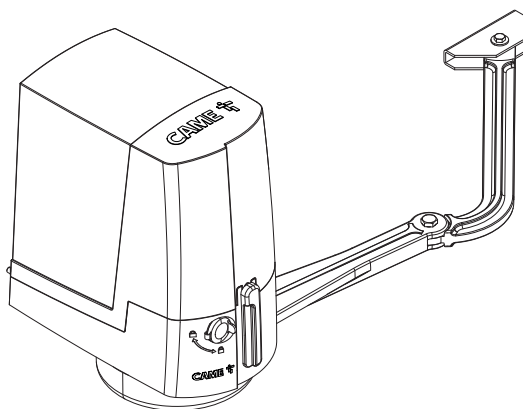


## Swing-gate operator

FA02041-EN

CE



# FTX20DGC / FTX20DLC

## INSTALLATION MANUAL

EN English

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## MANUAL RELEASE

**Warning!** This procedure must be done with the main power cut off.

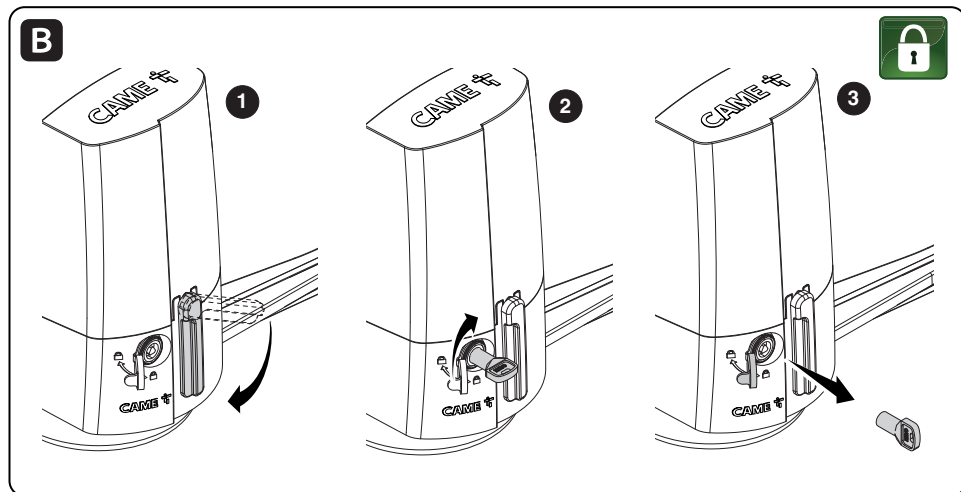
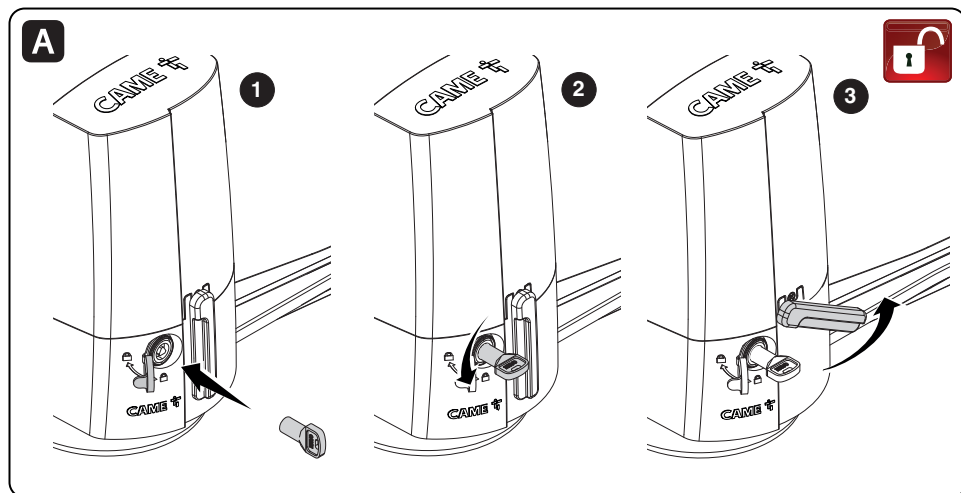
Manually releasing the operator may result in uncontrolled movement of the gate, if this has any mechanical problems or is unbalanced.

### RELEASING (figure **A**)

Fit the trilobe key into the lock, turn it counter-clockwise and turn the release lever.

### LOCKING (figure **B**)

To relock, reposition the release lever and turn the trilobe key clockwise.





## MAINTENANCE

### **⚠ *WHEN CLEANING, MAINTAINING AND REPLACING PARTS, DISCONNECT THE OPERATOR FROM THE MAINS POWER SUPPLY (EXCLUDING POINT B)***

At least every six months, perform ordinary maintenance jobs.

**⚠ *When performing this procedure, keep clear of the movement of the boom.***

A - Wipe clean the photocells' glass with a soft, slightly water-dampened cloth. Do not use any solvents or other chemicals.

B - Check that the photocells are working properly by waving an object between them when the boom is moving: if the boom inverts its direction or the maneuver is stopped, the photocells are working properly.

C - Check that there are no impediments to the proper operation of the operator, such as any overgrown vegetation that could block the photocells or any changes or yielding to the barrier's structure.

**Any repairs, or changes to the installation must be performed by qualified staff and all jobs logged carefully.**

## WHAT TO DO IF ...

ISSUES	POSSIBLE CAUSES	POSSIBLE FIXES
The operator neither opens nor closes	<ul style="list-style-type: none"><li>• Power supply is missing</li><li>• The gearmotor is stuck</li><li>• The transmitter emits a weak signal or no signal</li><li>• Release lever is raised</li><li>• Button/s and/or selectors stuck</li></ul>	<ul style="list-style-type: none"><li>• Check main power supply</li><li>• Lock the gearmotor</li><li>• Replace the batteries</li><li>• Make sure the release lever is lowered</li><li>• Check that the devices and the electric cables are in proper working conditions</li></ul>
The operator opens but does not close	<ul style="list-style-type: none"><li>• The photocells are working</li></ul>	<ul style="list-style-type: none"><li>• Check that there are no obstructions in the range of operation of the photocells</li></ul>

**⚠ *If the problem cannot be solved by following the fixes in the table or if any malfunctions, anomalies, noises, vibrations or suspicious and unexpected behavior is experienced on the system, call for qualified assistance.***

### **CAUTION! Important safety instructions.**






***Follow all of these instructions. Improper installation can cause serious bodily harm.***

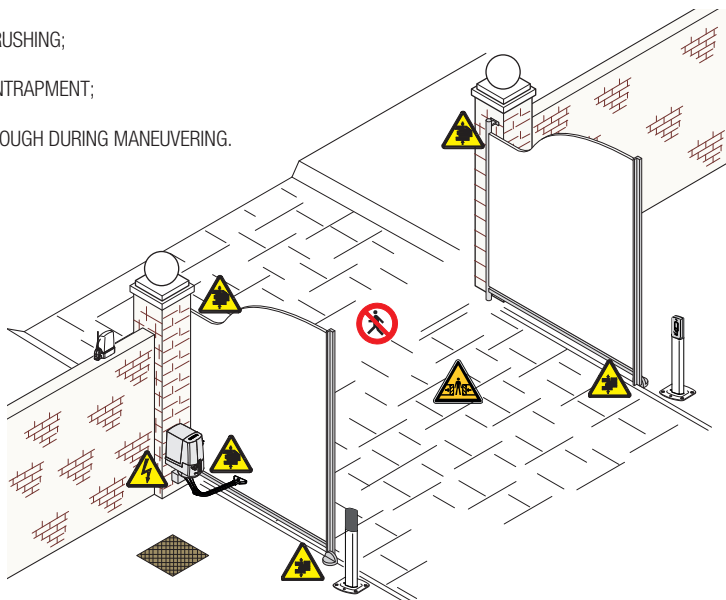
***Before continuing, also read the general precautions for users.***

Only use this product for its intended purpose. Any other use is hazardous. • The manufacturer cannot be held liable for any damage caused by improper, unreasonable or erroneous use. • This product is defined by the Machinery Directive (2006/42/EC) as partly completed machinery. • Partly completed machinery means an assembly which is almost machinery but which cannot in itself perform a specific application. • Partly completed machinery is only intended to be incorporated into or assembled with other machinery or other partly completed machinery or equipment thereby forming machinery to which the Machinery Directive (2006/42/EC) applies. • The final installation must comply with the Machinery Directive (2006/42/EC) and the European reference standards in force. • The manufacturer declines any liability for using non-original products, which would also void the warranty. • All operations indicated in this manual must be carried out exclusively by skilled and qualified personnel and in full compliance with the regulations in force. • The device must be installed, wired, connected and tested according to good professional practice, in compliance with the standards and laws in force. • All the components (e.g. actuators, photocells and sensitive edges) needed for the final installation to comply with the Machinery Directive (2006/42/EC) and with the reference harmonised technical standards are specified in the general CAME product catalogue or on the website [www.came.com](http://www.came.com). • Make sure the mains power supply is disconnected during all installation procedures. • Check that the temperature ranges given are suitable for the installation site. • The appliance must be powered with a voltage corresponding to the value shown on the rating plate. Power must be supplied through a very low safety voltage system. • When excavating to lay the foundation box, ensure there is sufficient drainage to prevent water from stagnating inside it. • Make sure that no jets of water can wet the foundation box where it is installed, either directly (sprinklers, pressure washers, etc.) or indirectly (taps, trench drains). • Make sure you have set up a suitable dual-pole cut-off device along the power supply that is compliant with the installation rules. It should completely cut off the power supply according to category III surcharge conditions. • Demarcate the entire site properly to prevent unauthorised personnel from entering, especially minors. • In case of manual handling, have one person for every 20 kg that needs hoisting; for non-manual handling, use proper hoisting equipment in safe conditions. • Use suitable protection to prevent any mechanical hazards due to persons loitering within the operating range of the operator. • The electrical cables must pass through special pipes, ducts and cable glands in order to guarantee adequate protection against mechanical damage. • Make sure that the moving mechanical parts are suitably far away from the wiring. • The electrical cables must not touch any parts that may overheat during use (such as the motor and transformer). • Before installation, check that the guided part is in good mechanical condition, and that it opens and closes correctly. • The product cannot be used to automate any guided part that includes a pedestrian gate, unless it can only be enabled when the pedestrian gate is secured. • Make sure that nobody can become trapped between the guided and fixed parts, when the guided part is set in motion. • All fixed controls must be clearly visible after installation, in a position that allows the guided part to be directly visible, but far away from moving parts. In the case of a hold-to-run control, this must be installed at a minimum




height of 1.5 m from the ground and must not be accessible to the public. • Where operated with a hold-to-run control, install a STOP button to disconnect the main power supply to the operator, to block movement of the guided part. • If not already present, apply a permanent tag that describes how to use the manual release mechanism close to it. • Make sure that the operator has been properly adjusted and that the safety and protection devices and the manual release are working properly. • Before handing over to the final user, check that the system complies with the harmonised standards and the essential requirements of the Machinery Directive (2006/42/EC). • Any residual risks must be indicated clearly with proper signage affixed in visible areas, and explained to end users. • Put the machine's ID plate in a visible place when the installation is complete. • If the power supply cable is damaged, it must be immediately replaced by the manufacturer or by an authorised technical assistance centre, or in any case, by qualified staff, to prevent any risk. • Keep this manual inside the technical folder along with the manuals of all the other devices used for your automation system. • Make sure to hand over to the end user all the operating manuals of the products that make up the final machinery. safety and protection devices and the manual release are working properly. • Before handing over to the final user, check that the system complies with the harmonised standards and the essential requirements of the Machinery Directive (2006/42/EC). • Any residual risks must be indicated clearly with proper signage affixed in visible areas, and explained to end users. • Put the machine's ID plate in a visible place when the installation is complete. • If the power supply cable is damaged, it must be immediately replaced by the manufacturer or by an authorised technical assistance centre, or in any case, by qualified staff, to prevent any risk. • Keep this manual inside the technical folder along with the manuals of all the other devices used for your automation system. • Make sure to hand over to the end user all the operating manuals of the products that make up the final machinery.

THE NEXT FIGURE SHOWS THE MAIN HAZARD POINTS FOR PEOPLE.

-  DANGER OF HIGH VOLTAGE;
-  DANGER OF CRUSHING;
-  DANGER OF FOOT CRUSHING;
-  DANGER OF HAND ENTRAPMENT;
-  DO NOT TRANSIT THROUGH DURING MANEUVERING.



## KEY

-  This symbol shows which parts to read carefully.
-  This symbol shows which parts describe safety issues
-  This symbol shows which parts to tell users about.


**The measurements, unless otherwise stated, are in millimeters.**

## DESCRIPTION

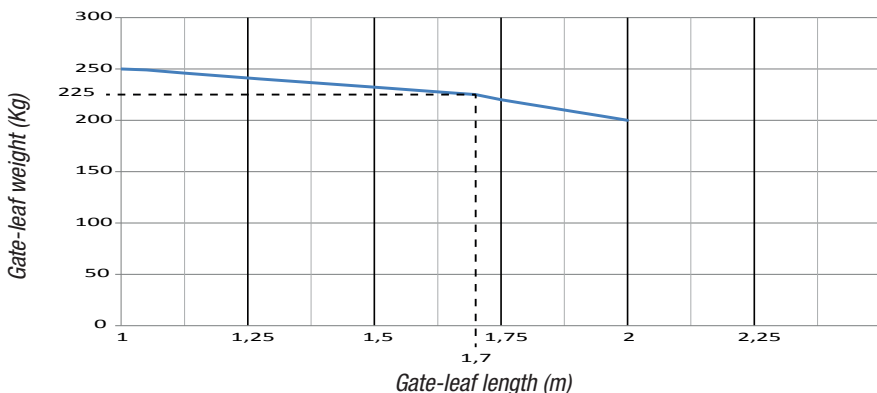
Operator complete with control board, movement control and obstruction detecting device plus mechanical endstops for swing gates with leaves up to 2 m.


## INTENDED USE

This operator is designed to power swing gates for residential and apartment block use.

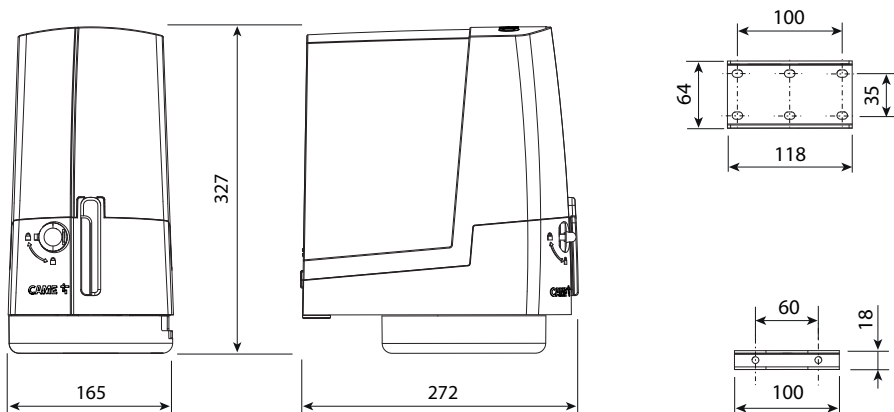
 Any installation and/or use other than that specified in this manual is forbidden.

## LIMITS TO USE



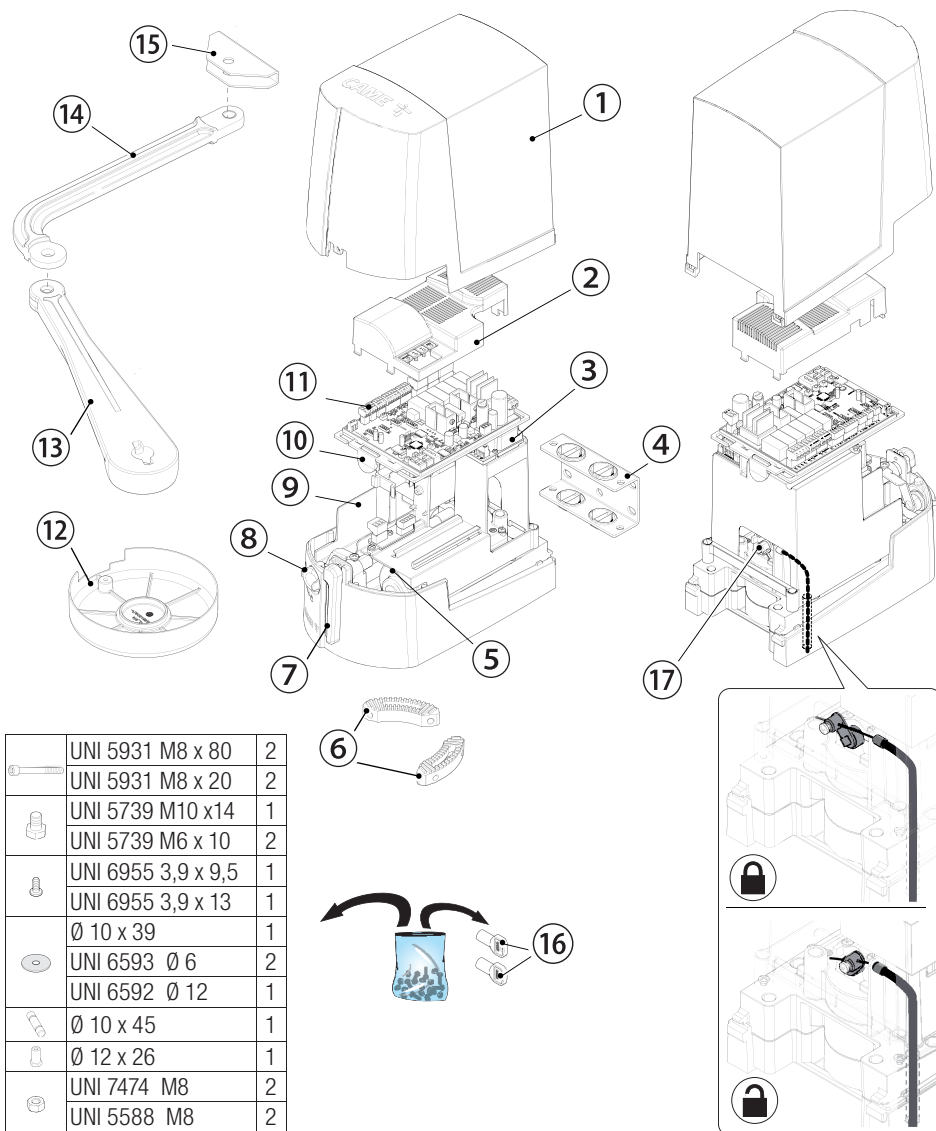
 For swing gates, installing an electric lock is always recommended. This is to ensure the leaves close reliably and to protect the gearmotor parts. For reversible gearmotors, electric locks are required to ensure the leaves close. The installer is responsible for installing an electric lock, taking into account the size and type of leaf (e.g. panelled) and the installation area (e.g. windy location). Warning: some control panels may not have the electric lock function.

## DIMENSIONS



## DESCRIPTION OF PARTS

- |                                       |  |
|---------------------------------------|--|
| 1. Cover                              | 10. Control-board supporting plate               |
| 2. Control-board protective cover     | 11. ZL65 control board                           |
| 3. EMC02 card                         | 12. Transmission arm protection                  |
| 4. Post brace                         | 13. Transmission arm                             |
| 5. Gearmotor                          | 14. Joint arm                                    |
| 6. Mechanical stops                   | 15. Gate brace                                   |
| 7. Release lever                      | 16. Release keys                                 |
| 8. Lock                               | 17. Release shaft for optional, pull-cord device |
| 9. Control-board supporting structure |  |



	UNI 5931 M8 x 80	2
	UNI 5931 M8 x 20	2
	UNI 5739 M10 x14	1
	UNI 5739 M6 x 10	2
	UNI 6955 3,9 x 9,5	1
	UNI 6955 3,9 x 13	1
	Ø 10 x 39	1
	UNI 6593 Ø 6	2
	UNI 6592 Ø 12	1
	Ø 10 x 45	1
	Ø 12 x 26	1
	UNI 7474 M8	2
	UNI 5588 M8	2

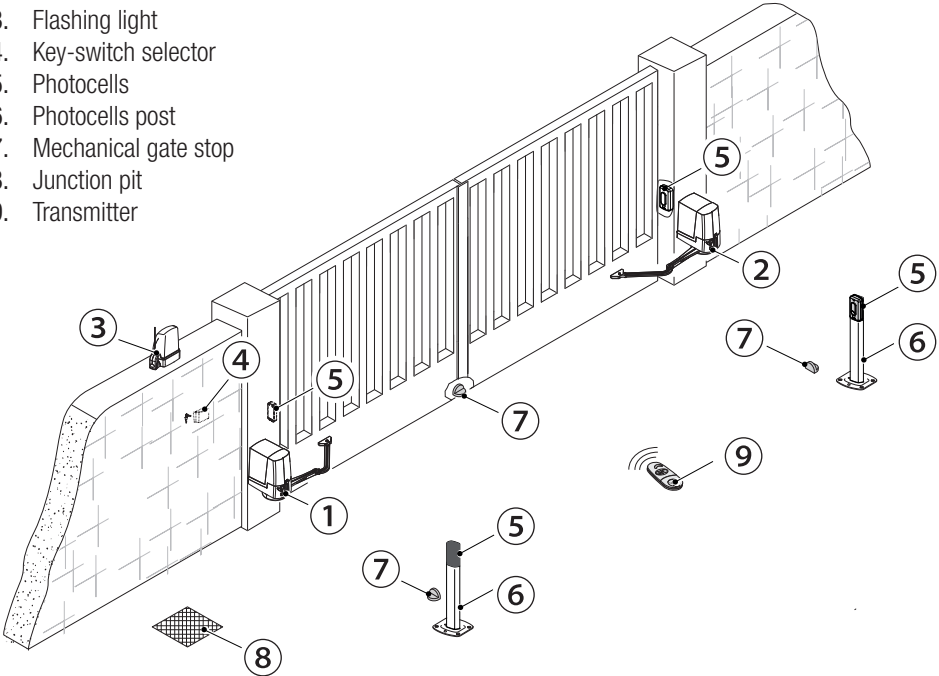


# **TECHNICAL DATA**

Model	FTX20DGC - FTX20DLC
Protection rating (IP)	44
Power supply (V - 50/60 Hz)	230 AC
Input voltage motor (V)	24 DC
Max draw (A)	4
Stand-by consumption (W)	7
Stand-by consumption with the RGP1 (W) module	0.5
Maximum power (W)	140
Cycles/hour	40
Operating temperature (°C)	-20 to +55
Torque (Nm)	180
Opening time at 90° (s)	from 13 to 30
Gear ratio	1/1190
Apparatus class	I
Acoustic pressure dB (A)	≤70
Weight (Kg)	10.5

## **STANDARD INSTALLATION**

1. Operator
2. Gearmotor
3. Flashing light
4. Key-switch selector
5. Photocells
6. Photocells post
7. Mechanical gate stop
8. Junction pit
9. Transmitter



## GENERAL INSTALLATION INDICATIONS

### PRELIMINARY CHECKS

△ Before beginning the installation, do the following:

- check that the gate structure is sturdy enough, the hinges work efficiently and that there is no friction between the fixed and moving parts;
- if ground stops are not, or cannot be, fitted, use the supplied mechanical stops;
- make sure that the point where the gearmotor is fastened is protected from any impacts and that the surface is solid enough;
- set up suitable tubes and conduits for the electric cables to pass through, making sure they are protected from any mechanical damage.

### CABLE TYPES AND MINIMUM THICKNESSES

Connection	cable length	
	< 20 m	20 < 30 m
Input voltage for 230 V AC control board (1P+N+PE)	3G x 1.5 mm <sup>2</sup>	3G x 2.5 mm <sup>2</sup>
24 V DC gearmotor	3 x 1.5 mm <sup>2</sup>	3 x 2.5 mm <sup>2</sup>
Electric lock	2 x 0.5 mm <sup>2</sup>	
Flashing light	2 x 0.5 mm <sup>2</sup>	
Command and control devices	2 x 0.5 mm <sup>2</sup>	
TX Photocells	2 x 0.5 mm <sup>2</sup>	
RX photocells	4 x 0.5 mm <sup>2</sup>	

When operating at 230 V and outdoors, use H05RN-F-type cables that are 60245 IEC 57 (IEC) compliant; whereas indoors, use H05VV-F-type cables that are 60227 IEC 53 (IEC) compliant. For power supplies up to 48 V, you can use FROR 20-22 II-type cables that comply with EN 50267-2-1 (CEI).

To connect the antenna, use the RG58 (we suggest up to 5 m).

For paired connection and CRP, use a UTP CAT5-type cable (up to 1,000 m long).

If cable lengths differ from those specified in the table, establish the cable sections depending on the actual power draw of the connected devices and according to the provisions of regulation CEI EN 60204-1.

For multiple, sequential loads along the same line, the dimensions on the table need to be recalculated according to the actual power draw and distances. For connecting products that are not contemplated in this manual, see the literature accompanying said products

## INSTALLATION

⚠ Only skilled, qualified staff must install this product.

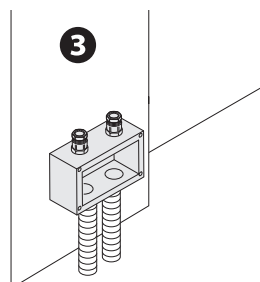
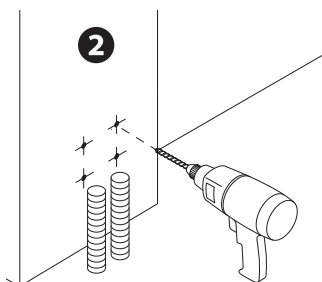
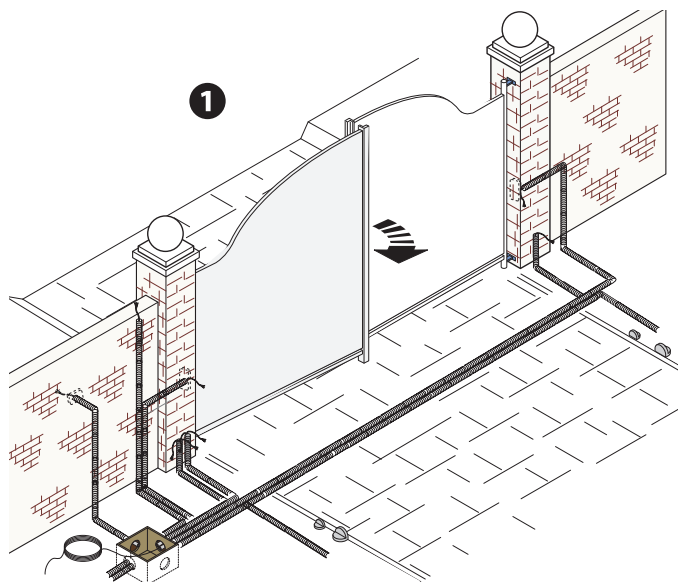
⚠ The following illustrations are mere examples in that the space for fastening the operator and accessories varies depending on the installation area. It is up to the fitter, therefore, to choose the most suitable solution.

The following figures show a standard installation with the gearmotor and transmission arms fitted to the left of the inward-opening gate. Fitting the gearmotor with the transmission arms to the right is done symmetrically. Careful! For outward opening gate leaves, follow the chapter titled "INSTALLING AND CONNECTING FOR OUTWARD OPENING".

### INITIAL WORKS

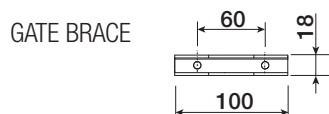
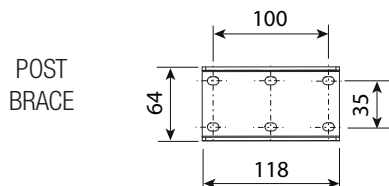
Fit junction boxes and corrugated tubing needed for the incoming connections from the distribution pit.

📖 The number of tubes depends on the type of system and the accessories you are going to fit. You will need at least two corrugated tubes where the operator is installed (on the gate leaf that opens first).

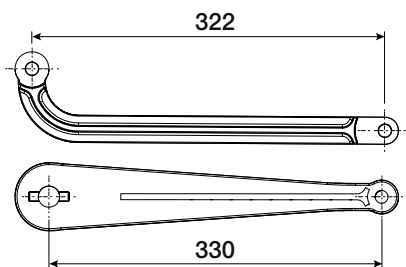
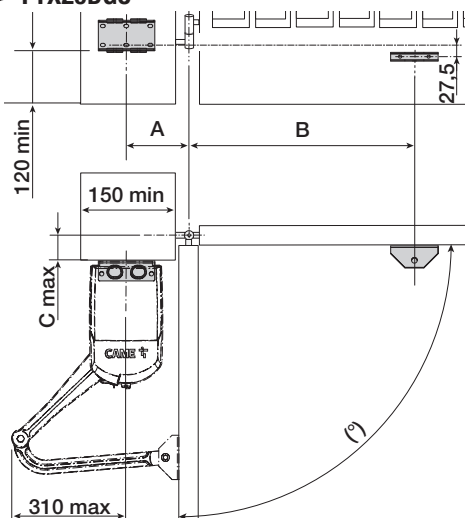


## CHECKING MEASUREMENTS AND APPLICATIVE DIMENSIONS

Establish where you will fit the gate brace and measure where the gate-post brace will fit. Make sure to respect the quotas shown in the drawing and table.

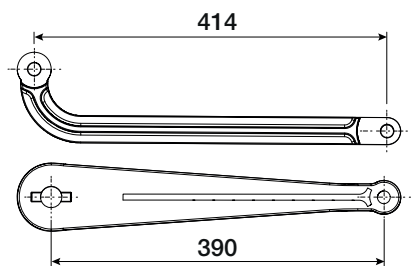
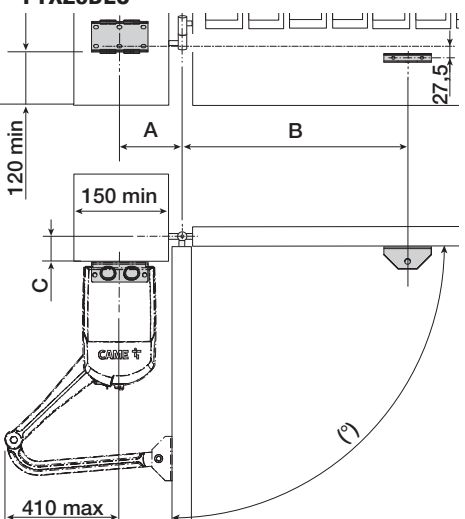


### FTX20DGC



Leaf opening arc (°)	A	B	C max
90	140	420	150
90	160 ÷ 180	380	150
110	200 ÷ 220	400	50

### FTX20DLC



Leaf opening arc (°)	A	B	C
90	140 ÷ 210	540	0 ÷ 50
90	140 ÷ 200	510	75 ÷ 200
90	150 ÷ 180	510	225 ÷ 250
110	200 ÷ 220	480	0 ÷ 50

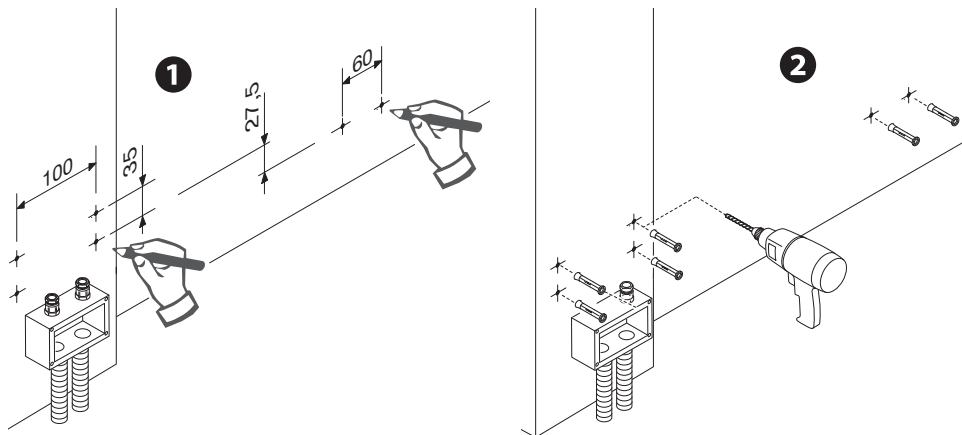
## FASTENING THE BRACES

Marked the spots where the gate-post brace and gate brace will be fitted.

 The fastening measurements are listed in the paragraph titled CHECKING MEASUREMENTS AND APPLICATIVE DIMENSIONS.

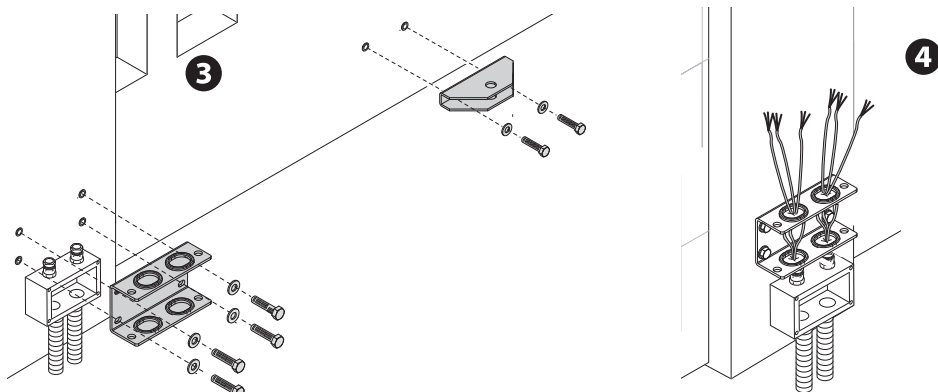
Drill the anchoring points, fit the dowels or use plugs that will hold fast the screws.

 The drawings are mere examples. Installers should carefully choose the most suitable set up according to the type and thickness of the gate leaf.



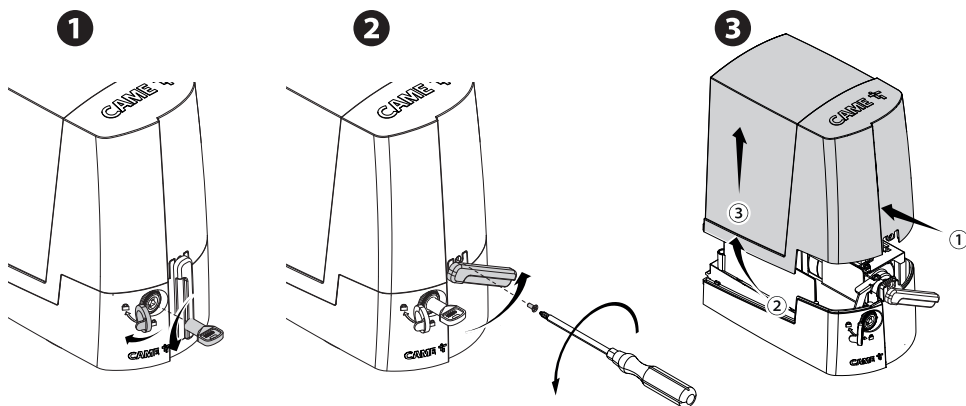
Use suitable screws to fasten the brackets.

△ Lay the necessary electrical cables and run them through the cable gland and lock them to the clamp of the post brace.

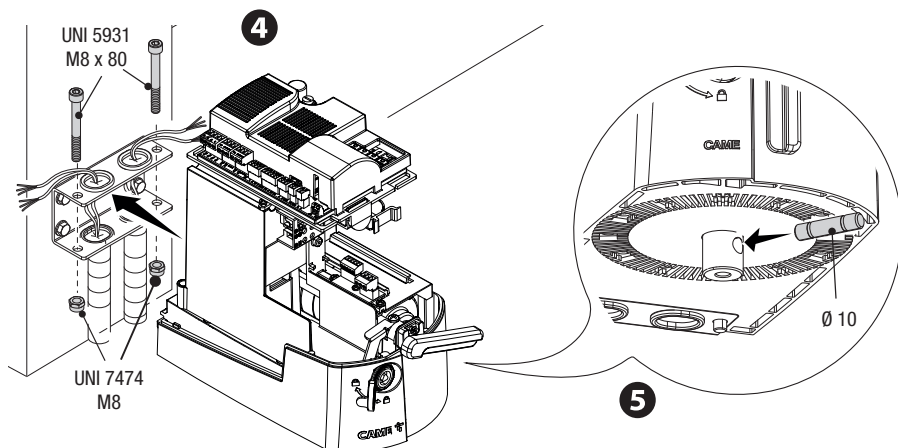


## PREPARING AND FASTENING THE OPERATOR

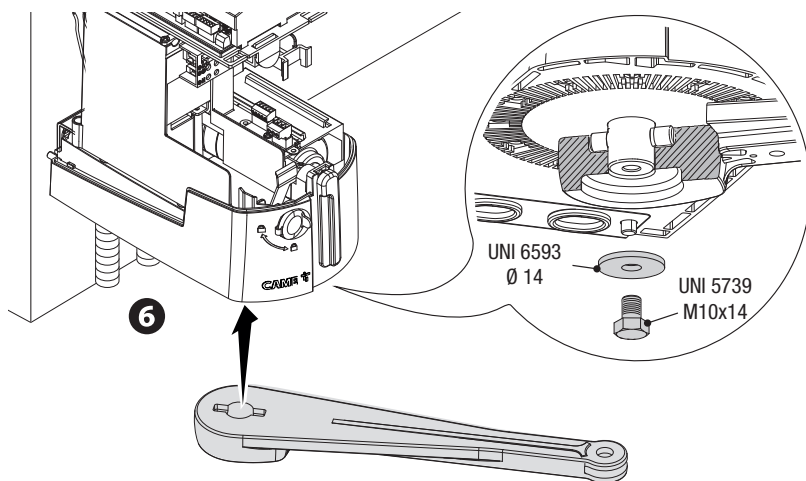
Remove the operator's cover in the following way: - open the lock protection cap, fit, the trilobe key into the lock and turn in counter-clockwise;  
- turn the release lever and loosen the screw that fastens the cover to the gearmotor;  
- push the cover back and lightly pull on its sides to lift it.



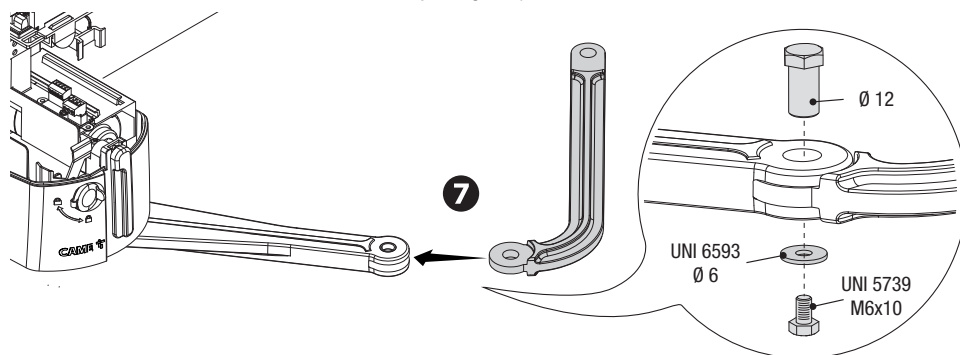
Fit the gearmotor into the gate-post brace and tighten the nuts and bolts.  
Fit the plug into the socket on the gearmotor drive-shaft.



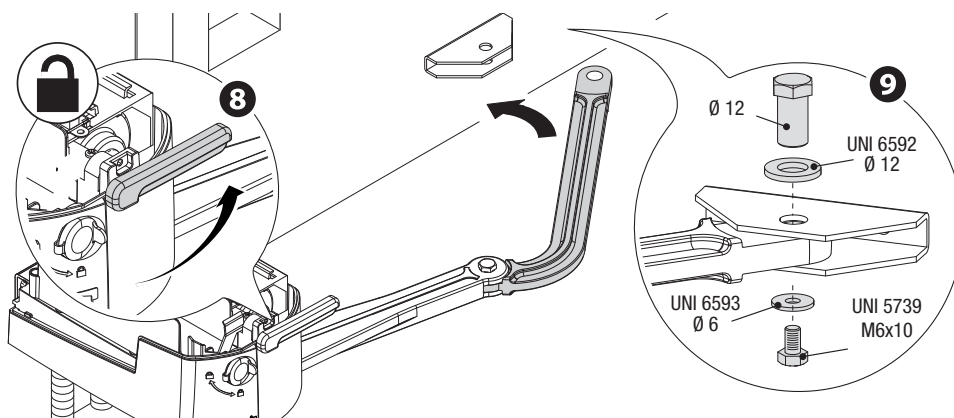
Fit the transmission arm to the shaft by using the slow-shaft washer and the bolt.



Fasten the driven-arm to the transmission arm by using the pin, the bolt and the washer.



Release the gearmotor and fasten the driven-arm to the gate-post brace as shown in the drawing.



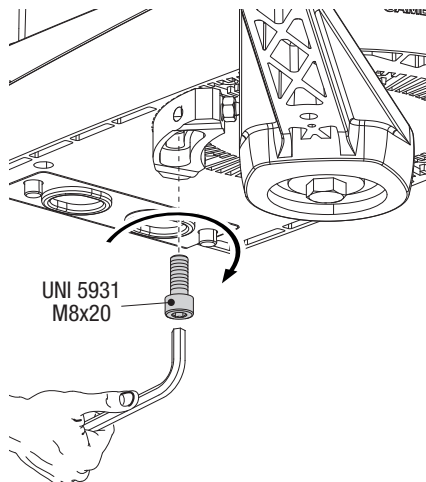
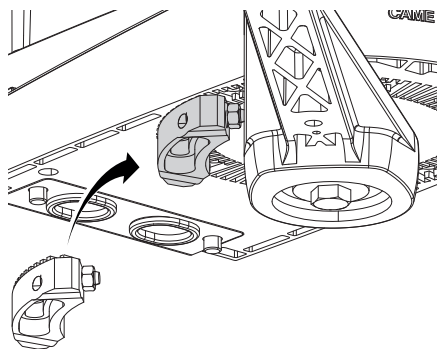
⚠ Warning! If no end stops are fitted, you must fasten the stops.

## FASTENING THE MECHANICAL STOPS

Release the gearmotor.

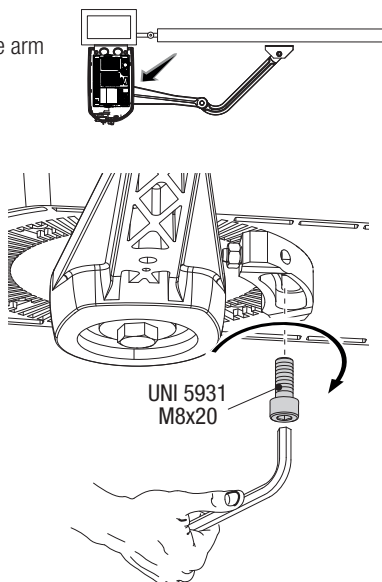
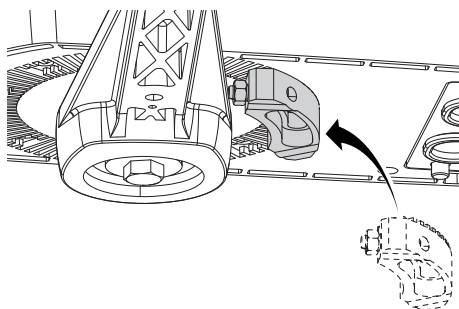
### When opening.

Entirely open the gate leaf. Fit the stop under the casing, against the transmission arm and fasten it with the bolt.



### When closing.

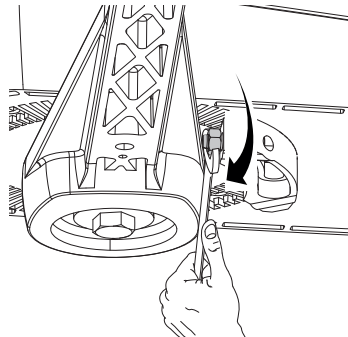
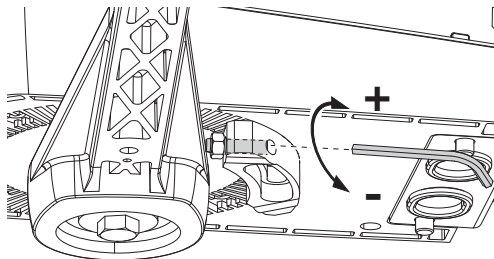
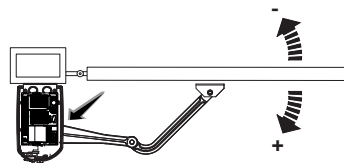
Close the leaf. Fit the second stop against the opposite side of the arm and fasten it with the bolt.



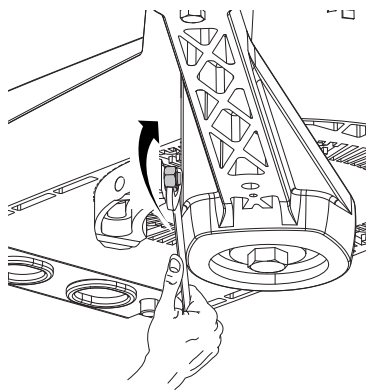
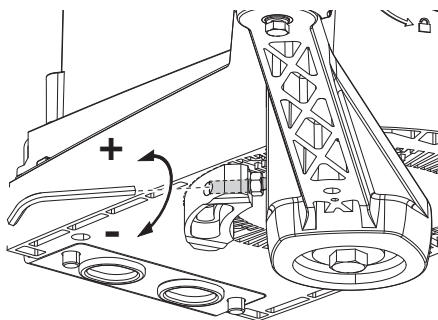


## ESTABLISHING THE LIMIT-SWITCH POINTS

With the gearmotor released and the gate-leaf closed, adjust the closing limit-switch grub screw by turning it clockwise or counterclockwise. Tighten the nut to fasten the grub-screw.



Likewise, adjust the endstop by turning the endless screw on the other endstop.



## CONTROL CARD

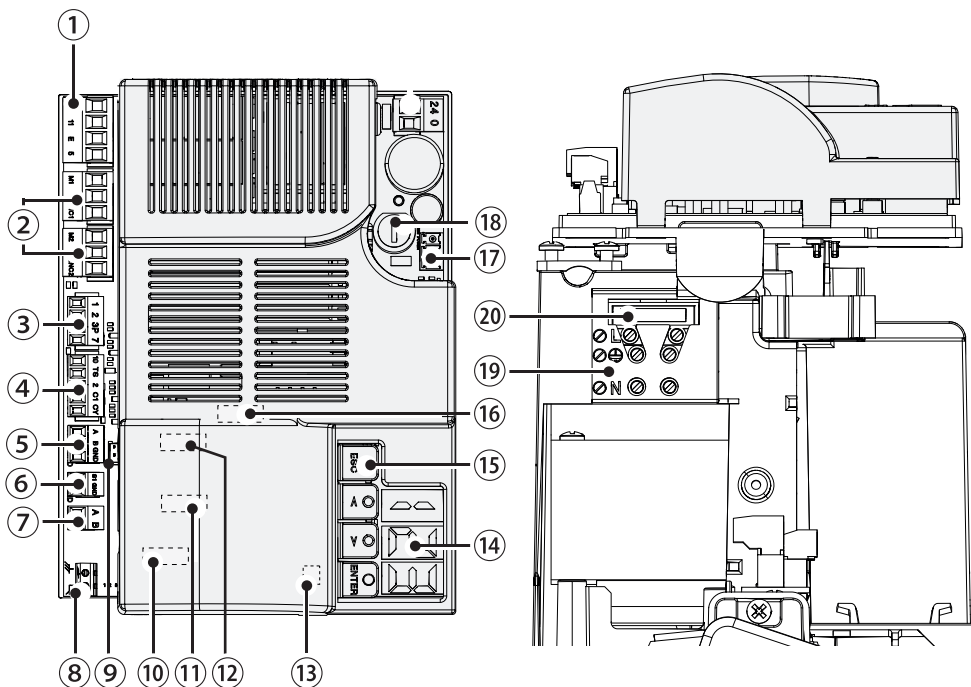
⚠Warning! Before working on the control panel, cut off the main power supply and, if present, remove any batteries.

All wiring connections are quick-fuse protected.

Fuses	ZL65
LINE - Line	2 A-F = 230 V
ACCESSORIES - Accessories	2 A-F

## DESCRIPTION OF PARTS

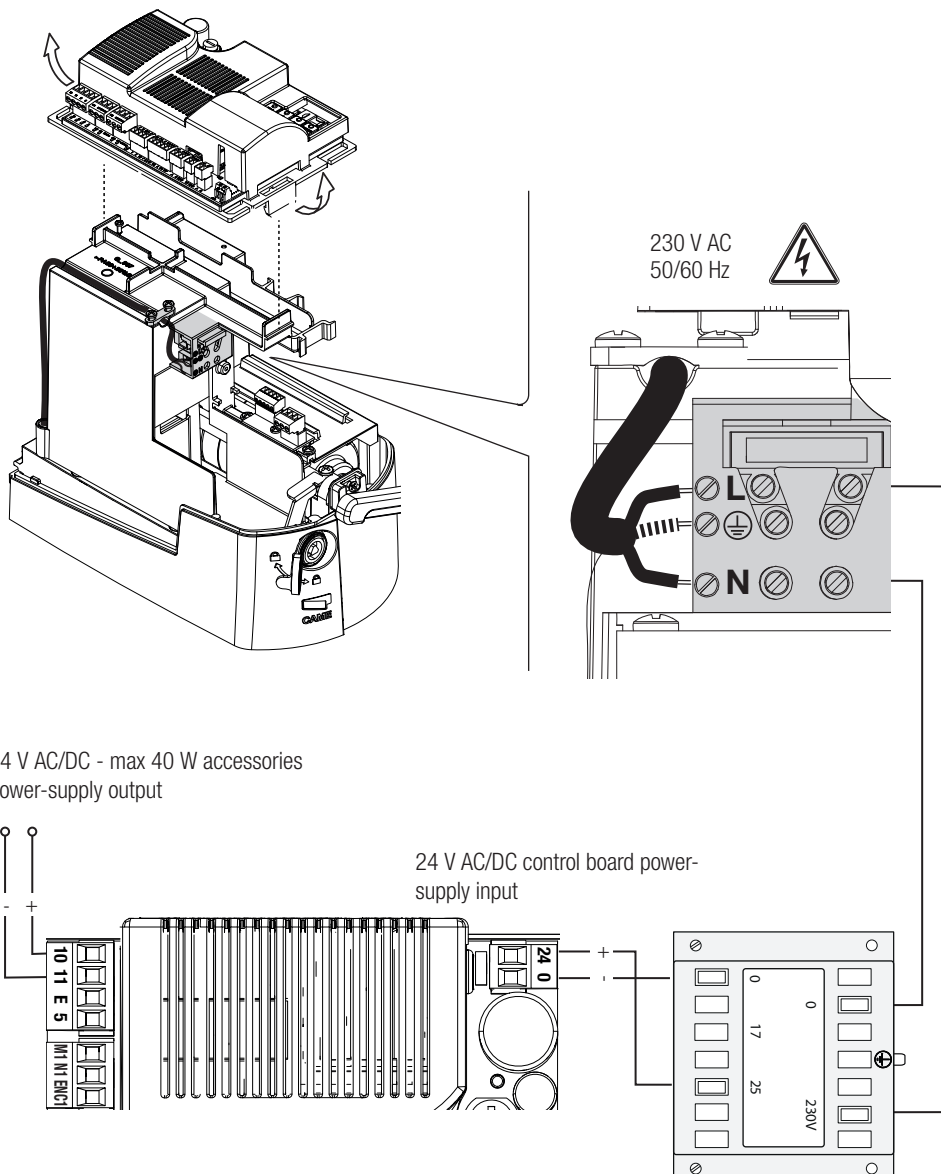
- Terminals for signaling devices
- Gearmotors with encoder terminals
- Control devices terminals
- Safety devices terminals
- CRP connection terminals
- Terminals for transponder devices
- Keypad selector terminal
- Antenna terminal
- Module connector CONNECT GW
- AF card connector
- R700/R800 board connector
- Connector for the RIO-CONN card
- Memory Roll card connector
- Display
- Programming buttons
- RSE board connector
- Terminals for the RGP1 module
- Accessories fuse
- Power supply terminal board
- Line fuse



## ELECTRICAL CONNECTIONS

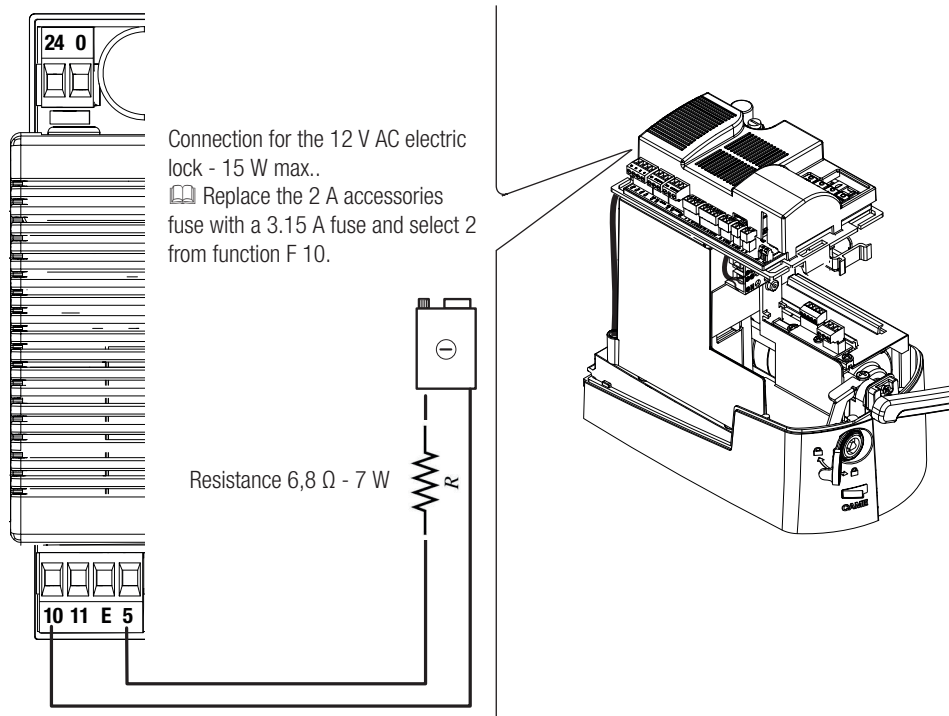
⚠ The electrical cables must not touch any heated parts such as the motor, transformer, and so on.

### POWER SUPPLY

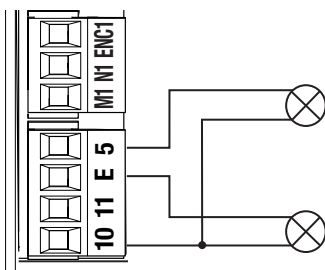


## ELECTRIC LOCK

**WARNING!** An electric lock must be fitted to gate leaves exceeding 2.5 m in length when using irreversible gearmotors. Electric locks must always be fitted when using reversible gearmotors.



## SIGNALING DEVICES



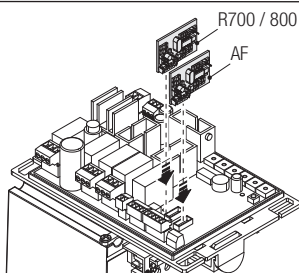
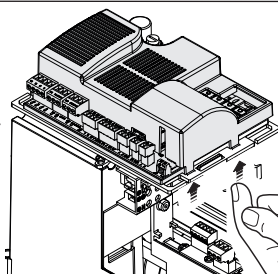
Gate open signaling output  
 (Contact rated for: 24 V AC/DC - 3 W max.).  
 See function F 10.

Either flashing light or cycle light connection output  
 (Contact rated for: 24 V AC/DC - 25 W max.).  
 See function F 18.

## CONTROL DEVICES

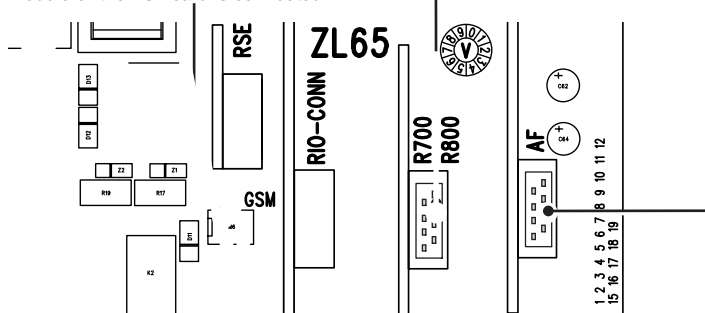
**WARNING!** For the system to work properly, before fitting any plug-in card, such as the AF or R800 one, you **MUST CUT OFF THE MAINS POWER SUPPLY** and, if present, disconnect any batteries.

To be able to snap in the cards into the dedicated connectors, raise the card cover.



Connector for UR042 module.

The UR042 module will not work if the RGP1 module or the RSE card is connected.



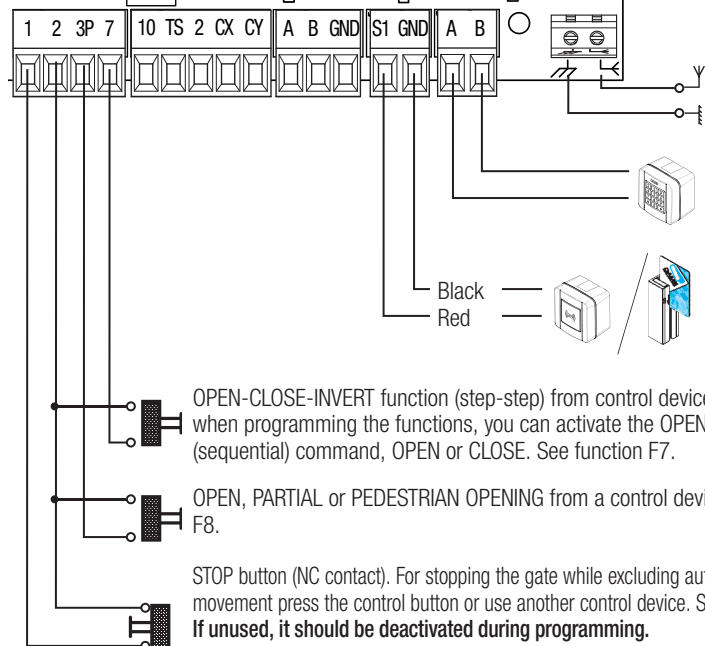
Connector for the R700 card (for using the transponder or the card reader) or for the R800 card (for using the keypad selector).

Connector for AF card (AF868 or AF43S) for remote control.

Antenna with RG58 cable for remote control.

Keypad selector.

Transponder or card reader.



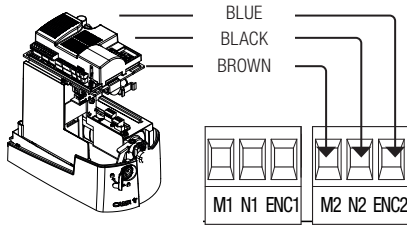
OPEN-CLOSE-INVERT function (step-step) from control device (NO contact). Alternatively, when programming the functions, you can activate the OPEN-STOP-CLOSE-STOP (sequential) command, OPEN or CLOSE. See function F7.

OPEN, PARTIAL or PEDESTRIAN OPENING from a control device (NO contact). See function F8.

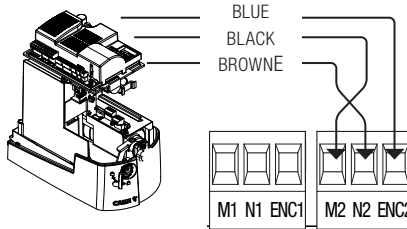
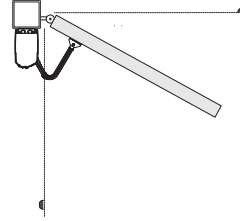
STOP button (NC contact). For stopping the gate while excluding automatic closing. To resume movement press the control button or use another control device. See function F1.

**If unused, it should be deactivated during programming.**

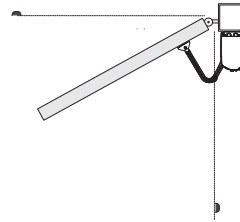
# OPERATORS



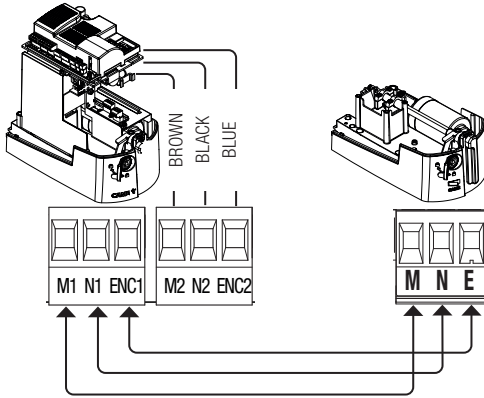
Operator installed on the left (outer view).  
(Default setting)



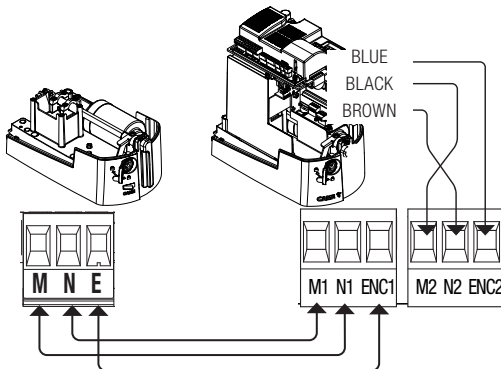
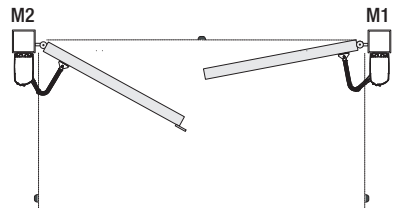
Operator installed on the right (inner view).



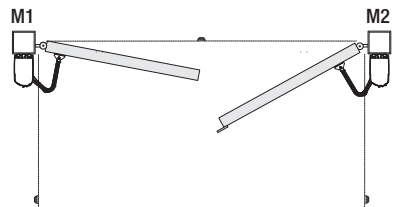
## OPERATOR WITH GEARMOTOR



Operator installed on the left and gearmotor installed on the right (inner view) with operator delayed when closing.  
(Default setting)



Operator fitted to the right and gearmotor to the left (inner view) with operator delayed when opening.

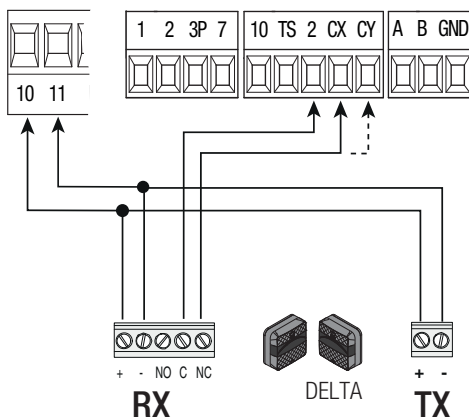
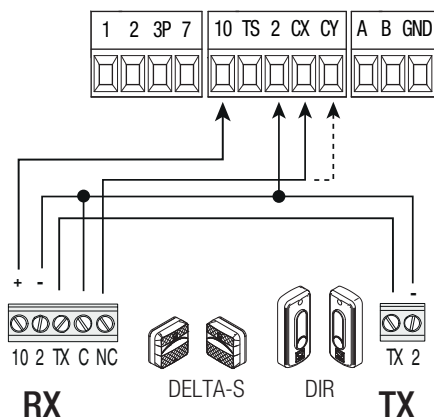


## Photocells

Configure contact CX or CY (NC), safety input for photocells. See CX input functions (Function F2) or CY (Function F3) in:

- C1 reopening during closing. When the gate is closing, opening the contact triggers the inversion of movement until the gate is fully open again;
- C2 close back up during opening. When the gate is opening, opening the contact triggers the inversion of movement until the gate is completely closed.
- C3 partial stop. Opening the contact triggers the gate to stop, if it is moving, and to shift into automatic closing (if the automatic closing function has been set);
- C4 obstruction wait. Opening the contact triggers the gate to stop, if it is moving, and to resume its movement once the obstruction is removed.

 If contacts CX and CY are not used they should be deactivated during programming.

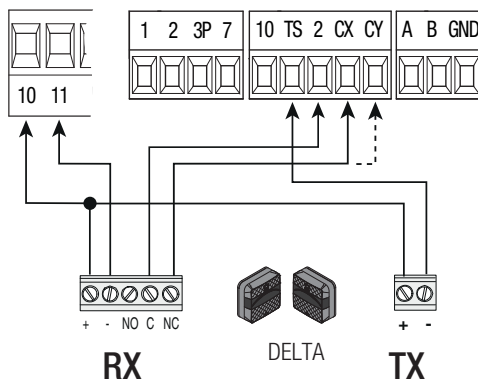
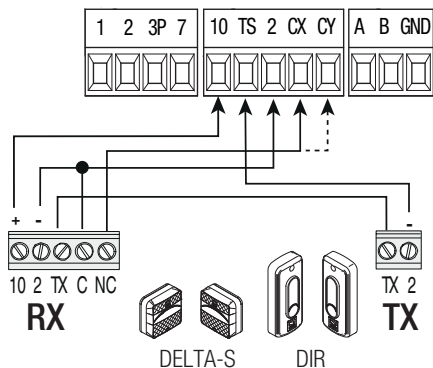


## Photocells (safety test)

Upon each opening and closing command, the board checks the efficiency of the photocells.

Any malfunction will inhibit any command and E 4 will appear on the display.

For this type of connection, enable function F 5.




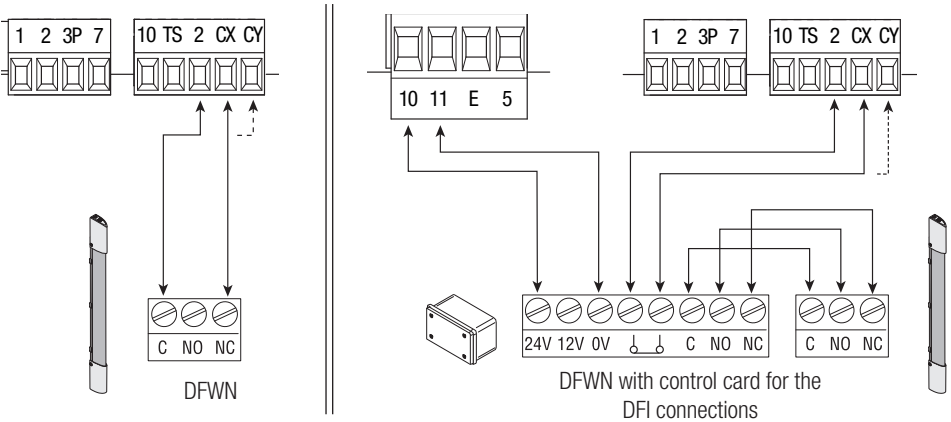
## Sensitive Safety Edges

Configure contact CX or CY (NC), input for safety devices, such as sensitive safety edges, that comply with EN 12978 provisions.

See CX input functions (Function F2) or CY (Function F3) in:

- C7 reopening during closing. When the gate is closing, opening the contact triggers the inversion of movement until the gate is fully open again;
- C8 reclosing during opening. When the gate is opening, opening the contact triggers the inversion of movement until the gate is fully closed.

 If contacts CX and CY are not used they should be deactivated during programming.




## WIRELESS DEVICES

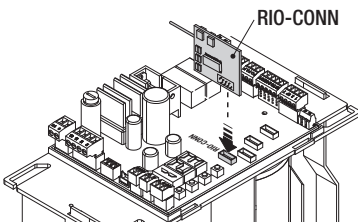
Fit the RIO-CONN card into the corresponding connector on the control board.

Set the function which is to be associated with the wireless device (F 65, F66, F 67 and F 68).

Configure the wireless accessories (see the folder of the accessory you want to configure).

 If the devices are not configured with the RIO-CONN card, the E 18 error message is displayed.

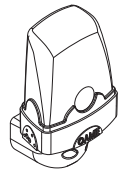
△ If the system has radiofrequency interferences, the wireless system will inhibit the operator's normal operating mode and the E 17 error message is displayed.



RIO-EDGE



RIO-CELL

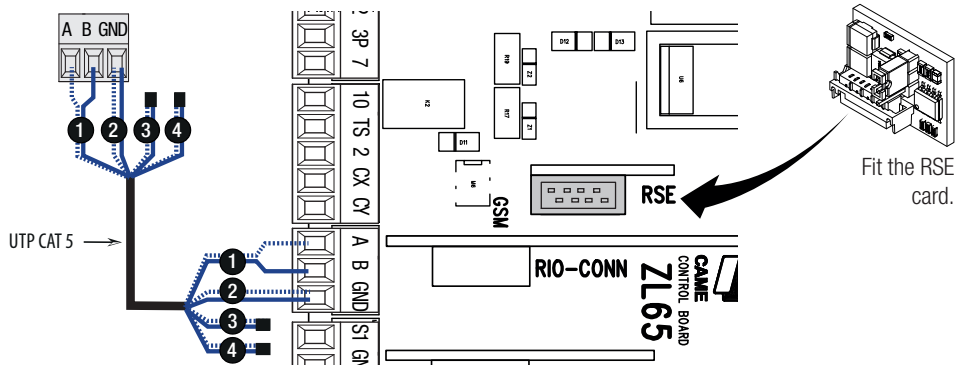


RIO-LUX



# CONNECTION WITH CAME REMOTE PROTOCOL (CRP)

RS485 serial connection with RSE card via CRP (Came Remote Protocol).



## PROGRAMMING

### DESCRIPTION OF THE PROGRAMMING COMMANDS

Display

The ESC button is for:

- exiting menus;
- cancelling changes;
- stopping the gate (only when testing).

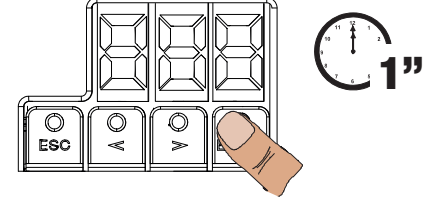
The ENTER key is for:

- entering menus;
- confirming or memorizing set values.

The < > keys are for:

- moving from one item to another;
- increasing or decreasing a value;
- opening and closing the gate (only when testing).

To enter the menu, keep the ENTER key pressed for at least one second.




To exit the menu, wait 10 seconds or press the ESC key.















## FUNCTIONS MENU







△ When programming, the operator needs to be in stop mode.


F1	Total stop [1-2]	<p>NC input – Gate stop that excludes any automatic closing; to resume movement, use the control device. The safety device should be fitted into 1-2. If unused, select OFF.</p> <p><b>OFF (default) / ON</b></p>
F2	Input [2-CX]	<p>NC input – Can associate: C1 = reopening during closing by photocells, C2 = reclosing during opening by photocells, C3 = partial stop, C4 = obstruction wait, C7 = reopening during closing by sensitive safety-edges (with clean contact), C8 = reclosing during opening by sensitive safety-edges (with clean contact).</p> <p>📖 The C3 Partial stop function only appears if the F 19 Automatic closing time function is activated.</p> <p><b>OFF (default) / C1 / C2 / C3 / C4 / C7 / C8</b></p>
F3	Input [2-CY]	<p>NC input – Can associate: C1 = reopening during closing by photocells, C2 = reclosing during opening by photocells, C3 = partial stop, C4 = obstruction wait, C7 = reopening during closing by sensitive safety-edges (with clean contact), C8 = reclosing during opening by sensitive safety-edges (with clean contact).</p> <p>📖 The C3 Partial stop function only appears if the F 19 Automatic closing time function is activated.</p> <p><b>OFF (default) / C1 / C2 / C3 / C4 / C7 / C8</b></p>
F5	Safety test	<p>After every opening or closing command, the board will check whether the photocells are working properly.</p> <p>📖 The safety test is always active for wireless devices.</p> <p><b>OFF (default) / 1 = CX / 2 = CY / 4 = CX+CY</b></p>
F6	Maintained action	<p>The gate opens and closes by keeping the button pressed. Opening button on contact 2-3P and closing button on contact 2-7. All other control devices, even radio-based ones, are excluded.</p> <p><b>OFF (default) / ON</b></p>
F7	Command [2-7]	<p>From the control device connected to 2-7 it performs the step-step (open-close-invert) or sequential (open-stop-close-stop) command.</p> <p><b>0 = Step-step (default) / 1 = Sequential / 2 = Open / 3 = Close</b></p>
F8	Command [2-3P]	<p>From the control device connected to 2-3P it executes the pedestrian opening (completely opens the M2 gate leaf) or partial opening (it partially opens the M2 gate leaf: the opening arc depends on the percentage of travel set up with F36).</p> <p><b>0 = Pedestrian opening (default) / 1 = Partial opening / 2 = Open</b></p>
F9	Obstruction detection with motor stopped	<p>With the gate closed, opened or totally stopped, the gearmotor stays idle if the safety devices, that is, photocells or sensitive safety-edges detect an obstruction.</p> <p><b>OFF (default) / ON</b></p>

F10	Output for gate open or for enabling the electric lock	<p>It signals the gate status. The signaling device is connected to 10-5 or, alternatively, it enables the electric lock.</p> <p><b>0 = On when the barrier is open and moving (default) / 1= during openings it flashes intermittently each half second, and during closings it flashes intermittently each second. It stays on steadily when the barrier is open, off or when it s closed / 2 = electric lock is enabled</b></p>
F11	Encoder	<p>Managing slow-downs, obstruction detections and sensitivity.</p> <p> With this function deactivated, adjust the working time of function F22, in this way, the gearmotor perform maneuvers at slower speeds.</p> <p><b>OFF / ON (default)</b></p>
F12	Soft Start	<p>With each opening and closing command, the gate starts moving slowly for a few seconds.</p> <p><b>OFF (default) / ON</b></p>
F13	Closing thrust	<p>At the closing limit switch, the gearmotors make the leaves perform a brief closing thrust.</p> <p><b>OFF (default) / / 1 = minimum thrust / 2 = medium thrust / 3</b></p>
F14	Sensor type	<p>Setting the type of accessory for controlling the operator.</p> <p><b>0 = command with transponder sensor or magnetic card reader / 1 = command with keypad selector (default)</b></p>
F16	Stop Jolt	<p>Before every opening or closing maneuver, the leaves thrust inwards to release the electric lock. The thrust time, is set with F 26.</p> <p><b>OFF (default) / ON</b></p>
F18	Additional light	<p>Output for connecting the additional light onto 10-E.</p> <p>Flashing light: it flashes when the gate is opening and closing.</p> <p>Cycle light: additional external light for increasing illumination in the drive way. It stays on from the moment the leaf starts opening until it again closes completely - including the waiting time before the automatic-closing time.</p> <p><b>0 = Flashing light ( default ) / 1 = Cycle</b></p>
F19	Automatic Closing Time	<p>The automatic-closing wait starts when the opening limit switch point is reached and can be set to between 1 and 180 seconds. The automatic closing does not activate if any of the safety devices trigger when an obstruction is detected, or after a total stop, or during a power outage.</p> <p><b>OFF (default) / 1 = 1 second /... / 180 = 180 seconds</b></p>
F20	Automatic closing time after pedestrian or partial openings	<p>The wait before the automatic closing starts after a partial opening command for an adjustable time of between 1 s and 180 s.</p> <p>The automatic closing does not activate if any of the safety devices trigger when an obstruction is detected, or after a total stop, or during a power outage.</p> <p><b>OFF (default) / 1 = 1 second /... / 180 = 180 seconds</b></p>
F21	Pre-flashing time	<p>Adjusting the pre-flashing time for the flashing light connected to 10-E before each maneuver. The flashing time is adjustable from one to ten seconds.</p> <p><b>OFF (default) / 1 = 1 second /... / 10 = 10 seconds</b></p>
F22	Operating time	<p>Motors working time, when opening and closing. Adjustable between five and 180 seconds.</p> <p><b>5 = 5 seconds /.../ 120 = 120 seconds (default) /.../ 180 = 180 seconds</b></p>

F23	Delay in opening time	<p>After an opening command, the M1 gearmotor starts delayed. The delay time is settable between one and ten seconds.</p> <p><b>0</b> = Deactivated /.../ <b>2</b> = 2 seconds (<b>default</b>) /.../ <b>10</b> = 10 seconds</p>
F24	Closing delay time	<p>After either a closing command or an automatic closing, the M2 gearmotor starts delayed. The delay time is adjustable between one and five seconds.</p> <p><b>0</b> = Deactivated /.../ <b>5</b> = 5 seconds (<b>default</b>) /.../ <b>25</b> = 25 seconds</p>
F26	Closing thrust time	<p>After an opening or closing command, the gearmotor thrusts inward for an adjustable time between one and two seconds.</p> <p><b>1</b> = 1 second (<b>default</b>) / <b>2</b> = 2 seconds</p>
F27	Lock time	<p>After an opening or closing command, the electric lock releases for an adjustable time between one and four seconds.</p> <p><b>1</b> = 1 second (<b>default</b>) /.../ <b>4</b> = 4 seconds</p>
F28	Gate travel speed	<p>Setting the gate's opening and closing speeds, calculated as a percentage.</p> <p><b>60</b> = 60% of the maximum speed /.../ <b>100</b> = 100% of the maximum speed (<b>default</b>)</p>
F30	Slow-down speed	<p>Setting the gate's opening and closing slow-down speed, calculated as a percentage.</p> <p><b>10</b> = 10% of the maximum speed /.../ <b>50</b> = 50% of the maximum speed (<b>default</b>) /.../ <b>60</b> = 60% of the maximum speed</p> <p> For the FTX20DGC-series gearmotors, the slow-down speed is set between 15% and 60%.</p>
F33	Calibration speed	<p>Setting the gearmotors' speeds during calibration, calculated as a percentage.</p> <p><b>20</b> = 20% of the maximum speed /.../ <b>50</b> = 50% of the maximum speed (<b>default</b>) /.../ <b>60</b> = 60% of the maximum speed</p>
F34	Travel sensitivity	<p>Adjusting obstruction detection sensitivity during gate travel.</p> <p><b>10</b> = Maximum sensitivity /.../ <b>100</b> = Minimum sensitivity (<b>default</b>)</p>
F35	Slow-down sensitivity	<p>Adjusting obstruction detection sensitivity during slow-down.</p> <p><b>10</b> = Maximum sensitivity /.../ <b>100</b> = Minimum sensitivity (<b>default</b>)</p>
F36	Adjusting the partial opening	<p>Adjustment as a percentage of total travel, during gate opening.</p> <p><b>10</b> = 10% of the gate travel /.../ <b>40</b> = 40% of the gate travel (<b>default</b>) /.../ <b>80</b> = 80% of the gate travel</p>
F37	Opening slow-down point for the M1 motor	<p>Adjustment as a percentage of total travel, of the beginning slow-down point of gearmotor M1 during opening.</p> <p> This function only appears if the Encoder function is activated.</p> <p><b>1</b> = 1% of the gate travel /.../ <b>25</b> = 25% of the gate travel (<b>default</b>) /.../ <b>60</b> = 60% of the gate travel</p>
F38	Closing slow-down point of the M1 motor	<p>Adjustment as a percentage of total travel, of the beginning slow-down point of gearmotor M1 during closing.</p> <p> This function only appears if the Encoder function is activated.</p> <p><b>1</b> = 1% of the gate travel /.../ <b>25</b> = 25% of the gate travel (<b>default</b>) /.../ <b>60</b> = 60% of the gate travel</p>
F39	Opening approach point of the M1 motor	<p>Adjusting as a percentage of the total travel, the M1 motor's opening approach starting point.</p> <p> This function only appears if the Encoder function is activated.</p> <p><b>1</b> = 1% of the gate travel /.../ <b>10</b> = 10% of the gate travel (<b>default</b>)</p>

F40	Closing approach point for motor M1	<p>Adjusting as a percentage of the total travel, the M1 motor's closing-approach starting point.</p> <p> This function only appears if the Encoder function is activated.</p> <p><b>1 = 1% of the gate travel /.../ 10 = 10% of the gate travel (default)</b></p>
F41	Opening slow-down point for motor M2	<p>Adjusting as a percentage of the total travel, the M2 motor's opening slow-down starting point.</p> <p> This function only appears if the Encoder function is activated.</p> <p><b>1 = 1% of the gate travel /.../ 25 = 25% of the gate travel (default) /.../ 60 = 60% of the gate travel</b></p>
F42	Closing slow-down point for motor M2	<p>Adjusting as a percentage of the total travel, the M2 motor's closing slow-down starting point.</p> <p> This function only appears if the Encoder function is activated.</p> <p><b>1 = 1% of the gate travel /.../ 25 = 25% of the gate travel (default) /.../ 60 = 60% of the gate travel</b></p>
F43	Opening approach point for motor M2	<p>Adjusting as a percentage of the total travel, of the M2 motor's opening approach starting point.</p> <p> This function only appears if the Encoder function is activated.</p> <p><b>1 = 1% of the gate travel /.../ 10 = 10% of the gate travel (default)</b></p>
F44	Closing approach point for motor M2	<p>Adjusting as a percentage of the total travel, the M2 motor's closing approach starting point.</p> <p> This function only appears if the Encoder function is activated.</p> <p><b>1 = 1% of the gate travel /.../ 10 = 10% of the gate travel (default)</b></p>
F46	Number of motors	<p>Set the number of motors that control the gate.</p> <p> Value 1 indicates that the M2 motor is being used.</p> <p><b>2 (Default) / 1</b></p>
F49	Managing the serial connection	<p>For enabling the CRP (Came Remote Protocol).</p> <p><b>OFF / 3 = CRP (default)</b></p>
F50	Saving data	<p>Saving users and saved settings in memory roll.</p> <p> This function only appears if a memory roll has been fitted into the control board.</p> <p><b>OFF (default) / ON</b></p>
F51	Reading of data	<p>Uploading data saved in memory roll.</p> <p> This function only appears if a memory roll has been fitted into the control board.</p> <p><b>OFF (default) / ON</b></p>
F56	Peripheral number	<p>To set the peripheral's number from 1 to 255 for each control board when you have a system with several operators.</p> <p><b>1 ----&gt; 255</b></p>
F63	COM speed	<p>For setting the communication speed used in the CRP (Came Remote Protocol) connection system.</p> <p><b>0 = 1200 Baud / 1 = 2400 Baud / 2 = 4800 Baud / 3 = 9600 Baud / 4 = 14400 Baud / 5 = 19200 Baud / 6 = 38400 Baud (default) / 7 = 57600 Baud / 8 = 115200 Baud</b></p>

F65	Wireless input RIO-EDGE [T1]	<p>Wireless (RIO-EDGE) safety device associated to a function chosen among those available: P0 = TOTAL STOP, P7 = reopening during closing, P8 = reclosing during opening.</p> <p>For programming, see the instructions that come with the accessory.</p> <p> This function only appears is the control board has been fitted with a RIO-CONN card.</p> <p><b>OFF (default) / P0 / P7 / P8</b></p>
F66	Wireless input RIO-EDGE [T2]	<p>Wireless (RIO-EDGE) safety device associated to a function chosen among those available: P0 = TOTAL STOP, P7 = reopening during closing, P8 = reclosing during opening.</p> <p>For programming, see the instructions that come with the accessory.</p> <p> This function only appears is the control board has been fitted with a RIO-CONN card.</p> <p><b>OFF (default) / P0 / P7 / P8</b></p>
F67	Wireless input RIO-CELL [T1]	<p>RIO-CELL is associated to any function chosen among those available: P1 = reopening during closing; P2 = reclosing during opening; P3 = partial stop; P4 = obstruction wait.</p> <p>For programming, see the instructions that come with the accessory.</p> <p> This function only appears is the control board has been fitted with a RIO-CONN card.</p> <p><b>OFF (default) / P1 / P2 / P3 / P4</b></p>
F68	Wireless input RIO-CELL [T2]	<p>RIO-CELL is associated to any function chosen among those available: P1 = reopening during closing; P2 = reclosing during opening; P3 = partial stop; P4 = obstruction wait.</p> <p>For programming, see the instructions that come with the accessory.</p> <p> This function only appears is the control board has been fitted with a RIO-CONN card.</p> <p><b>OFF (default) / P1 / P2 / P3 / P4</b></p>
U1	Entering users	<p>Entering up to 250 users and associating to each one a function of choice among those included. Add users via a transmitter or other control device (see the paragraph called ADDING USERS WITH AN ASSOCIATED COMMAND).</p> <p><b>1 = Step-step command (open-close) / 2 = Sequential command (open-stop-close-stop) / 3 = Only open command / 4 = Partial command</b></p>
U2	Deleting users	<p>Deleting a single user</p> <p><b>OFF / ON = Enabling the deletion of single users.</b></p>
U3	Deleting users	<p>Deleting all users.</p> <p><b>OFF / ON = Delete all users</b></p>
U4	Decoding the code	<p>Select the type of transmitter radio coding that you wish to save on the control board.</p> <p> When you select a radio coding, all saved transmitter are automatically deleted.</p> <p> The TWIN coding lets you save multiple user with the same key (Key block).</p> <p><b>1 = all (default) / 2 = Rolling Code / 3 = TWIN</b></p>
A1	Motor type	<p>Set the type of gearmotor installed on M1 and M2.</p> <p><b>1 = SVN20-25 / 2 = FA7024CB / 3 = FTX20DGC / 4 = ATS-AXO / 5 = ATI-F7024N</b></p>

A2	Motors test	Test for checking the gearmotors' proper rotating directions (see the MOTORS TEST paragraph). <b>OFF / ON</b>
A3	Travel calibration	Calibrating the gate travel (see the paragraph called CALIBRATING THE GATE TRAVEL).  This function appears only if the Encoder function is activated. <b>OFF / ON</b>
A4	Resetting parameters	Attention! The default settings will be restored. <b>OFF / ON</b>
A5	Maneuver count	For viewing the number of maneuvers completed or for deleting them (001 = 100 maneuvers; 010 = 1,000 maneuvers; 100 = 10,000 maneuvers; 999 = 99,900 maneuvers; CSI = maintenance job)
H1	Version	View the firmware version.


## SETTING UP


Once the electrical connections are complete, have skilled staff commission the operator.  
Before continuing, make sure the area is free of any obstructions, and that there are mechanical, opening and closing gate stops in place.

Power up and begin configuring the system. **Important!** Start programming by first doing the following functions:

- type of motor (A1);
- number of motors (F46);
- motors test (A2), see the specific paragraph;
- travel calibration (A3), see the specific paragraph.

Once the programming is done, verify that the operator and all the accessories are working properly. Use the < > keys to open and close the gate, and the ESC key to stop it.

 After powering up the system, the first maneuver is always the opening. In this phase, the gate cannot be closed. You will need to wait for the gate to completely open.

 Immediately press the STOP button if any suspicious malfunctions, noises or vibrations occur in the system.

 Commissioning should be done also after each restoring procedure (A4).

## MOTORS TEST

Select A2. Press ENTER to confirm. **1**

Select ON. Press ENTER to confirm the motors test procedure. **2**

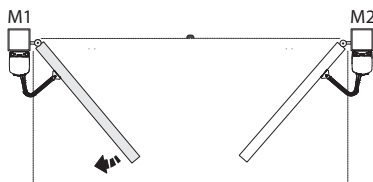
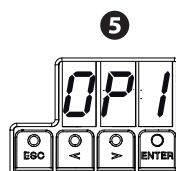
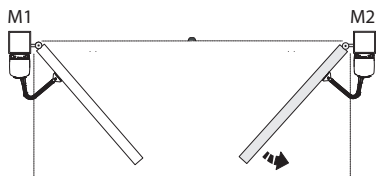
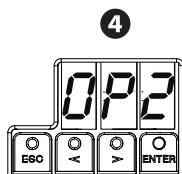
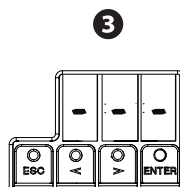
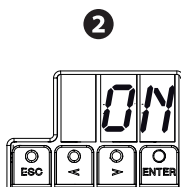
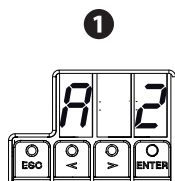
The following [---] characters will be displayed while waiting for a command. **3**

Keep pressed the > key and check whether the M2 second gearmotor's leaf performs an opening maneuver.

 If the leaf performs an opening maneuver, invert the motor's phases. **4**

Perform the same procedure using the < arrow key to check the M1 first gearmotor's leaf.

 If the leaf performs an opening maneuver, invert the motor's phases. **5**





## TRAVEL CALIBRATION

📖 Before calibrating the gate travel, position the gate half-way, check that the maneuvering area is clear of any obstruction and check that there are mechanical opening and closing stops.

⚠ The mechanical end-stops are obligatory.

Important! During calibration, all safety devices will be disabled.

Select A3. Press ENTER to confirm. ❶

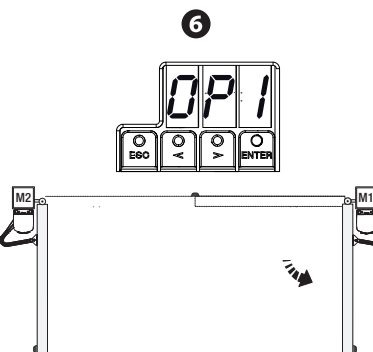
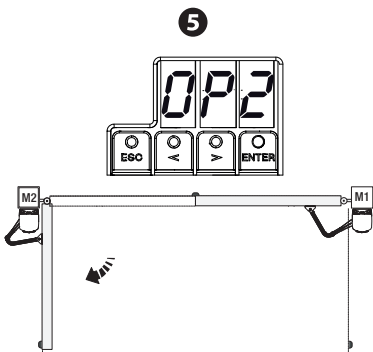
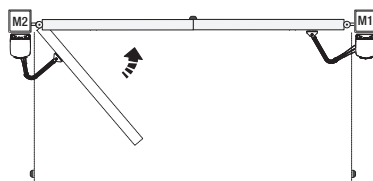
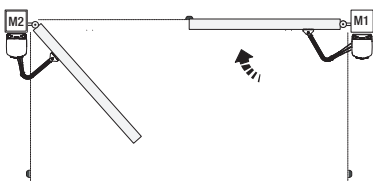
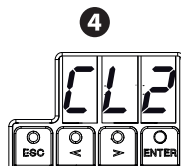
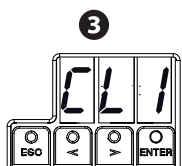
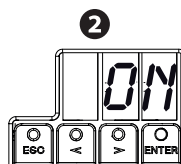
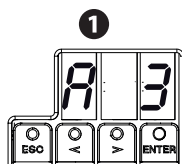
Select ON. Press ENTER to confirm the automatic travel calibration procedure. ❷

The first gearmotor leaf will perform a closing maneuver until the closing strike ... ❸

... then, the second gearmotor leaf will perform the same maneuver ... ❹

... the the second gearmotor's leaf will perform an opening maneuver until the closing strike ... ❺

... the first gearmotor's leaf will perform the same maneuver. ❻



## MANAGING USERS

📖 When adding and deleting users, the flashing numbers appearing are those numbers that are available and usable to assign to a new user (max. 250 users).

📖 Before registering the users, make sure the AF radio card is plugged into the connector (see the paragraph called CONTROL DEVICES).

### ENTERING A USER WITH AN ASSOCIATED COMMAND

Select U1. Press ENTER to confirm. **1**

Select a command to associate to the user.

The commands are:

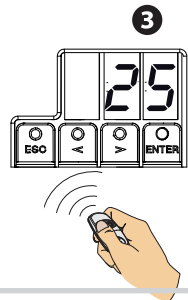
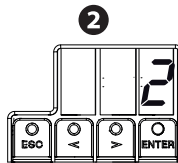
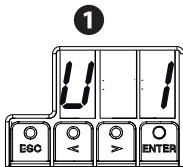
- 1 = step-step (open-close);
- 2 = sequential (open-stop-close-stop);
- 3 = open;
- 4 = partial opening.

Press ENTER to confirm... **2**

... a number between 1 and 250 will start flashing for a few seconds.

Send the code from the transmitter or other control device, such as, a keypad selector or a transponder. **3**

📖 Note down, the registered users, in the "REGISTERED USERS LIST".



### LIST OF REGISTERED USERS

1		11		21	
2		12		22	
3		13		23	
4		14		24	
5		15		25	
6		16		26	
7		17		27	
8		18		28	
9		19		29	
10		20		30	

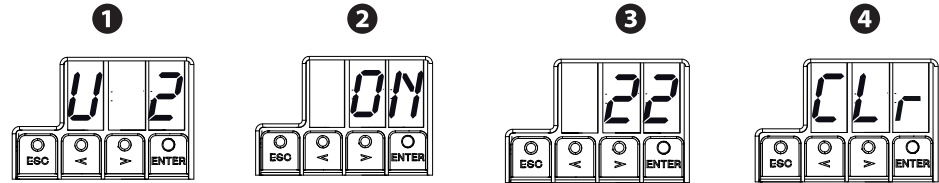
31		63		95	
32		64		96	
33		65		97	
34		66		98	
35		67		99	
36		68		100	
37		69		101	
38		70		102	
39		71		103	
40		72		104	
41		73		105	
42		74		106	
43		75		107	
44		76		108	
45		77		109	
46		78		110	
47		79		111	
48		80		112	
49		81		113	
50		82		114	
51		83		115	
52		84		116	
53		85		117	
54		86		118	
55		87		119	
56		88		120	
57		89		121	
58		90		122	
59		91		123	
60		92		124	
61		93		125	
62		94		126	

127		159		191	
128		160		192	
129		161		193	
130		162		194	
131		163		195	
132		164		196	
133		165		197	
134		166		198	
135		167		199	
136		168		200	
137		169		201	
138		170		202	
139		171		203	
140		172		204	
141		173		205	
142		174		206	
143		175		207	
144		176		208	
145		177		209	
146		178		210	
147		179		211	
148		180		212	
149		181		213	
150		182		214	
151		183		215	
152		184		216	
153		185		217	
154		186		218	
155		187		219	
156		188		220	
157		189		221	
158		190		222	

223		233		243	
224		234		244	
225		235		245	
226		236		246	
227		237		247	
228		238		248	
229		239		249	
230		240		250	
231		241			
232		242			

DELETING SINGLE USERS

- Select U 2. Press ENTER to confirm. ❶
- Select ON. Press ENTER to confirm the deletion procedure. ❷
- Use the arrow keys select the number of the user you wish to delete.
- Press ENTER to confirm. ❸
- ... CLr will appear on the screen to confirm deletion. ❹



## SAVING AND UPLOADING DATA WITH THE MEMORY ROLL

For saving user and system configuration data with the Memory Roll, and for then reusing them on another control board, even on fitted into another system.

**WARNING!** Fitting and extracting the Memory Roll must be done with the mains power disconnected.

Fit the Memory Roll into the its corresponding connector on the control board. **1**

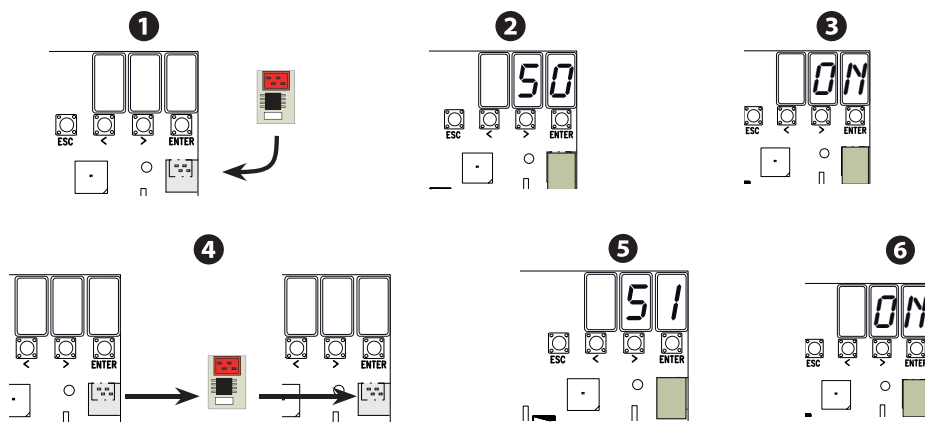
Select F50. Press ENTER to confirm. **2**

Select ON. Press ENTER to confirm the data saving procedure. **3**

Extract the Memory roll and fit it into the connector of another control board. **4**

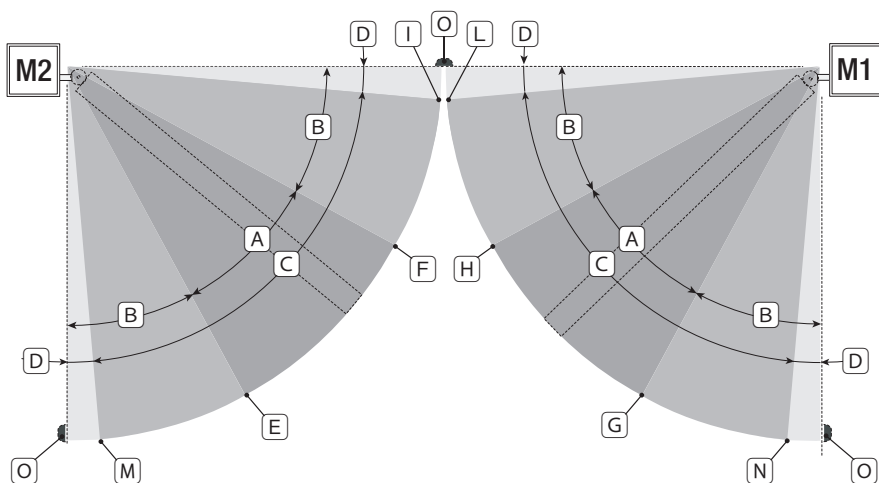
Select F51. Press ENTER to confirm. **5**

Select ON. Press ENTER to confirm the data uploading procedure. **6**



## ILLUSTRATION OF THE SLOW-DOWN POINTS AND END-STROKE AREAS

The travel areas and slow-down and approach points are tested to comply with the parameters set forth by Technical Regulations EN 12445 and EN 12453 for impact force compatibility of moving gate leaves.



- A = Movement area at normal speed.
- B\* = Movement area at slowed-down speed.
- C = Encoder intervention zone with movement inversion.
- D = Encoder intervention zone with movement stopped.
- E = Opening slow-down starting point for M2.
- F = Closing slow-down starting point for M2.
- G = Opening slow-down starting point for M1.
- H = Closing slow-down starting point for M1.
- I\*\* = Closing approach starting point for M2.
- L\*\* = Closing approach starting point for M1.
- M\*\* = Opening approach starting point for M2.
- N\*\* = Opening approach starting point for M1.
- O = Strike plates..

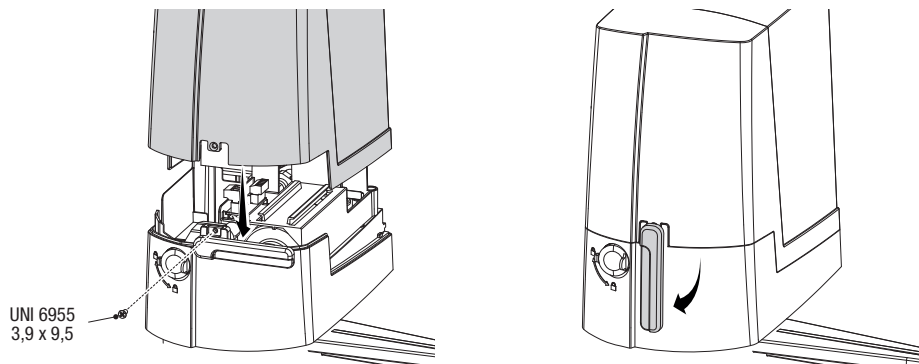
\* Minimum 600 mm from the strike plate.

\*\* Set the closing-rest percentage for function F 39 - F 40 for the first motor (M1) and F43 - F44 for the second motor (M2) so as to achieve a distance of less than 50 mm from the strike plate.

## FINAL OPERATIONS

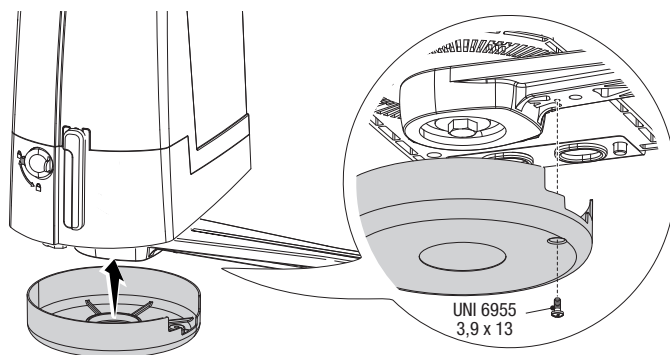
### FASTENING THE COVER

Once the electrical connections and set up are done, fit the cover and fasten it using the supplied screws, then reposition the release lever.




### FASTENING THE TRANSMISSION ARM PROTECTION

Fit the protection under the operator and fasten it to the transmission arm using the screw.





**ERROR MESSAGE**

 The error messages are shown on the display.

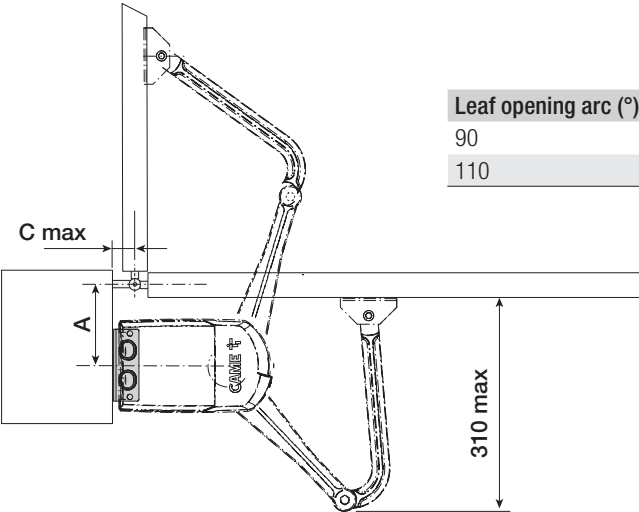
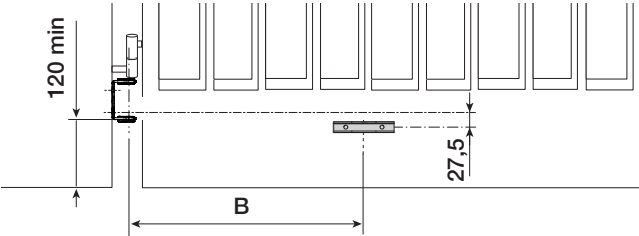
E1	The travel calibration was interrupted when the STOP button was activated
E2	Calibrating the complete gate-travel
E3	Encoder broken
E4	Services test error
E7	Insufficient working time
E9	Closing obstruction
E10	Opening obstruction
E11	Maximum number of detected obstructions
E14	Serial communication error
E15	Incompatible transmitter error
E17	Wireless system error
E18	The wireless system is not configured

**INWARD OPENING CONNECTIONS AND INSTALLING**

Following, are the only things that change compared to a standard installation:

**CHECKING MEASUREMENTS AND APPLICATIVE DIMENSIONS**

Establish where you will fit the gate brace and measure where the gate-post brace will fit. Make sure to respect the quotas shown in the drawing and table.



Leaf opening arc (°)	A	B	C max
90	140	420	60
110	140	420	60

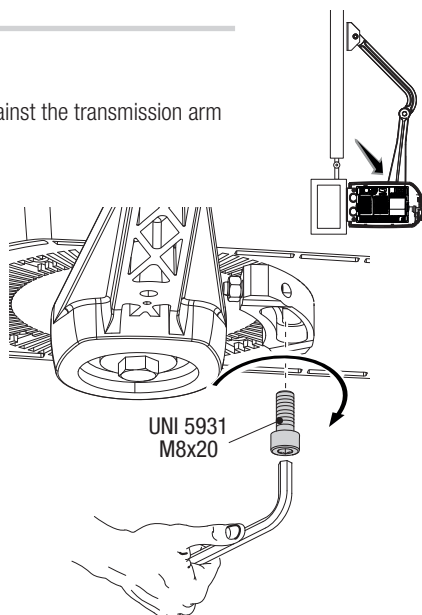
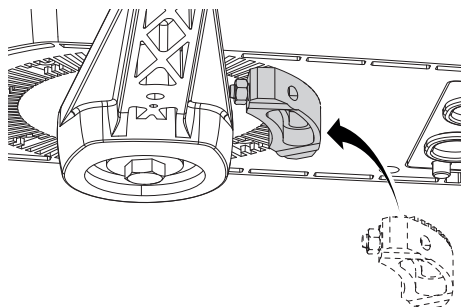
⚠ Warning! If no end stops are fitted, you must fasten the stops.

## FASTENING THE MECHANICAL STOPS

Release the gearmotor.

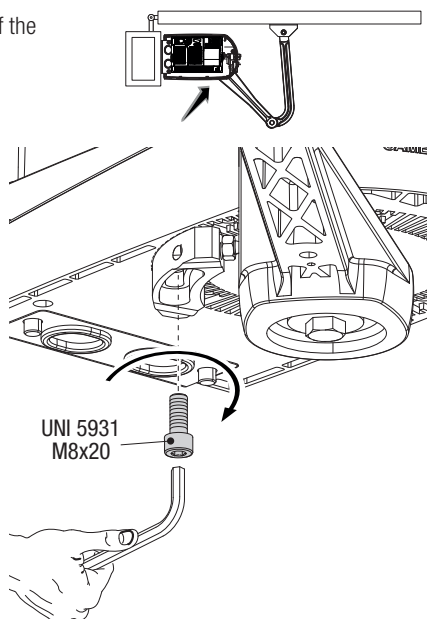
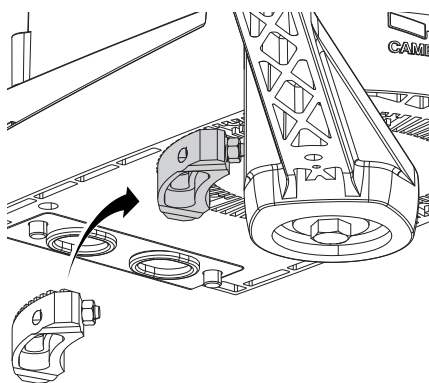
### When opening.

Entirely open the gate leaf. Fit the stop below the casing, against the transmission arm and fasten it by using the bolt.



### When closing.

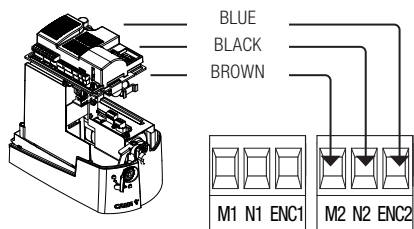
Close the leaf. Fit the second stop against the opposite side of the arm and fasten it with the bolt.



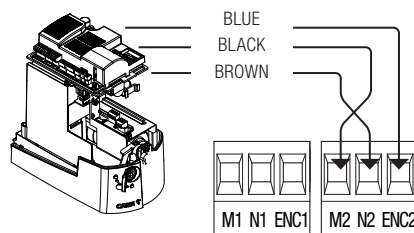
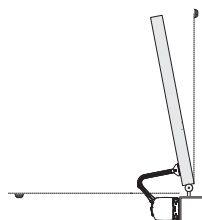
## ESTABLISHING THE LIMIT-SWITCH POINTS

Refer to the chapter on opening inwards

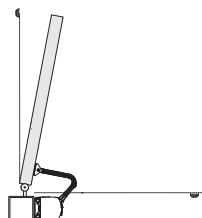
## OPERATORS



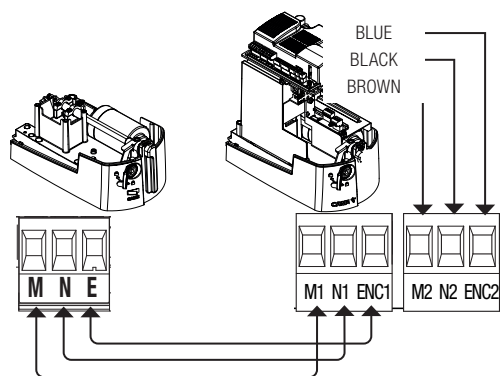
Operator installed on the right (inner view).



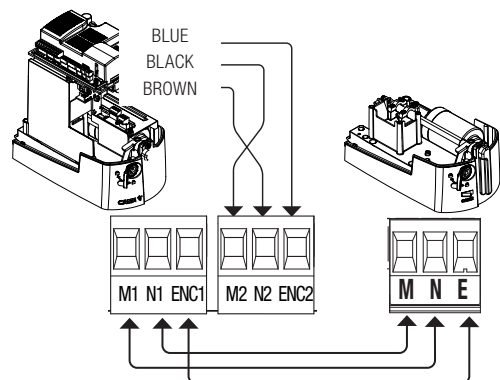
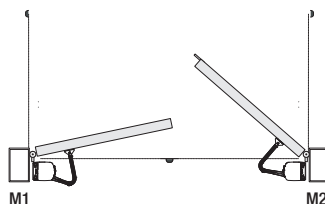
Operator installed on the left (outer view).



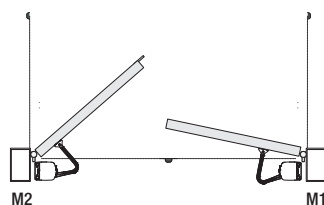
## CONNECTING THE OPERATOR AND THE GEARMOTOR



Operator fitted to the right and gearmotor to the left (inner view) with operator delayed when opening.



Operator installed on the left and gearmotor installed on the right (inner view) with operator delayed when closing.



## DISMANTLING AND DISPOSAL

CAME S.p.A. applies a certified Environmental Management System at its premises, which is compliant with the UNI EN ISO 14001 standard to ensure the environment is safeguarded.

Please continue safeguarding the environment. At CAME we consider it one of the fundamentals of our operating and market strategies. Simply follow these brief disposal guidelines:

### DISPOSING OF THE PACKAGING

The packaging materials (cardboard, plastic, and so on) should be disposed of as solid household waste, and simply separated from other waste for recycling.

Always make sure you comply with local laws before dismantling and disposing of the product.

DISPOSE OF RESPONSIBLY!

### DISMANTLING AND DISPOSAL

Our products are made of various materials. Most of these (aluminum, plastic, iron, electrical cables) are classified as solid household waste. They can be recycled by separating them before dumping at authorized city plants.

Whereas other components (control boards, batteries, transmitters, and so on) may contain hazardous pollutants.

These must therefore be disposed of by authorized, certified professional services.

Before disposing, it is always advisable to check with the specific laws that apply in your area.

DISPOSE OF RESPONSIBLY!



**AFFIX THE PRODUCT LABEL  
FROM THE BOX HERE**

**CAME** 

**CAME.COM**

**CAME S.P.A.**

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