition to valid security, will last for years with just simple care from your side. Even if your automation device meets all the safety standards, this does not exclude the presence of residual risk, i.e. the possibility that hazardous situations may occur due to irresponsible or even improper use. For this reason, we wish to offer some advice regarding the behavior to be adopted in order to avoid problems:

- Before using the Parklio gate for the first time, ask the installer to explain the sources of residual risk to you, and take some time to read the instruction manual and user information delivered by the installer.

- Keep the manual for any future doubts and give it to any new owners of the device.

- Your gate is a machine that faithfully follows your commands; irresponsible and improper use can make it hazardous: do not start a movement of the device if there are people, animals or objects within its radius of action.

- Children: installed following technical regulations, boom gate guarantees a high level of safety.

- However, it is prudent to prevent children from playing near the gate and to avoid unintentional use; never leave the remote control within the reach of children: it is not a toy!

- Anomalies: as soon as the gate shows any anomalous behavior, remove the electricity supply and perform manual unblocking. Do not attempt any repairs yourself, but ask your installer: in the meantime, the system can operate as a non-automated device.

- Maintenance: as with all machinery, your automation devices require periodic maintenance so that it may continue to work for as long as possible, and in complete safety. Agree a periodic maintenance plan with your installer; PARKLIO recommends a maintenance plan to be performed every 6 months for normal domestic use, but this period may vary depending on the intensity of use.

- Any inspection, maintenance or repairs should only be performed by qualified personnel. Even if you think you know how, do not modify the system and the automation device programming and adjustment parameters: your installer is responsible for this. Final testing, periodic maintenance and any repairs should be documented by those operating, and the documents held by the system owner.

- Disposal: on completion of the device's operating life, ensure that disposal is performed by qualified personnel and that the materials are recycled or disposed of following valid local regulations.

- Important: If your gate is fitted with a radio control, the function of which appears to deteriorate over time, or has even ceased to function, this might simply depend on the batteries being run down (depending on the type, this may be from several months to up to two/ three years). Before contacting your installer, try replacing the battery with the battery from another, working transmitter: if this was the cause of the problem, then simply replace the battery with another of the same type.

- Are you satisfied? Should you wish to add another automation device to your home, contact the same installer and ask for a PARKLIO product: we guarantee you the most advanced products on the market and maximum co compatibility with existing automation devices.

- Thank you for having read these recommendations, and for any present or future needs, we ask you to contact your installer in full confidence.

3. General Safety Information

Before proceeding with installation, the instructions must be read in full, since they contain important information regarding safety, installation, usage, and maintenance.

AUTOMATION MUST BE IMPLEMENTED IN COMPLIANCE WITH THE EUROPEAN REGULATIONS IN FORCE:

EN 60204-1, EN 12445, EN 12453, EN 13241-1, EN 12635

- The installer must provide for a device (e.g. Magneto-thermic switch) ensuring the omni polar sectioning of the equipment from the power supply. The standards require a separation of the contacts of at least 3mm in each pole (EN 60335-1).
- The plastic case has an IP44 insulation; to connect flexible or rigid pipes,use pipe fittings having the same insulation level.
- Installation requires mechanical and electrical skills; therefore,it shall be carried out by qualified personnel only, who can issue
- The Compliance Certificate concerning the whole installation (MachineDirective 2006/42/CEE, Annex IIA).
- Also, the automation upstream electric system shall comply with the laws and rules in force and be carried out workmanlike.
- We recommend making use of an emergency button, to be installed by the automation (connected to the control unit immediately stopped in case of danger.
- For the correct installation of the system, we recommend following the instructions issued by UNAC very carefully.
- This user manual is only for qualified technicians, who are specialized in installations and automation.
- The contents of this instruction manual do not concern the end user.
- Every programming and/or every maintenance service should be done only by qualified technicians.
- Anything not expressly described in these instructions is prohibited;unforeseen uses may be a source of danger to people and property.
- Do not install the product in explosive environments and atmospheres: the presence of inflammable gases or fumes is a serious safety hazard.
- Do not make any modifications to any part of the automation device, or the accessories connected to it, unless described in this manual.
- Any other modifications will void the warranty on the product.
- The installation steps should be conducted to avoid rainy weather, which can expose electronic circuits to dangerous water seepage.

- All operations requiring the casing of the device to open should be performed with the control unit disconnected from the electricity supply and with a warning notice displayed, for example:" CAUTION, MAINTENANCE IN PROGRESS".
- Avoid exposing the device close to sources of heat and flame.
- In the event of interventions on automatic or differential breakers or fuses, faults must be identified and resolved before resetting. In the case of faults that cannot be resolved using the information to be found in this manual, consult the PARKLIO customer assistance service.
- PARKLIO declines all responsibility for failure to comply with good construction practice standards in addition to structural deformation of the gate that might occur during use.
- PARKLIO reserves the right to make modifications to the product without prior warning.
- Installation/maintenance personnel should wear individual protection devices (IPDs), such as overalls, safety helmets, boots and gloves.
- The ambient operating temperature should be indicated in the technical characteristics table.
- The automation device should be shut down immediately in the event of any anomalous or hazardous situation; the fault or malfunction should be immediately reported to the person responsible.
- All safety and hazard warnings on the machinery and equipment should be compiled with
- The automation is not intended to be used by people (including children) with diminished physical, sensory or mental capacity, or lacking in experience or knowledge, unless they are under supervision or have been instructed in the use of the actuator by a person responsible for safety.

PARKLIO has the right to modify the product without previous notice; it also declines any responsibility to damage or injury to people or things caused by improper use or wrong installation.

4. Preliminary checks and identification of the type to be used

The automation device should not be used until installation, as specified in "Testing and start-up", has been performed.

It should be remembered that the device does not compensate for defects caused by improper installation, or poor maintenance, thus, before proceeding with installation, ensure that the structure is suitable and meets current standards and, if necessary, perform any structural modifications aimed at the implementation of safety gaps and the protection or segregation of all crushing, shearing and transit zones, and verify that:

- The support on which the automation device will be fixed is solid and durable.
- The mains power supply to which the automation device is connected has a dedicated safety earthing system and differential breaker with tripping current less than or equal to 30mA (the breaker gap distance should be greater than or equal to 3mm).

Warning: The minimum safety level depends on the type of use; please refer to the following outline:

	CLOSURE USE TYPE		
TYPE OF ACTIVATION COMMANDS	**GROUP 1** Informed people (use in private area)	**GROUP 2** Informed people (use in public area)	**GROUP 3** Informed people (unlimited use)
Man - present command	A	B	Not possible
Remote control and closure in view (e.g. infrared)	C or E	C or E	C and D or E
Remote control and closure not in view (e.g. radio)	C or E	C and D or E	C and D or E
Automatic control (e.g. timed closure control)	C and D or E	C and D or E	C and D or E

Table 5.1 - Types of use

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GROUP 1 - Only a limited number of people are authorized for use, and closure is not in a public area. Examples of this type are gates inside business premises, where the sole users are employees, or a part of them who have been suitably informed.

GROUP 2 - Only a limited number of people are authorized for use, but in this case, closure is in a public area. An example of this may be a company gate that accesses onto a public street, and which is only used by employees.

GROUP 3 - Anyone can use the automated closure, which is thus located on public land. For example the access gate to a supermarket or an office, or a hospital.

PROTECTION A - Closure is activated using a control button or Parklio Connect App with the person presents, i.e. with maintained action.

PROTECTION B - With the person present, closure is activated by a command controlled using a key-switch or the like, to prevent use by unauthorized persons.

PROTECTION C - Restricts the force of the boom. I.e., in the case of the boom striking an obstacle, the impact force must fall within a curve established by the regulations.

PROTECTION D - Devices, such as photocells, capable of detecting the presence of people or obstacles. They may be active on just one side or both sides of the boom.

PROTECTION E -Sensitive devices, such as footboards or immaterial gates, capable of detecting the presence of a person, and installed in such a way that the latter cannot be struck in any way by a moving boom. These devices should be active within the entire "danger zone" of the boom. The Machinery Directive defines "Danger Zone" as any zone surrounding and/or near machinery where the presence of an exposed person constitutes a risk to the health and safety of that person.
The risk analysis should take into consideration all danger zones for the automation device, which should be appropriately protected and marked.

In a visible area, apply a sign with information identifying the motorized door or gate.The installer should provide the user with all the information relating to automatic operation, emergency opening and maintenance of the motorized door or gate.

5. Technical Specifications

	GATE up to 4m	GATE up to 6m
Power supply	230Vac / 50Hz	
Motor power supply	60W	
Maximum power	240W	300W
Power in stand-by	3.5W	3.5W
Opening time	3s - 4s	5s - 6s
Operating intermittence	80% (200 max. hourly cycles)	80% (150 max. hourly cycles)
Maximum load on 24 Vdc attachments	12W (accessories + flashing light + holding magnet + Parklio™ Brain)	
Operating temperature	-20°C - +55°C	
Protection degree	IP44	
Weight	44kg	52kg

Table 6.1 - Technical Specifications

6. Gate Dimensions

Figure 7.1 - Gate dimensions for arm up to 4m
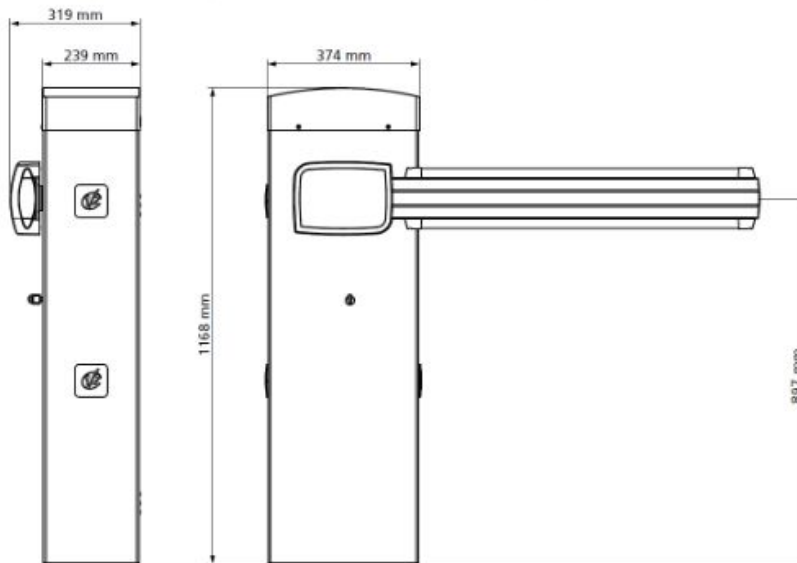
Figure 7.2 - Gate dimensions for arm up to 6m
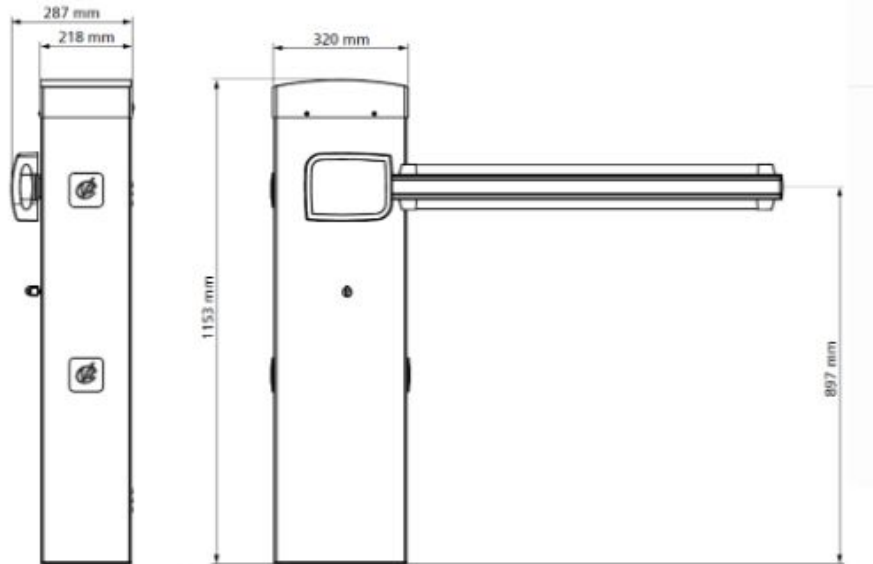
Figure 7.3 - Gate for arm up to 4m
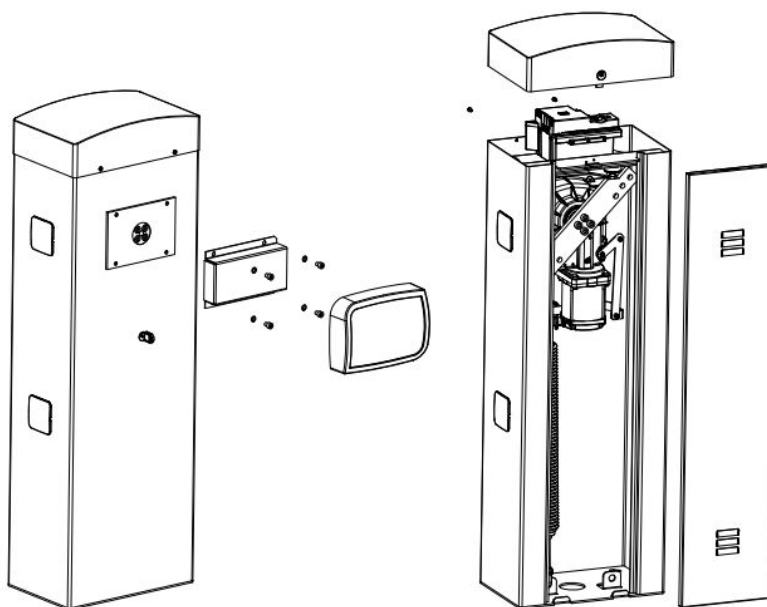
Figure 7.4 - Gate for arm up to 6m

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7. Installation

8.1. Installation layout
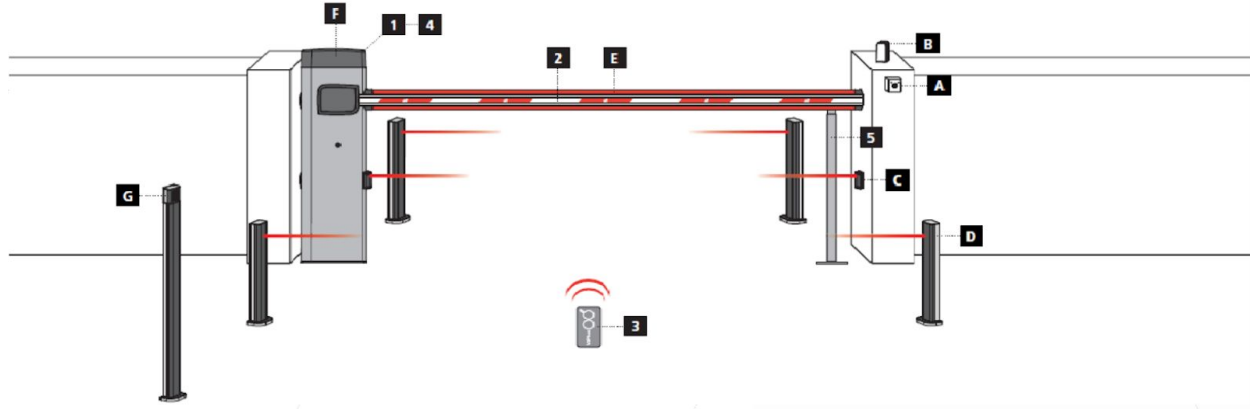
Figure 8.1 - Parklio Gate installation layout

Additional accessories

A. Key switch
B. Flashing light
C. Photocells
D. Pillar for photocells
E. Light kit (boom)
F. Lights kit (gate)
G. Pillar-mounted digital radio switch

Components

1. Motor
2. Boom
3. Transmitter
4. Receiving module
5. End support post

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8.2 Required cables dimensions

Power supply*	3G x 1,5mm^2
Photocells (TX)*	2 x 0,5mm^2
Photocells (RX)*	4 x 0,5mm^2
Key switch	2 x 0,5mm^2
Flashing light	2 x 1,5mm^2

Table 8.1 - Required cable dimensions

*Note: for photocells is recommended to use UTP Cat. 5 cable. Power supply cable, for distances from 20-30 meters should be 3G x 2.5mm^2

8.3 Preparation of the base for automation

1. Provide a foundation pit and arrange one or more conduits for the passage of the electrical cabling (Figure 8.2)
2. Put together the 4 anchoring brackets on the mounting plate and fasten with the 8 bolts provided (Figure 8.3)
3. Pour the concrete into the inside of the pit and position the base plate.

    NOTE: verify that the plate is perfectly leveled and parallel to the opening gate

4. Wait for the complete set of the concrete
5. Unscrew the 4 nuts that hold the base joined to the anchoring brackets and position the rack on the plate (Figure 8.4)

NOTE: it is advisable to install the rack cabinet with the inspection access flap turned towards the more accessible side.
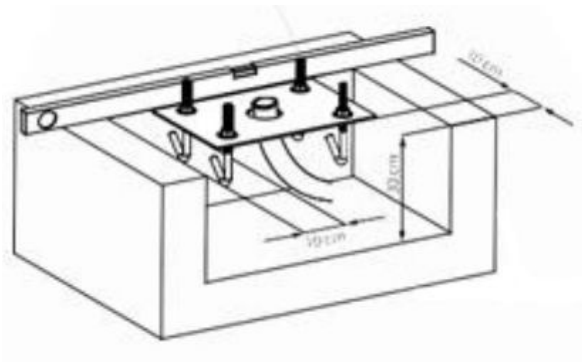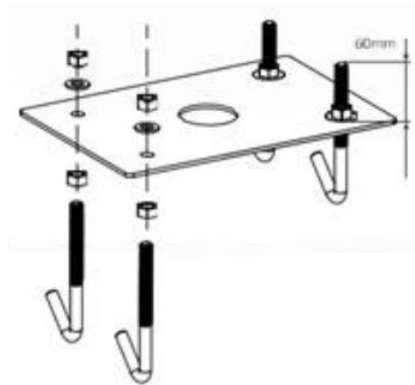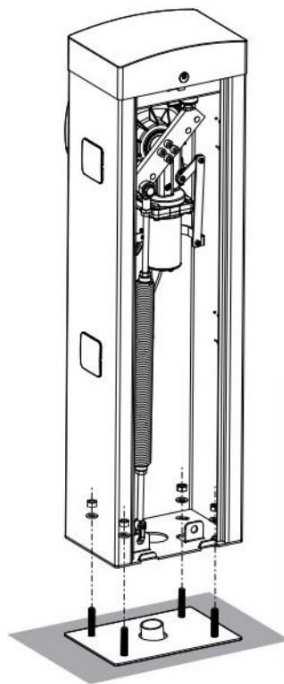
Figure 8.2

Figure 8.3

Figure 8.4

8.4. Spring position

The gate is provided with the spring fitted for RIGHT installation (DX).
If the installation should be on the LEFT (SX), follow the instructions below to change the position of the spring.
The coupling hole on the rocker arm may vary
according to the bar length. Place the spring onto the proper coupling hole according to the following parameters.

PARKLIO GATE (2.5m - 4m)
  A. For bars whose length ranges
      between 2.5m and 3m
  B. For bars whose length ranges
     between 3m and 4m

PARKLIO GATE (5m - 6m)
  A. For 5 meter long bars
  B. For bars whose length ranges
     between 4 and 5 meters
  C. For bars whose length ranges
     between 5 and 6 meters

NOTE: the presence of any accessories installed on the bar doesn't affect the rocker arm's coupling hole.

COUPLING HOLE ON THE ROCKER ARM (Figure 8.6)
  1. Unscrew the bolt joining the spring
    to the rocker
  2. Position the spring on the most suitable
    hole and screw again the bolt
  3. Adjust the two run end stops F
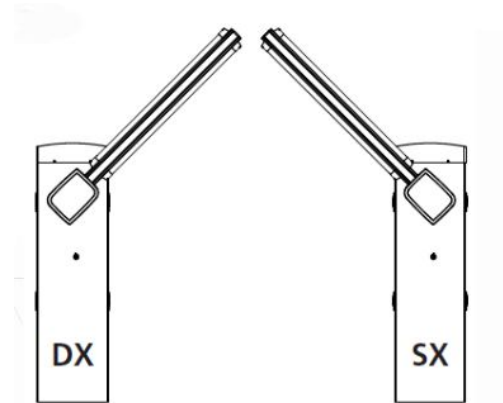
Figure 8.5 - Direction of the installation
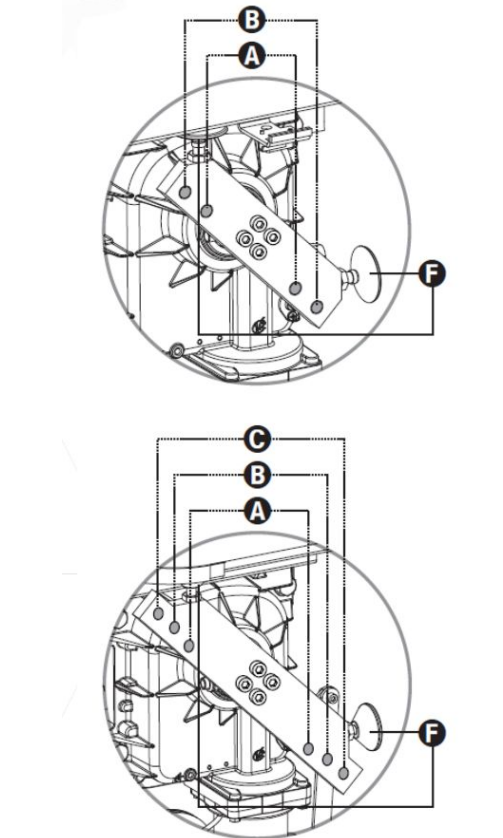
Figure 8.6 - Coupling holes

8.5. Position of the spring for left (SX) installation

Gate up to 4m (Figure 8.7)

1. Remove the spring
2. Reset the automation (chapter 8.8)
3. Rotate the rocker by 90°
4. Fit the spring selecting the most suitable fastening hole
5. Adjust the 2 run end stops F
6. Restore the automation (chapter 8.8)

Gate up to 6m (Figure 8.8)

1. Remove the spring
2. Unscrew the 4 screws that hold the rocker on the engine shaft
3. Turn the rocker arm by 90° and tighten the 4 screws
4. Fit the spring selecting the most suitable fastening hole
5. Adjust the 2 run end stops F
6. Restore the automation (chapter 8.8)

ATTENTION: it is necessary to change the '*dir*' parameter in the control unit programming menu
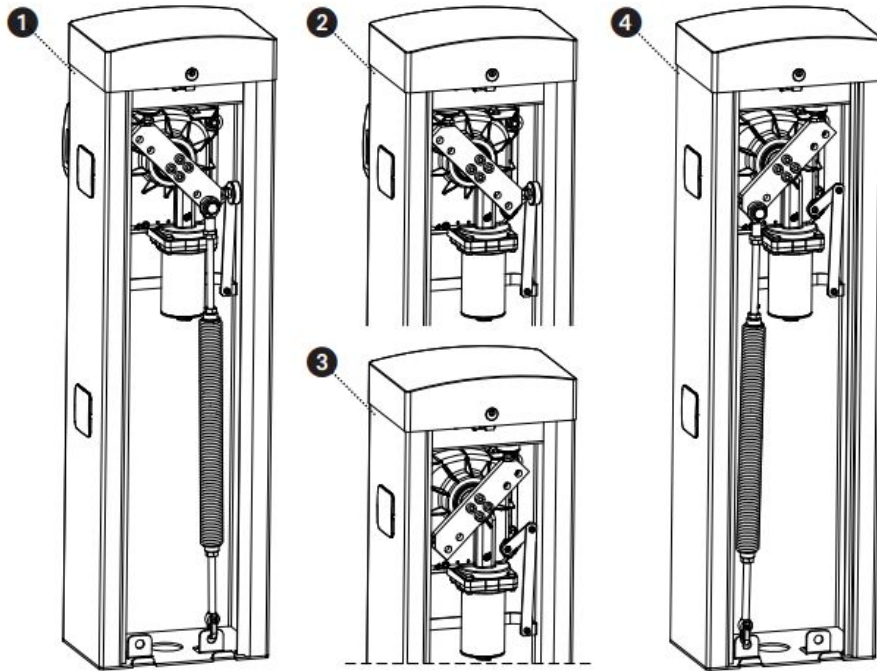
Figure 8.7 - Position of the spring for the Gate with the arm up to 4m
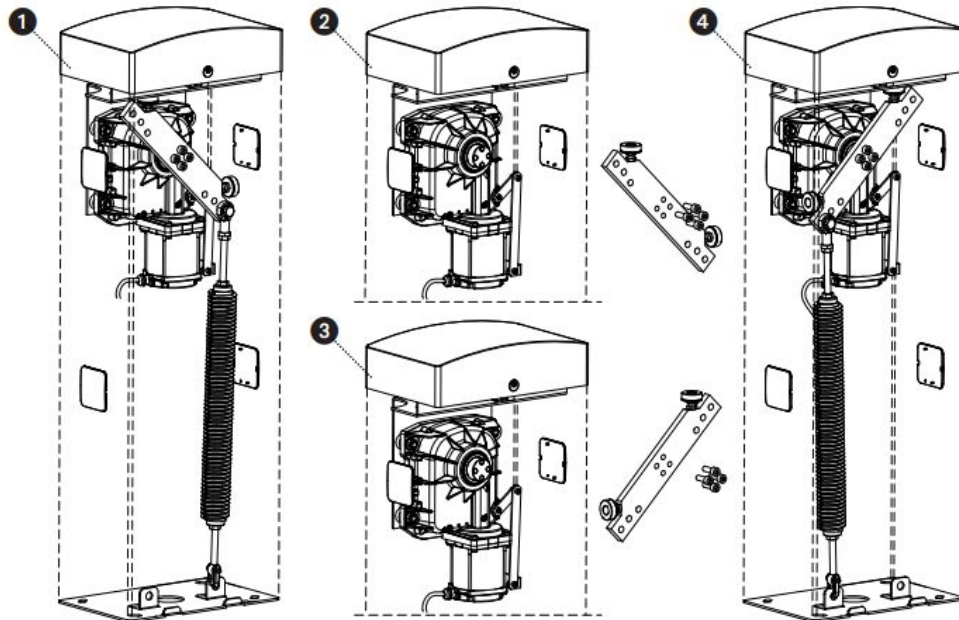
Figure 8.8 - Position of the spring for the Gate with the arm up to 4m

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8.6. Boom Installation

1. Mount bracket **B** on plate **A**, and screw in the 4 screws lightly
2. Insert the boom in bracket **B** until snug and screw in the 4 screws
3. Insert plastic cover **C** on bracket **B**
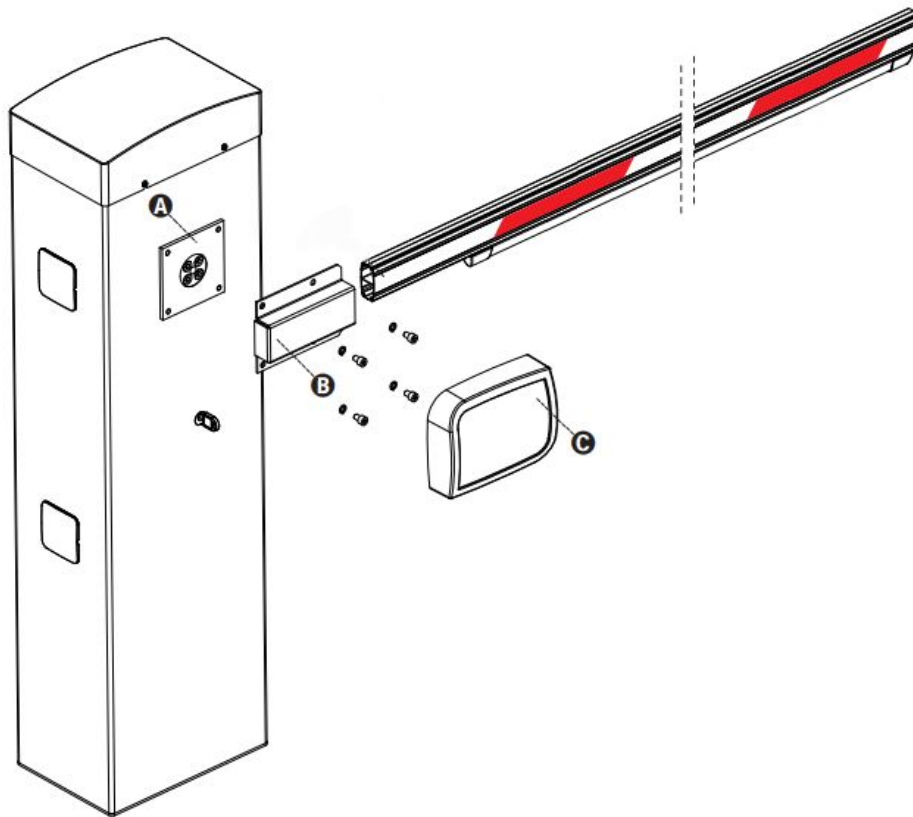
Figure 8.9 - Boom installation

8.7. Balancing of the boom

After having hooked the balance spring as described in chapter 8.4, it is necessary to proceed
to balance the boom.

1. Unblock the automation
2. Rotate the balance spring manually to increase or to diminish the traction. The boom must be stabilized at 45°.
3. Fix the locking nut and block the motor reducer.

ATTENTION: verify correct operation of the balance spring

- with the boom positioned vertically, the balance spring is not in tension
- with the boom positioned horizontally, the balance spring is in tension

NOTE: This step needs to be proceeded only in case of changing the arm length or direction movement.
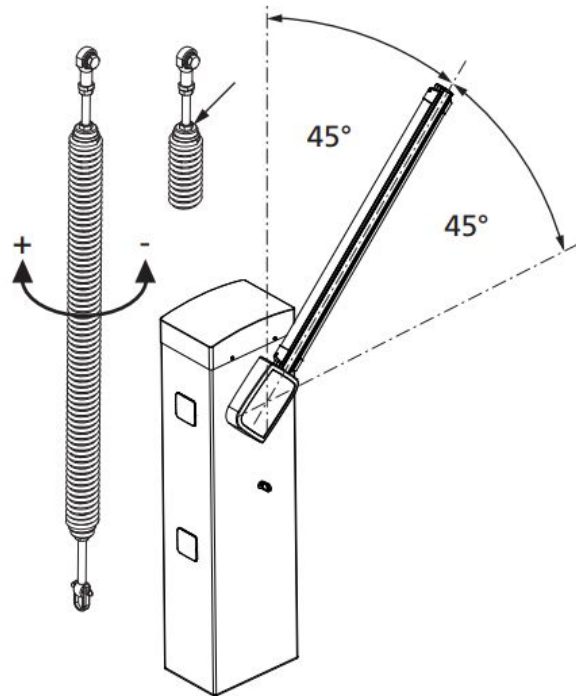
Figure 8.10 - Balancing the boom

8.8. Emergency lock release

In case of power loss, bypassing the motor manually can unblock the gate mechanically. Insert the supplied key into the lock, make a half turn clockwise and extract the ratchet. Insert a 5mm Allen wrench into its appropriate seat and make 1/4 turn clock- wise: now the boom is free and can be manually operated.

To restore the automatic function, simply rotate the allen key to its original position, insert the ratchet and rotate the key a half turn counterclockwise.
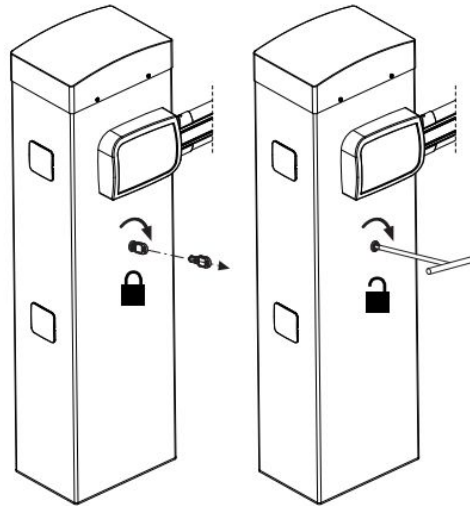
Figure 8.2 - Emergency lock release

9. Control unit

Control unit is provided with a display that not only makes programming simple, but also allows a continuous monitoring of the input statuses; besides, thanks to a menu structure, the working schedule and the operation logic can be set easily.

In compliance with the European standards concerning electrical safety and electromagnetic compatibility (EN 60335-1, EN 50081-1 and EN 50082-1) it has been equipped with the low voltage circuit total electric insulation (motors included) from the network voltage.

Other characteristics:
- Power supply protected from short circuits within the controller, on the motors and the connected accessories.
- Adjustment of the power by partializing the current.
- Detecting obstacles by monitoring the current on the motors (current sensing probe and encoder).
- Automatic learning of the limit switch position .
- Tests for safety devices (photocells, safety ribbons and MOSFET) before each opening.
- Deactivation of safety inputs through the configuration menu: no jumper is required for terminals concerning safety devices that have not been installed, yet. You will only need to disable this function from its relevant menu.
- The device can operate without mains power, by using the optional battery pack (code 161212).
- Low voltage output that can be used for a signal light or a 24V flashing light.
- Auxiliary relay with programmable logic for courtesy light, flashing light or other use.
- ENERGY SAVING FUNCTION
- Synchronized operation of two motors using the SYNCRO optional module.

WARNING: Installation of control unit and safety devices must be carried out with power disconnected

9.1. Power supply

The control unit must be fed by a 230Vac / 50Hz electric line, protected by a differential magnetothermal switch complying with the law provisions in force.

Connect the power supply wires to terminals **L** and **N** on the board located next to the transformer. Connect the earth cable to the terminal.
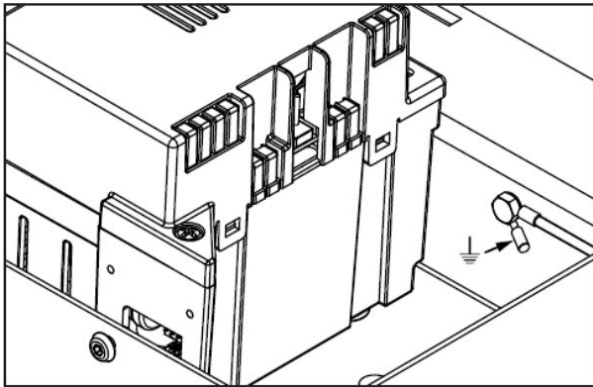
Figure 9.1 - Control unit power supply

9.2. Battery power supply

In the case of an electricity black-out, the device may be powered using a battery pack (accessory code 161212).

The battery pack should be housed in the specific seating, as shown in the figure.

Connect the battery pack connecter to the BATTERY terminals on the control unit.
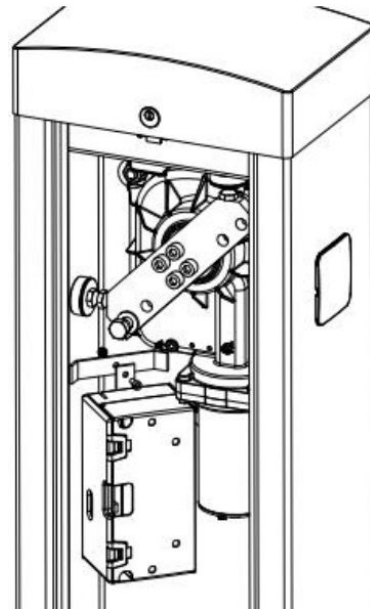
Figure 9.2 - Control unit power supply

9.3. Eco-logic Power supply

The gate can be powered by the solar power system ECO-LOGIC.

Install the ECO-LOGIC system following the instructions included with the product.

Connect the output of the battery box (black connector) on BATTERY factors of the control unit.

NOTE: it is recommended the batteries be pre-charged before installation.

WARNING: activate the Energy Saving function.

WARNING: If you use the ECO-LOGIC to power the gate, do not connect the power supply on terminals N and L.

9.4. Activation inputs

The control unit has two activation inputs available, whose functions depend on the programmed mode of operation (See the option *start* on the programming menu):

Standard mode: first input (START1) controls the opening, the closing and the arrest depending on the programming mode set. The second input (START2) causes the opening of the gate MASTER when it is activated by the synchronized operation of two gates.

Open/Close and **Dead Man** mode: an input command on push-button START1 always commands the opening and an input command on push-button START2 always commands the closing.
- In the **Open/Close** mode the command is of the impulsive type, that is, an impulse causes the total opening or closing of the gate.
- In the **Dead Man** mode, the command is of the monostable type, that is the gate opens or closes as long as the contact is closed and arrests immediately if the contact becomes open.

Clock mode: it is analogous to the standard model, but the gate remains open as long as the contact remains closed on the input START1; when the contact becomes open it begins the pause countdown, which upon expiring the gate recloses. This function allows programming throughout the day the opening hour cycles of the gate, using for this an external timer. It is indispensable to enable automatic reclosing.
ATTENTION: in all modes, the input commands must be connected to devices with normally opened contacts.

Connect the cables of the device that commands the START1 input between terminals **M1** and **M6** of the control unit.
Connect the cables of the device that commands the START2 input between terminals **M2** and **M6** of the control unit.
The function associated with the START1 input command can also be activated by pressing push-button ⇧ from outside the programming menu or using a remote control command memorized on channel 1 (see the instructions of receiver MR).
The function associated with the START2 input command can also be activated by pressing push-button ⇩ from outside the programming menu or using a remote control command memorized on channel 2 (see the instructions of receiver MR).

9.5. Stop

For greater safety it is possible to install a push-button that when pressed causes immediate stop of the gate. The switch must have a normally closed contact that opens in case of set in action.

If the stop switch is set in action while the gate is opened, the automatic reclosing function becomesdisabled; to reclose the gate it is necessary to give a start command (if the start function in pause is disabled, it becomes temporarily re-enabled to allow the lock release of the gate).

Connect the stop switch cables between cables **M3** and **M6** of the control unit.

9.6. Photocells

Photocells can be activated in two ways:
- **Only during closing**: in which case the passage in front of the beam would cause the immediate reopening.
- **During the opening and closing** in which case the interruption of the beam causes the immediate arrest. When the beam is freed, a complete reopening of the gate occurs.

ATTENTION: install the photocells to cover the entire opening/closing surface of the boom.

The control unit PD16 provides a 24Vdc power supply for the photocells and it can test their performance before beginning the opening of the boom. An electronic fuse that shuts down the power supply in case of an overload protects the power supply terminals of the photocells.

- Connect the feeder cables of the photocell's transmitter (TX) between terminals **M10 (+)** and **M9 (-)** of the control unit.

- Connect the feeder cables of the photocell's receiver (RX) between terminals **M8 (+)** and **M9 (-)** of the control unit.
- Connect the Common and the N.C. (Normally Closed) contact of the photocells receiver (RX) on terminals **M4 (PHOTO)** and **M6 (COM)** of the control unit. Use the exits with normally closed contact.
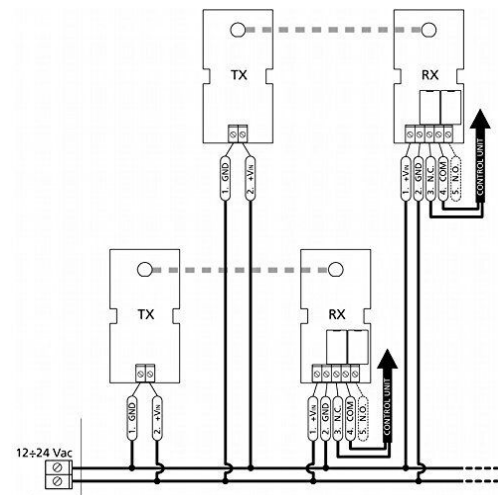
Figure 9.3 - Photocells connection diagram

ATTENTION

- if more photocells copies of the same kind are to be installed, their outputs must be connected in series.
- if reflection photocells are to be installed, the power supply must be connected to terminals G3 (+) and G2 (-) of the control unit to carry out the functional test.
- The photocells are not powered when the control unit switches to ENERGY SAVING mode

On the cabinet sides, there are holes for installing Parklio photocells:
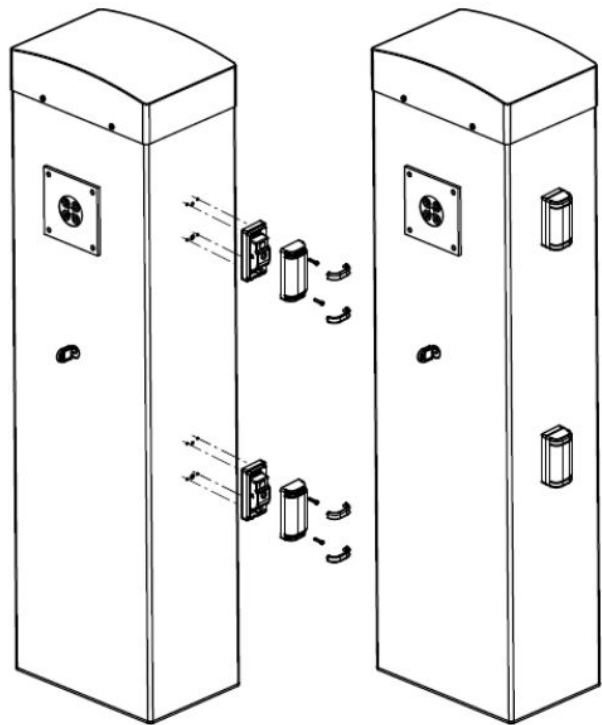
Figure 9.4 - Double photocells

9.7. Safety ribbons

They can be installed on the anti-shock rubber bumper strip, which normally comes provided with the boom kit. In case of intervention during the closing, reopening and disabling of the automatic closing occurs.

The control unit can carry out either the classic safety ribbons with normally closed contact, or conductive rubber safety ribbons with 8,2kΩ nominal resistance.
Connect the cables between terminals **M5** and **M6** of the control unit.

ATTENTION

To meet the requirements of the EN12978 rules, it is necessary to install safety ribbons controlled by a control unit continuously checking the proper working. If using control units suited to the test by power outage, connect the power supply cables of the control unit between terminals **M10 (+)** and **M9 (-)** of the control unit. Otherwise, connect them between terminals **G1 (+)** and **G2 (-)**.

ATTENTION
- If more safety ribbons with normally closed contact are used, their outputs must be connected in series.
- If more safety ribbons with pressure conductive rubber are used, their outputs must be connected in a cascade style and only the last one must be ended on the nominal resistance.
- The active edges, connected to the accessory power supply, are not active when the control unit switches to ENERGY SAVING mode

9.8. Courtesy light

The COURTESY LIGHT output consists of a simple N.O. contact (Normally Open Circuit) and does not provide any power supply. Thanks to the COURTESY LIGHT output, the control unit PD16 allows the connection of a utility light (a courtesy light or a garden light, for example), which is programmed automatically, or by arming channel 4 of the MR receiver.

The courtesy light terminals can be used as an alternative for a 230V / 120V flashing light with integrated intermittence.

ATTENTION: when the control unit is operated by battery, the 230V / 120V output flashing signal does not work.

The COURTESY LIGHT output consists of a simple N.O. contact and does not provide any power

supply. The maximum output of the contact is of 230V / 5A.

Connect the cables to terminals B1 and B2.

LOW VOLTAGE LIGHT OUTPUT

The control unit has a 24Vdc output that allows connection of a maximum load of 3W.

This output can be used to connect a warning light, indicating the status of the gate, or for a low voltage flashing light.

Connect the low voltage signal light or flashing light wires to terminals **G6 (+)** and **G7 (-)**.

CAUTION: Pay attention to the polarity of the connected device if necessary.

EXTERNAL AERIAL

We suggest using the external aerial (model: ANS433) to guarantee the maximal range.

Connect the antenna hot pole to terminal **A2** of the control unit and the braiding to terminal **A1.**

9.9. Lock-out (Prewired)

The input BLOCCO is connected to a micro switch set in action from the blocking lock of the inspection access flap. In case of opening of the inspection access flap, the control unit gets blocked: in this condition the boom movement commands coming from the activation inputs or the remote controls are not accepted.

For viewing the programming menu and for setting the boom's actions, only the functions operated with the push buttons ⇧ , ⇩ , **OK** are allowed.

9.10. Encoder (Prewired)

The control unit controls the gate's set in motion through the encoder.

Moreover, the encoders also allow recognizing if the gate jams in an abnormal position because of an obstacle.

For the operation of the encoders, it is indispensable that the gate's closing position is noticeable through a mechanical stop.

With every ignition of the control unit, the first working cycle causes the alignment of the encoder on the point of arrest in closing.

9.11. Electrical connections
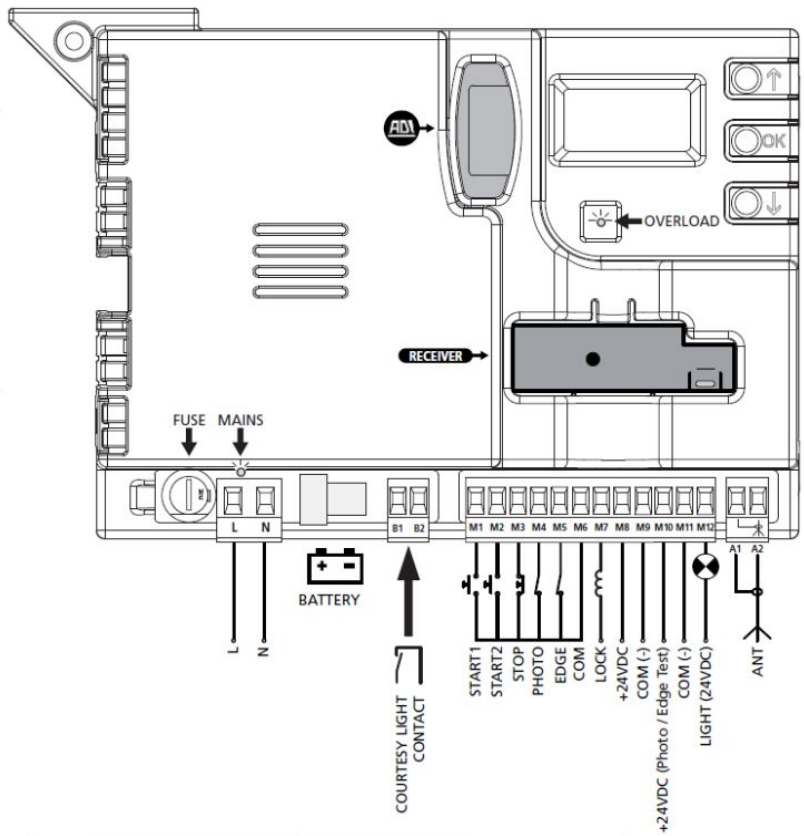
Figure 9.5 - Connection board of the control unit
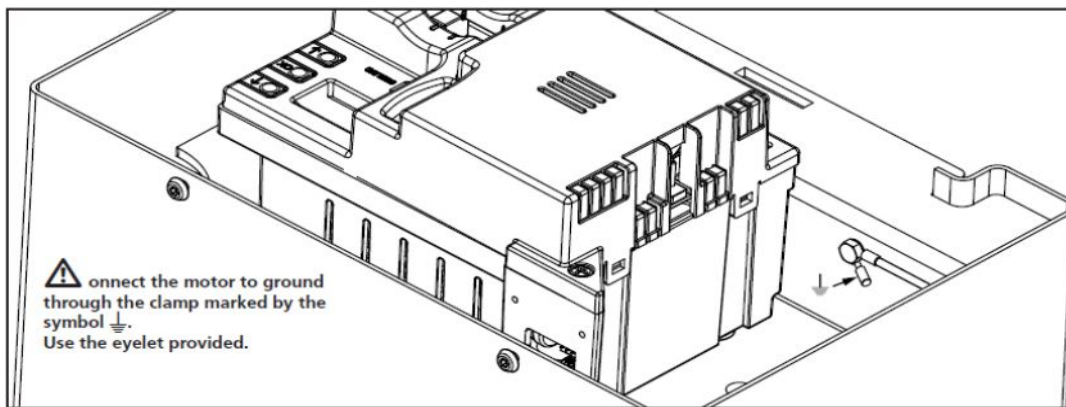
Figure 9.6 - Ground connection

L	Power supply feeding phase 230Vac	**M6**	Common (-)
N	Neutral feed 230Vac	**M7 - M8**	Holding magnet power output
B1 - B2	Contact N.A. (max. 230V / 5A) for additional courtesy light or flashing light	**M8**	Power output 24Vdc for photocells and other accessories
M1	START1 – Activation input 1 for connection of traditional devices with N.O. (normally open) contact	**M9**	Accessory power common (-)
M2	START2 - Activation input 2 for connection of traditional devices with N.O. (normally open) contact	**M10**	Power supply - photocell/optical edge TX for functional Test. Connect power supply cables of photocells transmitter between terminals M10 and M9
M3	STOP Command N.C. (Normally closed) contact	**M11 - M12**	Low voltage light output (Warning light or flashing light (24V))
M4	Photocells N.C. (Normally closed) contact	**A1**	Antenna shield
M5	Safety ribbon	**A2**	Antenna

Table 5 - Connection terminals

RECEIVER	Plug-in receiver
FUSE	2.5 A
MAINS	It signals that the control unit is being powered
OVERLOAD	It signals an overload on the accessories power supply

Table 9.1 - Control panel sockets, fuses and indicators

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9.12. Plug-in Receiver

PD16 control unit is suitable for plugging in the MR receiver.

WARNING: Pay attention to the way you connect the removable modules.

MR module receiver is provided with 4 channels and each of them is suitable for a command of PD16 control unit:

CHANNEL 1   START1

CHANNEL 2   START2

CHANNEL 3   STOP

CHANNEL 4   COURTESY
             LIGHT

NOTE: Before programming 4 channels and function logics read carefully the instructions of MR.

9.13. Parklio Brain

Figure 9.7 - Parklio Brain

ParklioTM Brain enables control of the Parklio Gate with a smartphone.

The end user connects with Parklio Brain via the Parklio Connect mobile app.

To reset the Parklio Brain to the factory setting, the user needs to press and hold the Reset button on the Parklio Brain until the green light turns on.

9. Control panel

10.1. Display

When power is on, the control unit checks that display correctly operates by switching on all segments for 1.5 seconds (8.8.8.8. will appear), Firmware version, e.g. Pr 1.0, will be displayed in the following 1.5 seconds.
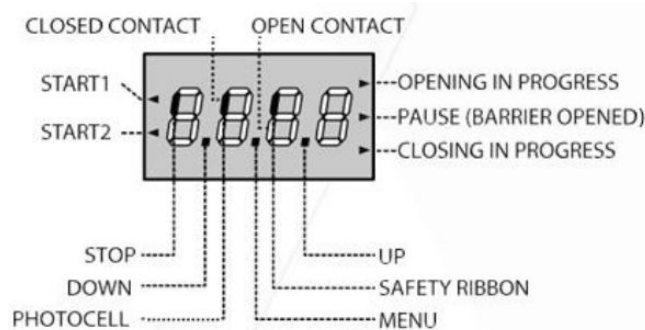
Figure 10.1 - Display on the control panel

PLEASE NOTE: The display is off when the control unit is in ENERGY SAVING mode.

The control panel represents the physical status of the terminal board contacts and the program mode keys: if the upper vertical segment is on, the contact is closed; if the lower vertical segment is on, the contact is open (the above picture shows an instance where the inputs PHOTOCELL, SAFETY RIBBONS and STOP have all been correctly connected).
The BLOCK input is connected to a micro-switch that is operated by the inspection lock. In the case of the hatch opening, the control unit is BLOCKED:

- Bar operation commands, from both the terminal block and the remote controls, are not accepted
- The functions controlled by the ⇧, ⇩, **OK** keys, for exploring the programming menu and for operating the bar, are permitted
- The display shows the status of the segments, alternating with the message "**bL**"

Points being among display digits show the status of programming push-buttons: as soon as a push-button is pressed, its relevant point turns on.

The arrows on the left of the display show the state of the start inputs. The arrows light when the related input is closed.

- The arrow further at the top is illuminated when the gate is in the opening phase. If it flashes- es, it indicates that the opening has been caused by the participation of an emergency device (obstruction sensor or obstacle detector).

- The center arrow indicates that the gate is opened in pause. If it flashes it means that the time counter is active and counting for the automatic closing.

- The lower arrow is illuminated when the gate is in the phase of closing. If it flashes it indicates that the closing has been caused by an interruption of an emergency device (obstruction sensor or obstacle detector).

USE OF THE KEYS FOR PROGRAMMING

The control unit functions and times are programmed using a special configuration menu, which can be accessed and explored by using the 3 keys, ⇧, ⇩ and **OK**, located on the side of the control unit display.

PLEASE NOTE: Outside the configuration menu, pressing the key activates the START command, pressing the key activates the PEDESTRIAN START command.

There are the following three kinds of menu items:

- Function menu
- Time menu
- Value menu

Function menu setup

Function menus allow selecting a function from among a group of available options. When you enter into a function menu, the current active option will be viewed; you can scroll all available options through ⇧ and ⇩ keys. By pressing the **OK** key, you will activate the option viewed and you will return to the configuration menu.

Time menu setup

Time menus allow setting a function duration. When you enter into a time menu, the current setup value will be viewed; the display mode depends on the current value:

- Each time you press the ⇧ key, the current time value increases and each time you press the ⇩ key, the current time value decreases.
- By holding down the ⇧ key, you can quickly increase the time value, up to reach the max. value allowed for this item.
- Vice versa, by holding down the ⇩ key, you can quickly decrease the time value down to reach 0.0"
- In some circumstances, setting the value to **0** means that the relevant function is disabled, in this case, n will appear instead of 0.0"
- By pressing on **OK** you will confirm the displayed value and you will return to the configurations menu.

Value menu setup

Value menus are similar to time menus; however, the setup value can be any number. By holding down ⇧ or ⇩ keys, the value will increase or decrease slowly.

By pressing on **OK** you will confirm the displayed value and you will return to the configurations menu. The main programming menus of the control unit are shown in the next pages.

To go through the menus use the three keys ⇧ , ⇩ and **OK** according to the following chart:

OK		Press and release the push-button **OK**
OK	2"	Keep pressed the push-button **OK** for 2 seconds
OK		Release the push-button **OK**
⬆		Press and release the push-button ⇧
⬇		Press and release the push-button ⇩

Table 10.1 - Menu navigation

10.2. Accessing the Control unit settings

1. Press and hold the OK key until the display shows the desired menu
2. Release the OK key, the display will show the first item in the sub-menu

- `PrG` Programming the control unit
- `Cnt` Cycle counter
- `SEt` Auto-learning end-stop
- `dEF` Loading the default parameters

⚠WARNING: in case no operation is carried out for more than one minute, the control unit exits from the programming mode without saving any of your setups and changes, which will get lost.
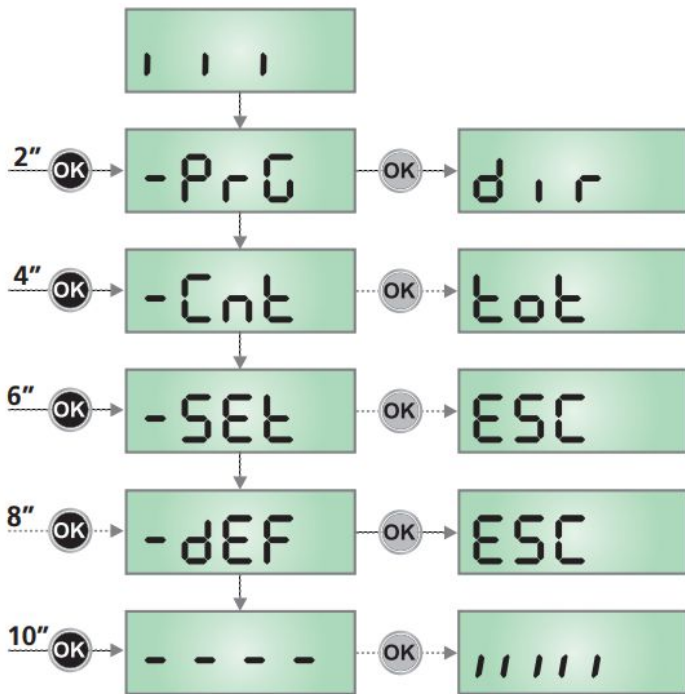
Figure 10.2 - Accessing the control unit settings

10.3. Loading the default parameters

If necessary, it is possible to restore all parameters to their standard or default values (see the final summary table)

⚠PLEASE NOTE: This procedure results in the loss of all customised parameters.

1. Press and hold the **OK** key until the display shows `dEF`
2. Release the **OK** key: the display shows `ESC` (only press the **OK** key if it is desired to exit this menu)
3. Press the ⇧ key: the display shows `dEF`
4. Press the **OK** key: the display shows `no`
5. Press the ⇩ key: the display shows `Si`
6. Press the **OK** key: all parameters are overwritten with their default values (see Chapter 10), the control unit exits programming mode and the display shows the control panel.
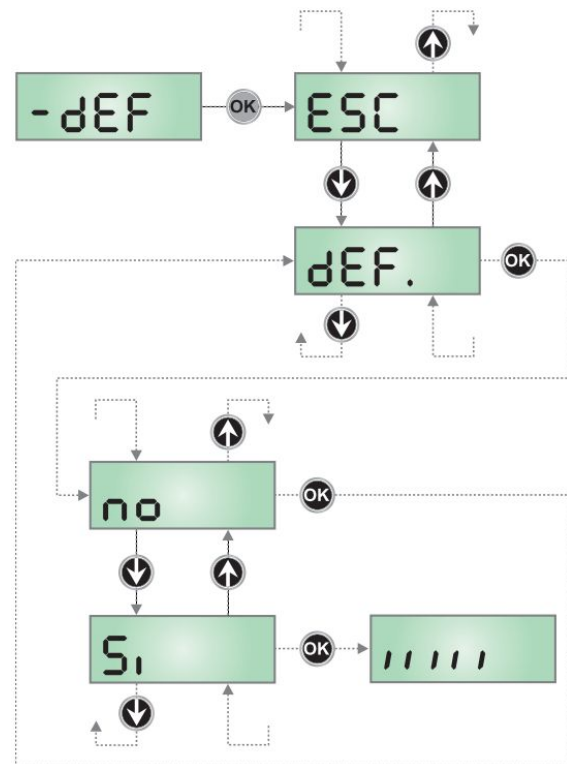
Figure 10.3 - Loading the default parameters

10.4. Quick configuration

This paragraph concerns a quick procedure to set the control unit and set it at work immediately.

We recommend following these instructions, in order to quickly check the correct operation of control unit, motor and accessories, and then changing the configuration in case of any non-satisfactory parameter.

1. Call up the default configuration: see chapter 9.3.
2. Set items
   dir - StoP - Foto - CoS
   For the position of the item menus inside the main menu and for the options related to each item menu, refer to chapter 10.
3. Start the self-learning cycle (chapter 9.5)
4. Check that the automation works properly and if necessary modify the configuration of the desired parameters.

10.5. Auto-learning end-stop

This menu allows automatically learning the end-stop positions of the gate in opening and closing.

⚠ATTENTION: before proceeding, make sure to position the mechanical stops correctly.

⚠ATTENTION: before proceeding set the dir parameter

⚠CAUTION: to perform the self-learning procedure it is necessary to disable the ADI interface by means of the menu i.Adi (disabled by default). If some safeties are controlled by means of the ADI module, they will not be active during self-learning.

1. Set the parameter StoP, Foto, CoS, based on the safety installed on the gate (chapter 10).

2. Set up the St.rt parameter in StAn modality (default)

3. Maintain hold pressed push-button **OK** until the display reads SEt

4. Release push-button **OK**: the display reads ESC (press push-button **OK** only if desired to exit from this menu)

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5. Press the push-button ⇩: the display reads ＲＰＰｒ

6. Press the push-button **OK** in order to start the auto-learning process:

    6.1.   The boom closes until reaching the arrest point (end of closing)

    6.2.   The boom opens. Press ⇧ when the boom reaches the desired open position. As an alternative let the mechanical arrest intervene (end of opening).

    6.3.   The boom recloses automatically and it memorizes the length. During normal operations, the travel height of the boom is always reported to the point of arrest in closing. Any movements of this point will cause an equal movement of the end opening point.

7. If you DO NOT have enabled the obstacle sensor (menu ＳＥｎＳ), the self-learning procedure is completed and the display shows the control panel

8. If the obstacle sensor has been enabled, the display shows the recommended value for the obstacle sensor. If no operations are performed for 20 seconds, the control unit exits the programming phase, without saving the value recommended.

9. The recommended value may be modified by pressing the ⇧ and ⇩ keys, and pressing the **OK** key confirms the displayed value and the display shows ＳＥｎＳ

10. Press and hold the ⇩ key until the display shows ＦｍＥ, then press the **OK** key, select the option Ｓｉ and then press the **OK** key to exit programming mode, storing the value for the sensors

⚠ **ATTENTION: If this procedure is not followed, the control unit will exit from the Time out programming (1 min) retaining the last memorized value**

10.6. Reading of cycle counter

PD16 control unit counts the completed opening cycles of the gate and, if requested, it shows that service is required after a fixed number of cycles.

There are two counters available:

- A totalizing counter for completed opening cycles that cannot be zeroed (option `tot` of item `Cont`)
- A downward counter for the number of cycles before the next request for service (option `SErv` of item `Cont`).

This counter can be programmed according to the desired value. The scheme hereafter shows how to read the totalizing counter, how to read the number of cycles before the next service is required as well as how to program the number of cycles before the next request for service (as for the example shown, the control unit completed no. 12451 cycles and there are no. 1300 cycles before the next service request.

Area 1 is the reading of the total number of completed cycles; through ⇧ and ⇩ keys, you can alternate the display of thousands or units.

Area 2 is the reading of the number of cycles before the next request for service: its value is rounded down to the hundreds.
Area 3 is the setup of this latter counter; if you press once ⇧ or ⇩ key, the current counter value will be rounded up or down to thousands, any following pressure will have the setup be increased or decreased of 1000 units. The previous displayed count will get lost.

10.7. Signal of service required

As soon as the counter of cycles before the next request for service is zero, the control unit shows the request for service through an additional 5-second pre-blinking.

This signal will be repeated at each opening cycle, until the installer enters into the counter reading and setup menu, and possibly programs the number of cycles after which the next service will be requested.

In case no new value is set up (that is to say that the counter value is left at zero), the signalling function for the service request will be disabled and no signal will be repeated anymore.

⚠ **WARNING: service operations shall be carried out by qualified staff only.**
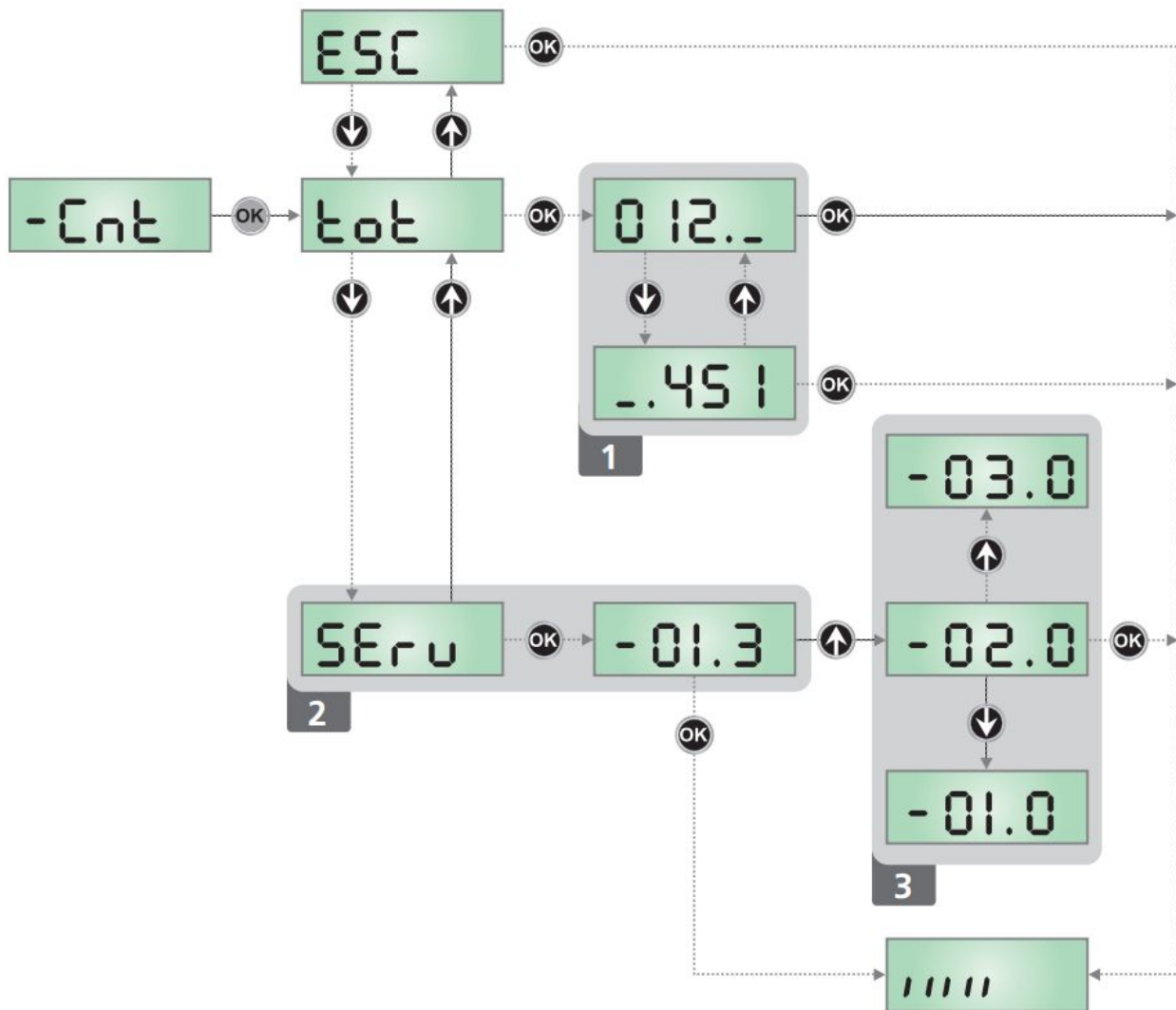
Figure 10.4 - Cycle count and service

11. Programming the control unit

The configuration menu ᴾʳᴳ consists in a list of configurable items. The display shows the selected item.

By pressing ⇩, you will pass to the next item; by pressing ⇧, you will return to the previous item.

By pressing **OK**, you can view the current value of the selected item and possibly change it. The last menu item (FɪnE) allows storing the carried out changes and going back to the control unit normal operation.
You must exit from programming mode through this menu item if you do not want to lose your configuration.

⚠ **WARNING: in case no operation is carried out for more than one minute, the control unit exits from the programming mode without saving any of your setups and changes, which will get lost.**

By holding down the ⇩ or ⇧ keys, configuration menu items will scroll fast, until item FɪnE is viewed. In this way, you can quickly reach either the top or bottom of the list.

Figure 11.1 - Configuration menu

PARAMETER	VALUE	DESCRIPTION	DEFAULT	MEMO
dir		**Direction** Set up the functioning directions. This parameter must be set up based on the RIGHT or LEFT installation of the barrier (chapter 5)	dH	
	dH	Installation on the right (DX)		
	SH	Installation on the left (SX)		
EnSA		**Energy saving function** This function is useful for reducing the energy consumption of the automation device while in stand-by mode. If the function is enabled, the control unit will enter ENERGY SAVING mode under the following conditions: • 30 seconds after completion of an operational cycle • 30 seconds after an opening (if automatic closure is not enabled) • 30 seconds after exiting the programming menu In ENERGY SAVING mode, power to the accessories, display, flashing lights and closure electromagnets is deactivated. ENERGY SAVING mode is exited: • If an operational cycle is activated • If one of the menus is accessed	no	
	no	Function deactivated		
	Si	Function activated		
t.ASE		**Holding magnet anticipation time**	0.0"	
	0.0" - 5.0"	This menu allows regulating the anticipated time with which the holding magnet is unblocked before the barrier comes set in opening action. ⚠ **ATTENTION: if the holding magnet is not present, set this parameter to zero.** **PLEASE NOTE**: The locking electromagnet is connected to the accessory power supply. Hence, it is essential to deactivate the energy saving function to use it.		DO NOT CHANGE
t.rSE		**Holding magnet delay time**	0.0"	
	0.0" - 5.0"	This menu allows regulating the delay with which the holding magnet jams after the barrier has finished closing. ⚠ **ATTENTION: if the holding magnet is not present to set up this parameter to zero.** **PLEASE NOTE**: The locking electromagnet is connected to the accessory power supply. Hence, it is essential to deactivate the energy saving function to use it		DO NOT CHANGE

PARAMETER	VALUE	DESCRIPTION	DEFAULT	MEMO
P.SEr		**Holding magnet power**	0	
	0 - 100	This menu allows regulating the power with which the electromagnetic vacuum gripper becomes blocked. ⚠ **ATTENTION: if the holding magnet is not present, set up this parameter to zero.** **PLEASE NOTE:** The locking electromagnet is connected to the accessory power supply. Hence, it is essential to deactivate the energy saving function to use it.		**DO NOT CHANGE**
t.PrE		**Pre-blinking time**	1.0"	
	0.5" - 1'00	Before any barrier movement, blinker will be activated for t.PrE time, to warn about the incoming motion		
	no	Function deactivated		
t.P.Ch		**Different closing pre-flashing time**	no	
	0.5" - 1'00	If this parameter has a value assigned to it, the control unit will activate pre-flashing prior to closure for the length of time set in this menu (adjustable time from 0.5" to 1'00)		**DO NOT CHANGE**
	no	The closing pre-flashing time corresponds to t.PrE		
P.AP		**Motor power in opening phase**	80	
	30 - 100	The displayed value is the percentage of max. motor power		
P.Ch		**Motor power in closing phase**	80	
	30 - 100	The displayed value is the percentage of max. motor power		
Pr.AP		**Motor power during opening slow down phase**	25	
	0 - 70	The displayed value is the percentage of max. motor power		
Pr.Ch		**Motor power during closing slow down phase**	25	
	0 - 70	The displayed value is the percentage of max. motor power		

PARAMETER	VALUE	DESCRIPTION	DEFAULT	MEMO
SEnS		**Enable the obstacle sensor**	no	
	1.0A - 10.0A	This menu allows you to regulate the sensitivity of the obstacle sensor. When the current absorbed by the motor exceeds the set value, the controller detects an alarm. During the opening, an obstacle would cause the arrest of the boom. During the closing, an obstacle would cause the complete reopening, in order to free the obstacle. In both cases the automatic closing comes disabled the second time that the cycle is interrupted by an obstacle. If the obstacle is found nearing the of the travel height, is interpreted as a mechanical arrest		
	no	Function deactivated		
rA.AP		**Slow down in opening**	25	
	0 - 100	This menu allows regulating the percentage of the ride/drive that is carried out at reduced speed during the last opening stretch		
rA.Ch		**Slow down in closing**	25	
	0 - 100	This menu allows regulating the percentage of the ride/drive that is carried out at reduced speed during the last closing stretch.		
St .AP		**Start command during the opening phase** This menu allows fixing the control unit conduct in case it receives a Start command during the opening phase.	PAUS	
	PAUS	The barrier closes and enters in pause		DO NOT CHANGE
	ChiU	The barrier immediately starts to reclose		
	no	The barrier continues to open (the command is ignored)		
St .Ch		**Start command during the closing phase** This menu allows fixing the control unit conduct in case it receives a Start command during the closing phase	StoP	
	StoP	The barrier closes and the cycle is considered concluded		
	APEr	The barrier reopens		
St .PA		**Start command during the pause** This menu allows establishing the behavior of the control units if a Start command is received while the barrier is opened in pause.	ChiU	
	ChiU	The barrier starts to reclose		
	no	The command is ignored		
	PAUS	The pause time becomes recharged (Ch.AU)		
Ch.AU		**Automatic Closing** In automatic operation, the control unit automatically recloses the barrier at the end of the preset time	no	
	no	Function deactivated		
	0.5" - 20'0	The barrier recloses after the time set		

PARAMETER	VALUE	DESCRIPTION	DEFAULT	MEMO
Ch.tr		**Closing after transit** During the automatic operation, the pause count down starts from the set up value each time a photocell operates during the pause. If the photocell operates during the opening time, this time will be immediately stored as pause time. This function allows having a fast closing after the transit through the barrier, for which usually a lesser time for Ch.AU (automatic closing) is used.	no	
	no	Function deactivated		
	0.5" - 20.0'	The barrier recloses after the time set		
PA.tr		**Pause after the transit**	no	
	Si	In order to render minimum the time in which the barrier remains open, it is possible to make the barrier close as soon as the passage in front of photocells has ended. If the automatic operation is enabled, the Ch.tr value is loaded/programmed as time of pause		
	no	Function deactivated		
LUCi		**Courtesy lights** This menu allows setting up the operation of the courtesy lights automatically during the barrier's opening cycle.	t.LUC	
	t.LUC	Timed functioning (from 0 to 20')	1'00	
	no	Function disabled		
	Ci.CL	Turned on for the entire duration of the cycle		
AUS		**Auxiliary channel** This menu allows setting the operating of the relay of the lighting of the courtesy lights by means of a remote control stored on the channel 4 of the receiver MR	Mon	
	t.iM	Timed functioning (from 0 a 20')		
	bi.St	Bistable functioning		
	Mon	Monostable functioning		
SP.A		**Setting low voltage light output**	FLSh	
	FLSh	Flashing function (fixed frequency)		
	no	Function disabled		
	W.L.	Spy lamp function: it indicates in real time the state of the barrier, the type of flash indicates the four possible conditions: - BARRIER CLOSED the light is off - BARRIER IN PAUSE the light is on fixed **PLEASE NOTE**: the light remains off if the ENERGY SAVING function is enabled and automatic closure is deactivated - BARRIER IN OPENING the light blinks slowly (2Hz) - BARRIER IN CLOSING the light blinks fast (4Hz)		
LP.PA		**Flashing lamp in pause**	no	
	no	Function disabled		
	Si	The flashing lamp works also during the pause time (barrier opened with active automatic closing).		

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PARAMETER	VALUE	DESCRIPTION	DEFAULT	MEMO
Strt		**Function of input START1 and START2** This menu allows choosing the mode of operation of the input START1 and START2	StAn	
	StAn	Standard mode		
	no	The Start input commands on the terminal strip are disabled. The radio command function depending of the mode StAn		
	AP.Ch	Open/Close mode		
	PrES	Dead Man mode		
	orol	Clock mode		
StoP		**Stop input**	no	
	no	The input STOP is disabled		
	ProS	The STOP command set the barrier idle: on the next successive command START the barrier resumes the motion in the same direction		
	inuE	The STOP command sets the barrier idle: on the next successive START command makes the barrier resume the motion in the opposite direction to the previous one		
Foto		**Photocell input** This menu allows programming the behavior in case of participation of the photocell.	no	
	no	Disabled input (the control unit ignores it)		
	APCh	Input always enabled. The interruption of the photocell during the opening or closing causes the arrest of the barrier. At reset the barrier resumes the opening movement. The interruption when in closed barrier inhibits the opening.		
	CFCh	Input enabled in closing and with closed barrier. The interruption of the photocell during the closing causes the reopening.		
	Ch	Input command enabled only in closing. The interruption of the photocell during the closing causes the reopening. **ATTENTION: if this option is chosen, it is necessary to disable the test of photocells**		
Ft.tE		**Test of the photocells**	no	
	no	Function disabled		
	Si	In order to achieve a safer operation for the user, the unit performs a photocells operational test, before a normal working cycle. If no operational faults are found, the barrier starts moving. Otherwise, it will stand still and the flashing light will stay onfor 5 sec. The whole test cycle lasts less than one second		

PARAMETER	VALUE	DESCRIPTION	DEFAULT	MEMO
CoS		**Safety ribbon input** This menu allows enabling the input for safety ribbon	no	
	no	Input disabled (ignored by the control unit)		
	Ch	Input enabled during closure and disabled during opening. The intervention of the safety ribbon cause the reopening of the barrier and the disactivation of any automatic closing		
Co.tE		**Test of the safety ribbons** This menu allows setting the method of control of the safety ribbons working.	no	
	no	Test disabled		
	rESi	Test enabled for conductive rubber safety ribbons		
	Foto	Test enabled for optical safety ribbons		
S.EnC		**Encoder sensitivity**	0	
	0 - 9	This menu allows the sensitivity of the rate sensor to be adjusted. A decreased rate below the set threshold indicates the presence of an obstacle. If set to 0 the obstacle is only detected when the barrier is stopped. When the sensor intervenes, the barrier stops and is operated in the reverse direction for 3 seconds to remove the obstacle. The next start command restarts the movement in the previous direction		DO NOT CHANGE
i.Adi		**Enabling the ADI device** This menu makes it possible to enable operation of the device connected to the ADI connector. PLEASE NOTE: selecting Si and pressing OK accesses the configuration menu for the device connected to the ADI connector. This menu is managed by the device itself and is different for each device. Please refer to the manual for the device. If the Si option is selected, but no device is connected, the display will show a series of dotted lines. Exiting the ADI device configuration menu returns to the i.Adi option	no	
	no	Interface disabled, any signals will be ignored		
	Si	Interface enabled		
FinE		**End of Programming** This menu allows to finish the programming (both default and personalized) saving the modified data into memory	no	
	no	Do not quit the programming		
	Si	End of programming		

Table 11.1 - Operating force diagram

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12.   Operation defects

This paragraph shows some possible operation defects, along with their cause and applicable remedy.

MAINS led does not switch on

It means that there is no voltage on the PD16 control unit card.

1. Before acting on the control unit, disconnect through the disconnecting switch on the power line and remove the power supply terminal.
2. Be sure that there is no voltage break upstream the control unit.
3. Check whether the fuse is burnt-out, if so replace it with the same value.

OVERLOAD led is on

It means that there is an overload on accessory power supply.

1. Remove the extractable part containing terminals M1 to M12. OVERLOAD led will switch off.
2. Remove the overload cause.
3. Reinsert the terminal board extractable part and check that this led is not on again.

Too long pre-blinking

When a Start command is given and the blinker switches on immediately but the gate is late in opening, it means that the setup cycle count down expired and the control unit shows that service is required.

Error 1

The following writing appears on display when you exit from programming $Err1$ It means that changed data could not be stored. This kind of defect has no remedy and the control unit must be sent to V2 S.p.A. for repair.

Error 2

When a Start command is given and the gate does not open and the following writing appears on display $Err2$ It means that the MOSFET test failed. Before sending the control unit to V2 S.p.A. for repair, be sure that motors have been properly connected.

Error 3

When a Start command is given and the gate does not open and the following writing appears on display $Err3$
It means that the photocell test failed.
1. Be sure that no obstacle interrupted the photocell beam when the Start command was given.
2. Be sure that photocells are powered and working; when you interrupt their beam, you should hear the relay tripping.

Error 5

Once given a start control, the gate does not open and the display shows $Err5$ It means that the test of the safety edges failed. Check that the menu of the test of safety edges ($Co.tE$) has been set correctly. Check that the safety edges enabled from the menu are installed.

Error 7

When given a start control the gate does not open and the display shows $Err7$
This indicates an error in the encoders' operation. There are two possible causes:
1. Once a START command is received: this means that the encoders have not been initialized. For the encoders to operate correctly, the self-learning procedure must be performed.
2. A few seconds after movement begins: this means that the encoder is NOT correctly operating. Encoder malfunction or broken connection

Error 8

When executing a self-learning function, one of the
following conditions occurs:
1. the control is refused and the display shows $Err8$ It
   means that the setting of the control unit is not
   compatible with the requested function. In order to
   carry out self-learning, the Start inputs must be
   enabled in standard mode ($Strt$ menu set to $StAn$
) and the ADI interface must be disabled ($i.Adi$
   menu set to no).
2. The procedure stops and the display shows $Err8$ It
   means that a safety device has tripped.

Error 9

When you are trying to change the control unit setups and
the following writing appears on display $Err9$

It means that programming was locked by means of the
programming lock key CL1+ (code 161213). To change the
settings it is necessary to insert in the connector of the ADI
interface the same key used to activate the programming
lock, and unlock the device.

Error 10

 When a start command is given, the gate does not open
and the display shows the message $Er10$

This means that the ADI module function test failed

12.   Testing and Start-up

In implementing the automation device, these are the most important steps for guaranteeing maximum safety.

PARKLIO recommends the application of the following technical standards:

- EN 12445 (Safety in the use of automated closures, test methods)
- EN 12453 (Safety in the use of automated closures, requirements)
- EN 60204–1 (Safety of Machinery, electrical equipment of machines, part 1: general principles)

In particular, regarding the table in the section "PRELIMINARY CHECKS and IDENTIFICATION OF THE TYPE OF USE" in the majority of cases, it will be necessary to measure the impact force, following the provisions of EN 12445.

Adjusting the operating force is possible by programming the electronic circuit board, and the impact force profile should be measured using an appropriate device (itself also certified and subjected to annual calibration) capable of tracing the force-time graph.

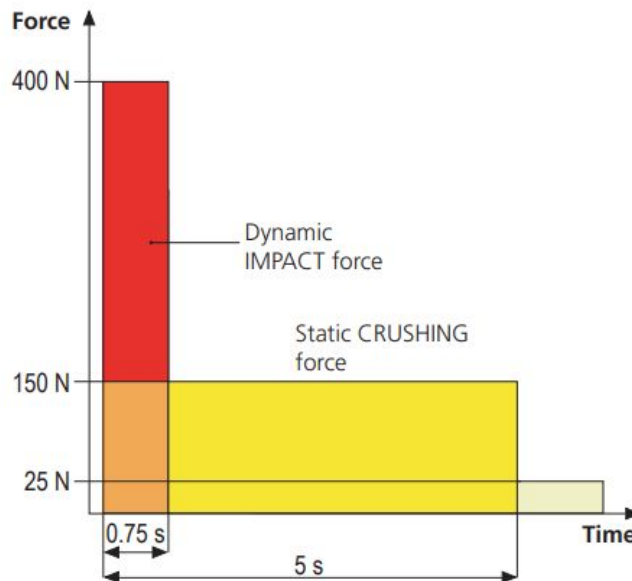The result should comply with the following maximum values:

Figure 12.1 - Operating force diagram

13. Maintenance

Maintenance should be performed in full compliance with the safety instructions described in this manual and accordance with current legal and regulatory provisions.

The recommended interval between each maintenance operation is six months, the checks involved should at least relate to:

- The perfect efficiency of all warning devices
- The perfect efficiency of all safety devices
- Measurement of the gate operating forces
- The lubrication of mechanical parts on the automation device (where necessary)
- The state of wear of the mechanical parts on the automation device
- The state of wear of the electrical cables on the electromechanical actuators
- The result of each check should be recorded in a gate maintenance log.

14. Disposal of the product

As for the installation operations, even at the end of this product's life span, the dismantling operations must be carried out by qualified experts.

This product is made up of various types of materials: some can be recycled while others need to be disposed of. Find out about the recycling or disposal systems envisaged by your local regulations for this product category.

Important! – Parts of the product could contain pollutants or hazardous substances which, if released into the environment, could cause harmful effects to the environment itself as well as to human health.

As indicated by the symbol opposite, throwing away this product as domestic waste is strictly forbidden. So dispose of it as differentiated waste, following your local regulations, or return the product to the retailer when you purchase a new equivalent product.

Important! –the locally applicable regulations may envisage heavy sanctions in the event of illegal disposal of this product.