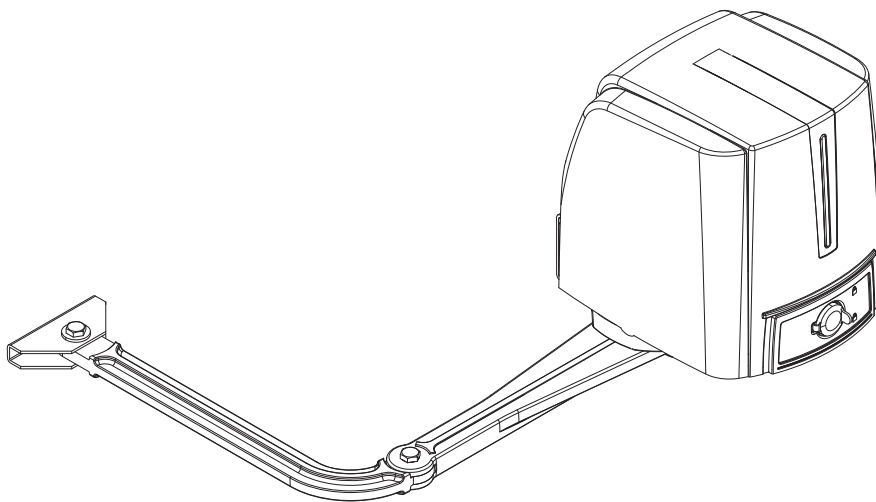


Operator for swing gates

FA01131-EN



FA40230CB

INSTALLATION MANUAL



WARNING!
important safety instructions for people:
READ CAREFULLY!



PREMISE

- THIS PRODUCT SHOULD ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS EXPLICITLY DESIGNED. ANY OTHER USE IS DANGEROUS. CAME S.P.A. IS NOT LIABLE FOR ANY DAMAGE CAUSED BY IMPROPER, WRONGFUL AND UNREASONABLE USE
- KEEP THESE WARNINGS TOGETHER WITH THE INSTALLATION AND OPERATION MANUALS THAT COME WITH THE OPERATOR.

BEFORE INSTALLING

(CHECKING WHAT'S THERE: IF SOMETHING IS MISSING, DO NOT CONTINUE UNTIL YOU HAVE COMPLIED WITH ALL SAFETY PROVISIONS)

- CHECK THAT THE AUTOMATED PARTS ARE IN PROPER MECHANICAL ORDER, THAT THE OPERATOR IS LEVEL AND ALIGNED, AND THAT IT OPENS AND CLOSES PROPERLY. MAKE SURE YOU HAVE SUITABLE MECHANICAL STOPS
- IF THE OPERATOR IS TO BE INSTALLED AT A HEIGHT OF LESS THAN 2.5 M FROM THE GROUND OR OTHER ACCESS LEVEL, MAKE SURE YOU HAVE ANY NECESSARY PROTECTIONS AND/OR WARNINGS IN PLACE
- IF ANY PEDESTRIAN OPENINGS ARE FITTED INTO THE OPERATOR, THERE MUST ALSO BE A SYSTEM TO BLOCK THEIR OPENING WHILE THEY ARE MOVING
- MAKE SURE THAT THE OPENING AUTOMATED DOOR OR GATE CANNOT ENTRAP PEOPLE AGAINST THE FIXED PARTS OF THE OPERATOR
- DO NOT FIT UPSIDE DOWN OR ONTO ELEMENTS THAT COULD BEND. IF NECESSARY, ADD SUITABLE REINFORCEMENTS TO THE ANCHORING POINTS
- DO NOT INSTALL DOOR OR GATE LEAVES ON TILTED SURFACES
- MAKE SURE ANY SPRINKLER SYSTEMS CANNOT WET THE OPERATOR FROM THE GROUND UP
- MAKE SURE THE TEMPERATURE RANGE SHOWN ON THE PRODUCT LITERATURE IS SUITABLE TO THE CLIMATE WHERE IT WILL BE INSTALLED
- FOLLOW ALL INSTRUCTIONS AS IMPROPER INSTALLATION MAY RESULT IN SERIOUS BODILY INJURY
- IT IS IMPORTANT TO FOLLOW THESE INSTRUCTIONS FOR THE SAFETY OF PEOPLE. KEEP THESE INSTRUCTIONS.

INSTALLING

- SUITABLY SECTION OFF AND DEMARCATATE THE ENTIRE INSTALLATION SITE TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THE AREA, ESPECIALLY MINORS AND CHILDREN
- BE CAREFUL WHEN HANDLING OPERATORS THAT WEIGH OVER 20 KG. IF NEED BE, USE PROPER SAFETY HOISTING EQUIPMENT
- ALL OPENING COMMANDS (THAT IS, BUTTONS, KEY SWITCHES, MAGNETIC READERS, AND SO ON) MUST BE INSTALLED AT LEAST 1.85 M FROM THE PERIMETER OF THE GATE'S WORKING AREA, OR WHERE THEY CANNOT BE REACHED FROM OUTSIDE THE GATE. ALSO, ANY DIRECT COMMANDS (WHETHER BUTTONS, TOUCH PANELS, AND SO ON) MUST BE INSTALLED AT LEAST 1.5 M FROM THE GROUND AND MUST NOT BE REACHABLE BY UNAUTHORIZED PERSONS
- ALL MAINTAINED ACTION COMMANDS, MUST BE FITTED IN PLACES FROM WHICH THE MOVING GATE LEAVES AND TRANSIT AND DRIVING AREAS ARE VISIBLE
- APPLY, IF MISSING, A PERMANENT SIGN SHOWING THE POSITION OF THE RELEASE DEVICE
- BEFORE DELIVERING TO THE USERS, MAKE SURE THE SYSTEM IS EN 12453 STANDARD COMPLIANT (REGARDING IMPACT FORCES), AND ALSO MAKE SURE THE SYSTEM HAS BEEN PROPERLY ADJUSTED AND THAT ANY SAFETY, PROTECTION AND MANUAL RELEASE DEVICES ARE WORKING PROPERLY
- APPLY WARNING SIGNS WHERE NECESSARY AND IN A VISIBLE PLACE, (SUCH AS, SUCH AS THE GATE'S PLATE

SPECIAL USER-INSTRUCTIONS AND RECOMMENDATIONS

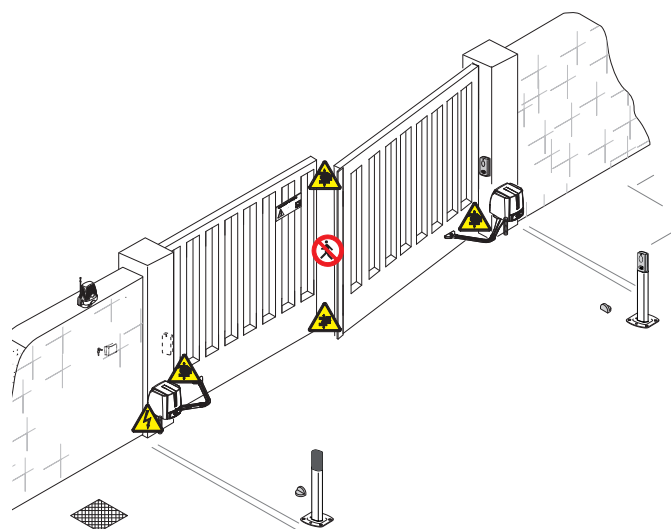
- KEEP GATE OPERATION AREAS CLEAN AND FREE OF ANY OBSTRUCTIONS. MAKE SURE THAT THE PHOTOCELLS ARE FREE OF ANY OVERGROWN VEGETATION AND THAT THE OPERATOR'S AREA OF OPERATION IS FREE OF ANY OBSTRUCTIONS
- DO NOT ALLOW CHILDREN TO PLAY WITH FIXED COMMANDS, OR TO LOITER IN THE GATE'S MANEUVERING AREA. KEEP ANY REMOTE CONTROL TRANSMITTERS OR ANY OTHER COMMAND DEVICE AWAY FROM CHILDREN, TO PREVENT THE OPERATOR FROM BEING ACCIDENTALLY ACTIVATED.
- THE APPARATUS MAY BE USED BY CHILDREN OF EIGHT YEARS AND ABOVE AND BY PHYSICALLY, MENTALLY AND SENSORY-CHALLENGED PEOPLE, OR EVEN ONES WITHOUT ANY EXPERIENCE, PROVIDED THIS HAPPENS UNDER CLOSE SUPERVISION OR ONCE THEY HAVE BEEN PROPERLY INSTRUCTED TO USE THE APPARATUS SAFELY AND TO THE POTENTIAL HAZARDS INVOLVED. CHILDREN MUST NOT PLAY WITH THE APPARATUS. CLEANING AND MAINTENANCE BY USERS MUST NOT BE DONE BY CHILDREN, UNLESS PROPERLY SUPERVISED
- FREQUENTLY CHECK THE SYSTEM FOR ANY MALFUNCTIONS


OR SIGNS OF WEAR AND TEAR OR DAMAGE TO THE MOVING STRUCTURES, TO THE COMPONENT PARTS, ALL ANCHORING POINTS, INCLUDING CABLES AND ANY ACCESSIBLE CONNECTIONS. KEEP ANY HINGES, MOVING JOINTS AND SLIDE RAILS PROPERLY LUBRICATED

- PERFORM FUNCTIONAL CHECKS ON THE PHOTOCELLS AND SENSITIVE SAFETY EDGES, EVERY SIX MONTHS. TO CHECK WHETHER THE PHOTOCELLS ARE WORKING, WAVE AN OBJECT IN FRONT OF THEM WHILE THE GATE IS CLOSING; IF THE OPERATOR INVERTS ITS DIRECTION OF TRAVEL OR SUDDENLY STOPS, THE PHOTOCELLS ARE WORKING PROPERLY. THIS IS THE ONLY MAINTENANCE OPERATION TO DO WITH THE POWER ON. CONSTANTLY CLEAN THE PHOTOCELLS' GLASS COVERS USING A SLIGHTLY WATER-MOISTENED CLOTH; DO NOT USE SOLVENTS OR OTHER CHEMICAL PRODUCTS THAT MAY RUIN THE DEVICES
- IF REPAIRS OR MODIFICATIONS ARE REQUIRED TO THE SYSTEM, RELEASE THE OPERATOR AND DO NOT USE IT UNTIL SAFETY CONDITIONS HAVE BEEN RESTORED
- CUT OFF THE POWER SUPPLY BEFORE RELEASING THE OPERATOR FOR MANUAL OPENINGS AND BEFORE ANY OTHER OPERATION, TO PREVENT POTENTIALLY HAZARDOUS SITUATIONS. READ THE INSTRUCTIONS IF THE POWER SUPPLY CABLE IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER OR AUTHORIZED TECHNICAL ASSISTANCE SERVICE, OR IN ANY CASE, BY SIMILARLY QUALIFIED PERSONS, TO PREVENT ANY RISK
- IT IS FORBIDDEN FOR USERS TO PERFORM ANY OPERATIONS THAT ARE NOT EXPRESSLY REQUIRED OF THEM AND WHICH ARE NOT LISTED IN THE MANUALS. FOR ANY REPAIRS, MODIFICATIONS AND ADJUSTMENTS AND FOR EXTRA-ORDINARY MAINTENANCE, CALL TECHNICAL ASSISTANCE
- LOG THE JOB AND CHECKS INTO THE PERIODIC MAINTENANCE LOG.




FURTHER RECOMMENDATIONS FOR ALL

- KEEP CLEAR OF HINGES AND MECHANICAL MOVING PARTS
- DO NOT ENTER THE OPERATOR'S AREA OF OPERATION WHEN IT IS MOVING
- DO NOT COUNTER THE OPERATOR'S MOVEMENT AS THIS COULD RESULT IN DANGEROUS SITUATIONS
- ALWAYS PAY SPECIAL ATTENTION TO ANY DANGEROUS POINTS, WHICH HAVE TO BE LABELED WITH SPECIFIC PICTOGRAMS AND/OR BLACK AND YELLOW STRIPES
- WHILE USING A SELECTOR SWITCH OR A COMMAND IN MAINTAINED ACTIONS, KEEP CHECKING THAT THERE ARE NO PERSONS WITHIN THE OPERATING RANGE OF ANY MOVING PARTS, UNTIL THE COMMAND IS RELEASED
- THE GATE MAY MOVE AT ANY TIME AND WITHOUT WARNING
- ALWAYS CUT OFF THE MAINS POWER SUPPLY BEFORE PERFORMING ANY MAINTENANCE OR CLEANING.



-  Danger of foot crushing
-  Danger of hand crushing
-  Danger! High voltage.
-  No transiting while maneuvering

KEY

-  This symbol indicates parts to read carefully.
-  This symbol indicates parts about safety.
-  This symbol tells you what to say to the end users.

DESCRIPTION

The operator consists of die cast aluminium casing with an irreversible worm screw inside and a plastic ABS cover which houses the control board. With arms, brackets and mechanical end stops.

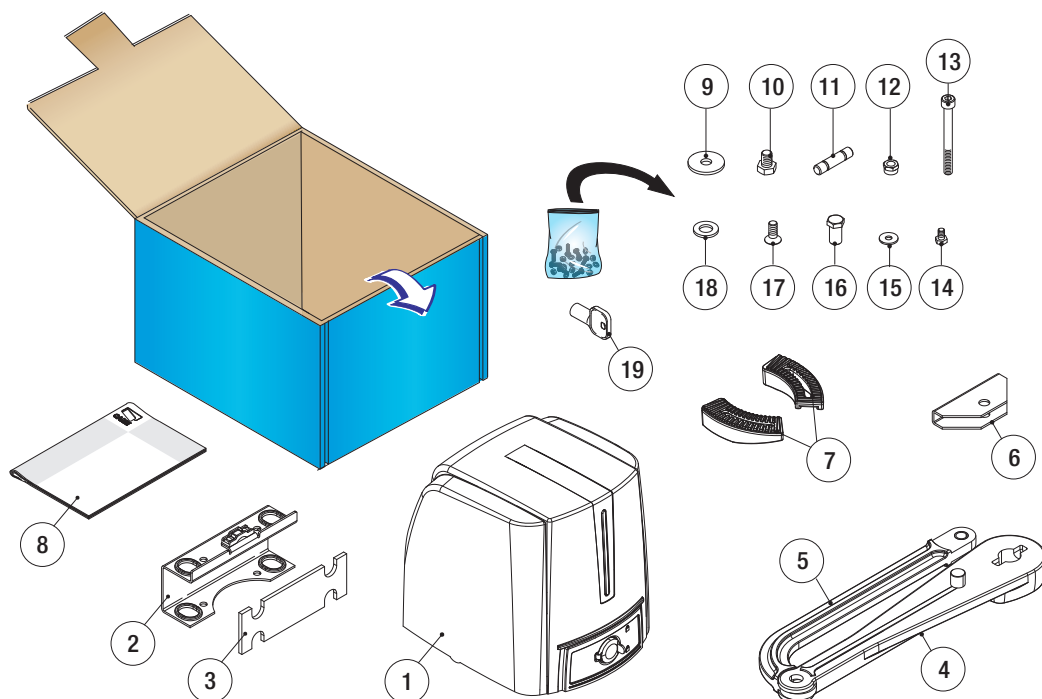
Intended use

The operator has been designed and built by CAME S.p.A. in compliance with current safety standards to motorise swing gates for residential or condominium use.

 Any installation and operation that differs from what is set out in this manual is prohibited.


Packing list

1. 1 x operator
2. 1 x pillar bracket
3. 1 x rubber shim
4. 1 x transmission arm
5. 1 x driven arm
6. 1 x gate bracket
7. 2 x mechanical end runs
8. 1 x installation manual
9. 1 x washer for slow shaft
10. 1 x UNI5739 M10x14 screw
11. 1 x Ø10 plug
12. 2 x UNI7474 M8 nuts
13. 2 x UNI5739 M6x10 screws
14. 2 x UNI6957 2.9x19 screws
15. 2 x UNI6593 Ø6 washers
16. 2 x pins for arms
17. 2 x UNI5933 M8x20 screws
18. 1 x UNI6592 Ø12 washer
19. 2 x release keys



Limits of use

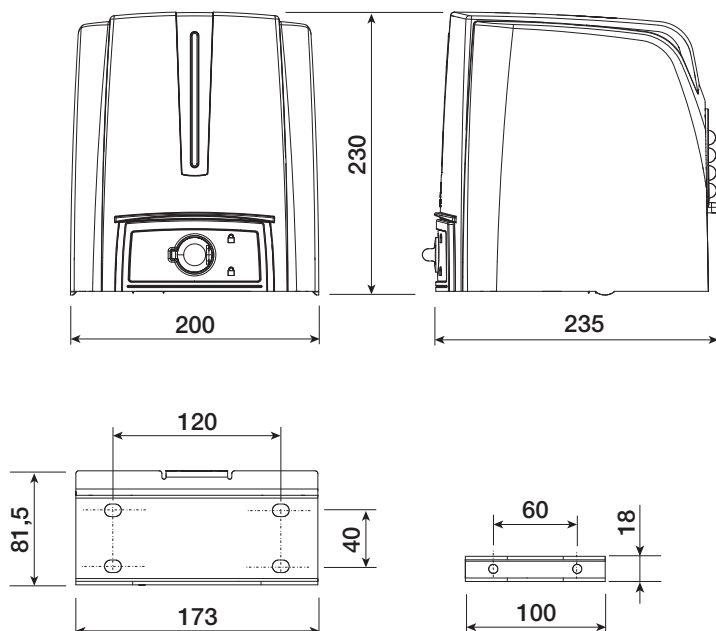
Type	FA40230CB			
Max. leaf length (m)	2,3	2	1,5	1
Max. leaf weight (kg)	200	215	250	300

 We suggest you always fit an electrolock onto swing gates for a more reliable closure.

Technical data

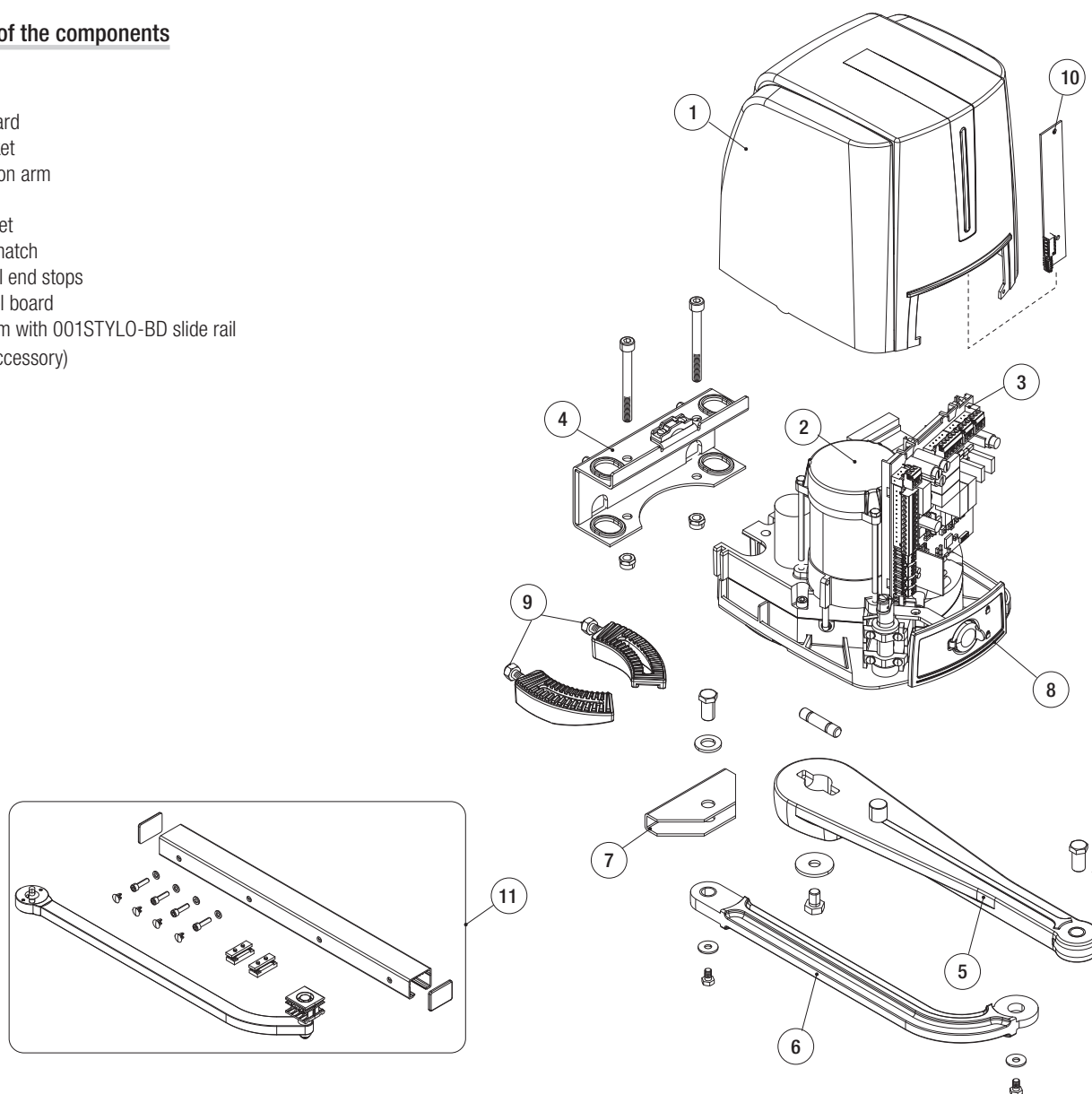
Type	FA40230CB
Protection rating (IP)	54
Power supply (V - 50/60 Hz)	230 AC
Motor power supply (V - 50/60 Hz)	230 AC
Assorbimento (A)	1.4
Power draw (A)	160
Torque (Nm)	180 max.
Opening time to 90° (sec)	18
Duty cycle	30 %
Operating temperature (°C)	-20 ÷ +55
Motor thermal protection (°C)	150
Insulation class	I
Weight (kg)	12,7

Dimensions (mm)



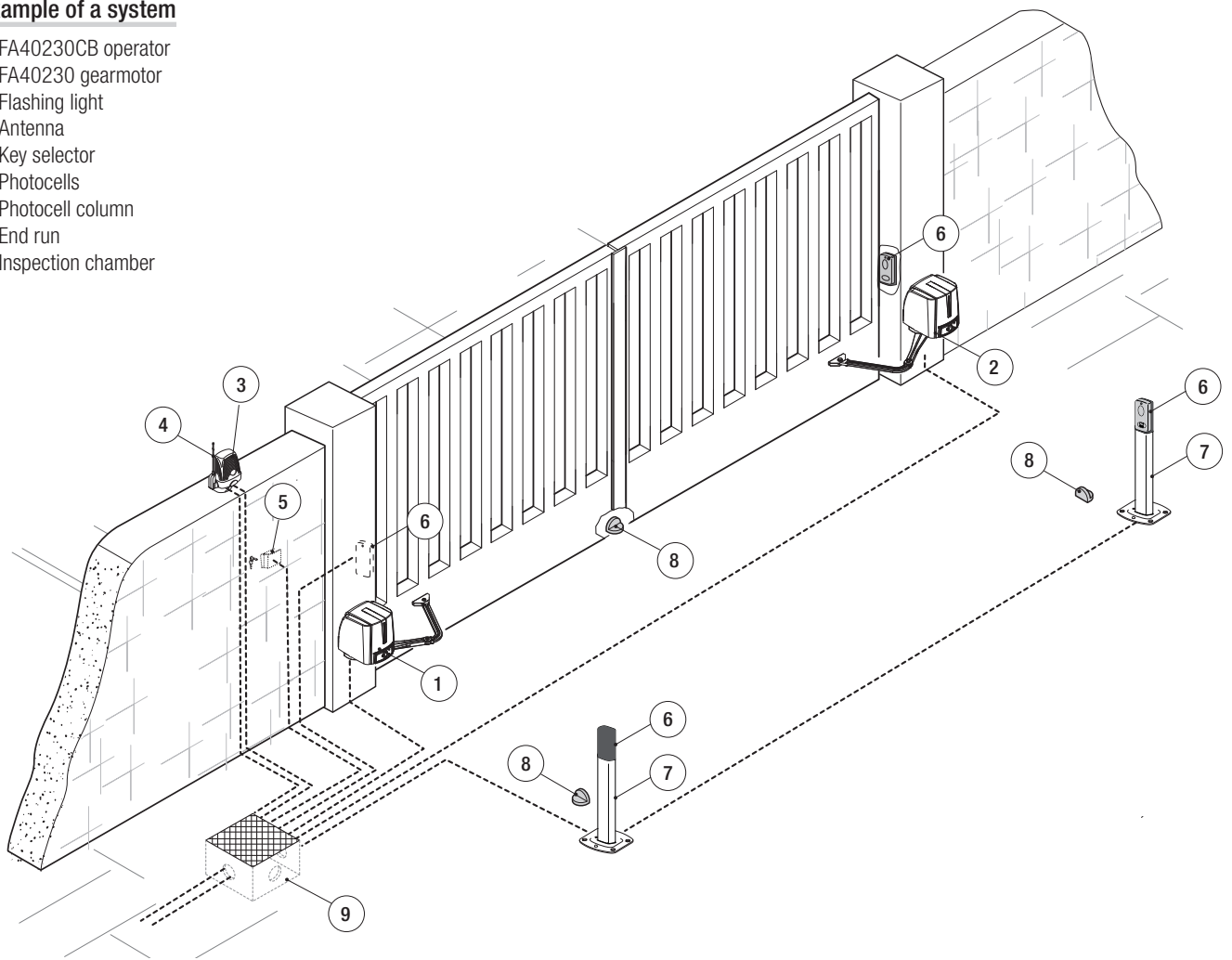
Description of the components

1. Cover
2. Gearmotor
3. Control board
4. Pillar bracket
5. Transmission arm
6. Driven arm
7. Gate bracket
8. Unlocking hatch
9. Mechanical end stops
10. LED control board
11. Straight arm with 001STYLO-BD slide rail (optional accessory)

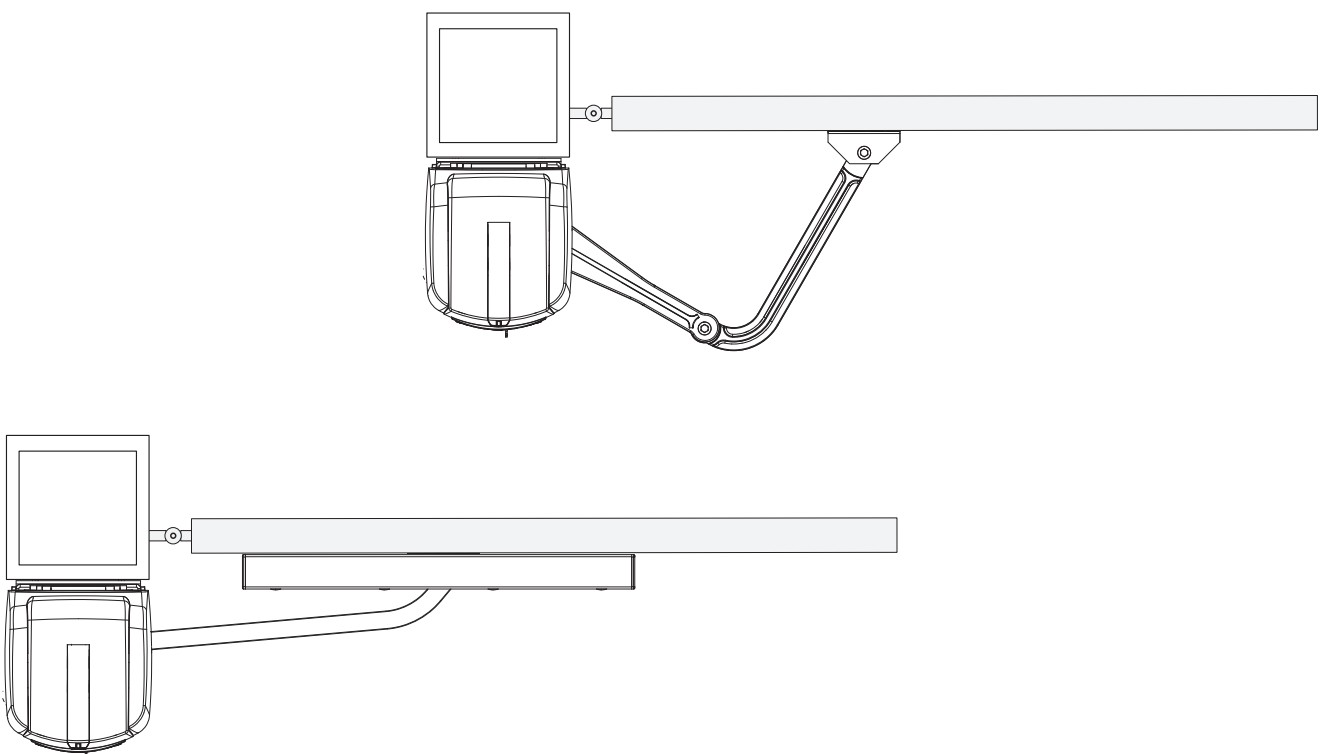


Example of a system

1. FA40230CB operator
2. FA40230 gearmotor
3. Flashing light
4. Antenna
5. Key selector
6. Photocells
7. Photocell column
8. End run
9. Inspection chamber



Examples of use



GENERAL INSTALLATION INSTRUCTIONS

△ Installation must be carried out by qualified and experienced personnel in compliance with applicable regulations.

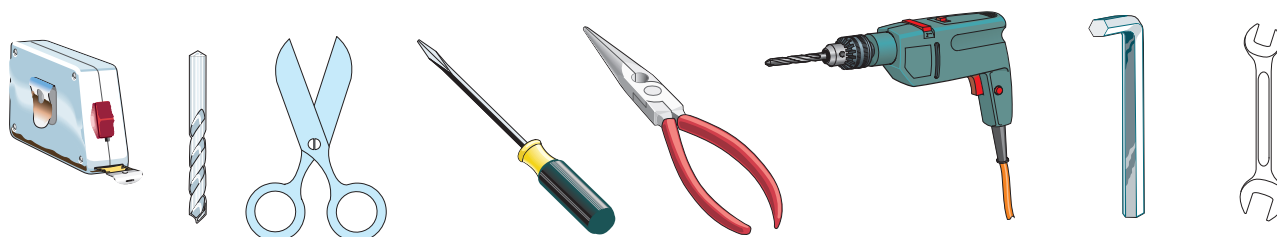
Preliminary checks

△ Before starting installation:

- Any emergency cut off devices must be built into the fixed hard-wiring circuits and compliant with the cabling regulations
- Means for disconnections must be incorporated in the fixed wiring in accordance with the wiring rules;
- Prepare suitable piping and ducts for routing the electrical cables, ensuring protection against mechanical damage;
- Prepare a drain pipe to prevent stagnation that may cause oxidation;
- ⚠ Make sure that any connections within the container (made to ensure the continuity of the protection circuit) are fitted with additional insulation compared to the other internal conductor parts;
- Make sure the gate structure is sturdy enough, that the hinges are in proper working order and that there is no friction between the moving and fixed parts;
- Make sure there are opening and closing mechanical stops.

Tools and materials

Make sure you have all the tools and materials you will need for the installation at hand to work in total safety and compliance with current standards and regulations. The figure shows some examples of installer's tools.



Types of cables and minimum thicknesses

Connection	Cable type	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
230 V AC board power supply	FROR CEI 20-22 IEC EN 50267-2-1	3G x 1.5 mm ²	3G x 2.5 mm ²	3G x 4 mm ²
230 V AC motor power supply		4G x 1 mm ²	4G x 1.5 mm ²	4G x 2.5 mm ²
Flashing light		2 x 0.5 mm ²	2 x 1 mm ²	2 x 1.5 mm ²
Photocell transmitters		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 0.5 mm ²
Photocell receivers		4 x 0.5 mm ²	4 x 0.5 mm ²	4 x 0.5 mm ²
Control and safety devices		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 0.5 mm ²
Antenna	RG58	max. 10 m		
Encoder	TWISTED	max. 30 m		

N.B.: If the cables differ in length compared to what is shown in the table, the cable cross-section is determined according to the actual current draw of the devices connected and according to the provisions of the IEC EN 60204-1 standard.

For connections that require several, sequential loads, the sizes given on the table must be re-evaluated based on actual power draw and distances. When connecting products that are not specified in this manual, please refer to the documentation provided with said products.

INSTALLATION

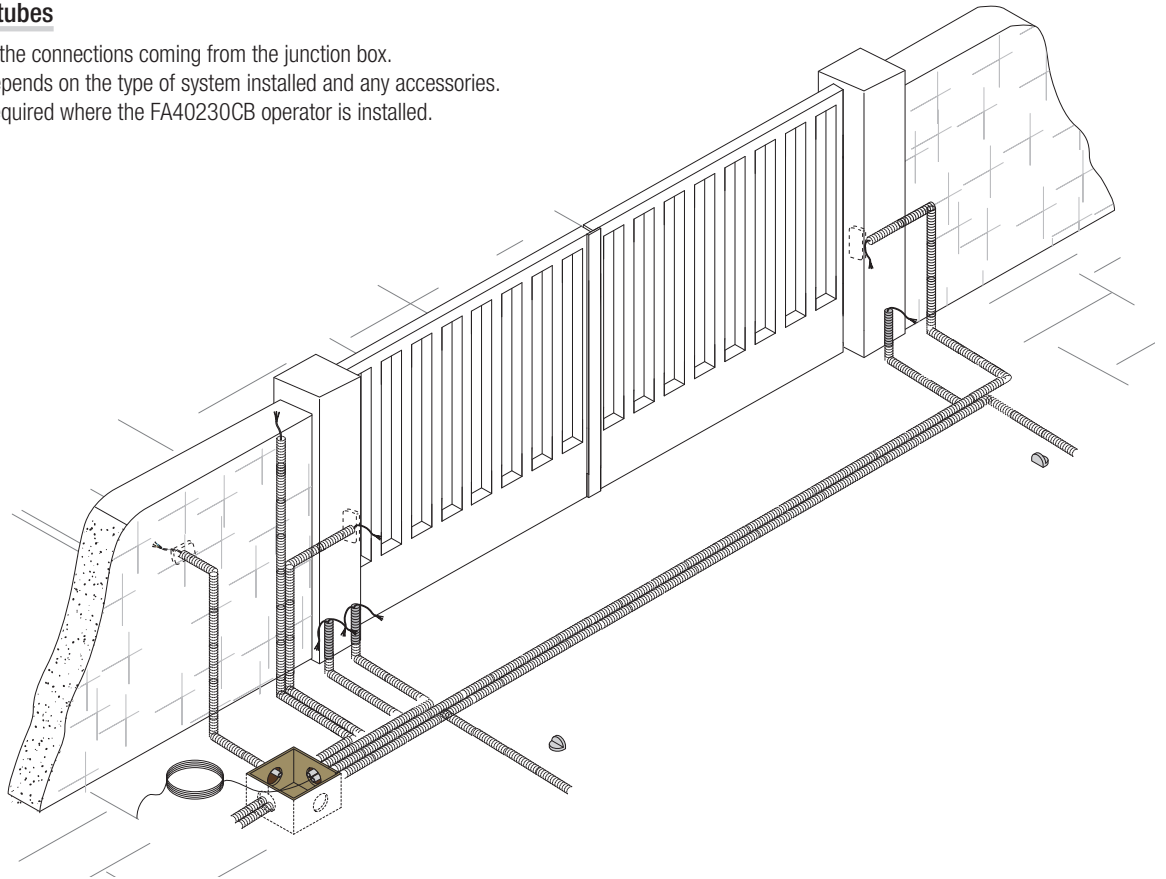
△ The following illustrations are only examples, given that the space for securing the operator and accessories varies depending on the overall dimensions. The installation technician is responsible for choosing the most suitable solution.

Installing corrugated tubes

Set up corrugated tubes for the connections coming from the junction box.

N.B. the number of tubes depends on the type of system installed and any accessories.

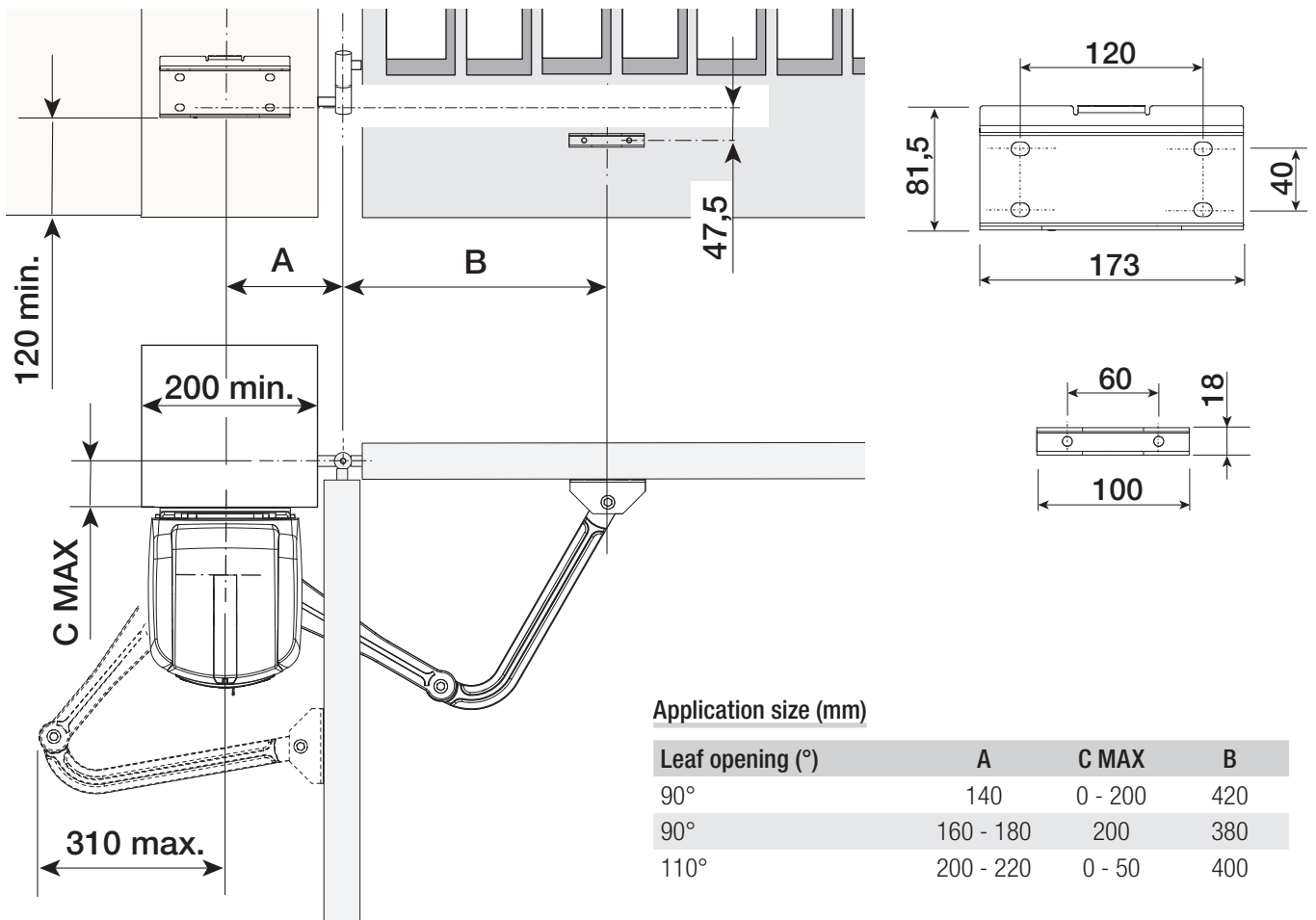
Two corrugated tubes are required where the FA40230CB operator is installed.



Securing the brackets

N.B. the drawings refer to installation of the left-hand gearmotor. The installation of the right-hand gearmotor is symmetrical.

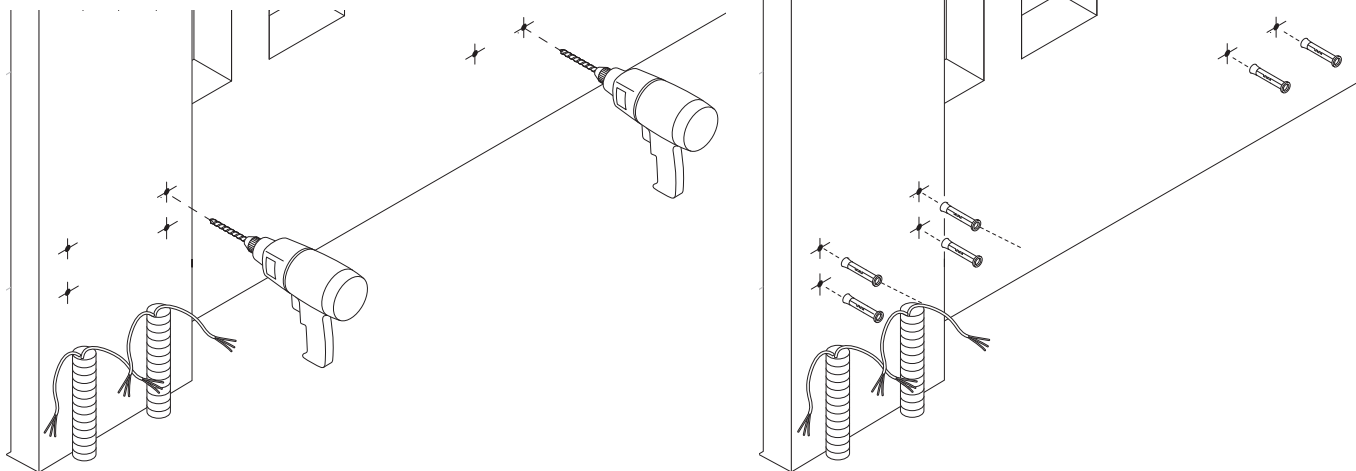
Determine the fixing point for the gate bracket and calculate the fixing point of the pillar bracket, respecting the values shown in the drawings and table.



Mark the fixing points on the pillar bracket and gate bracket. The measurements of the distance between the holes in the brackets are indicated in the dimensions paragraph.

Drill the fixing points, insert the anchors or use suitable inserts to secure the brackets.

N.B. the drawings are mere examples. It is up to the installer to choose the most suitable solution depending on leaf type and thickness.

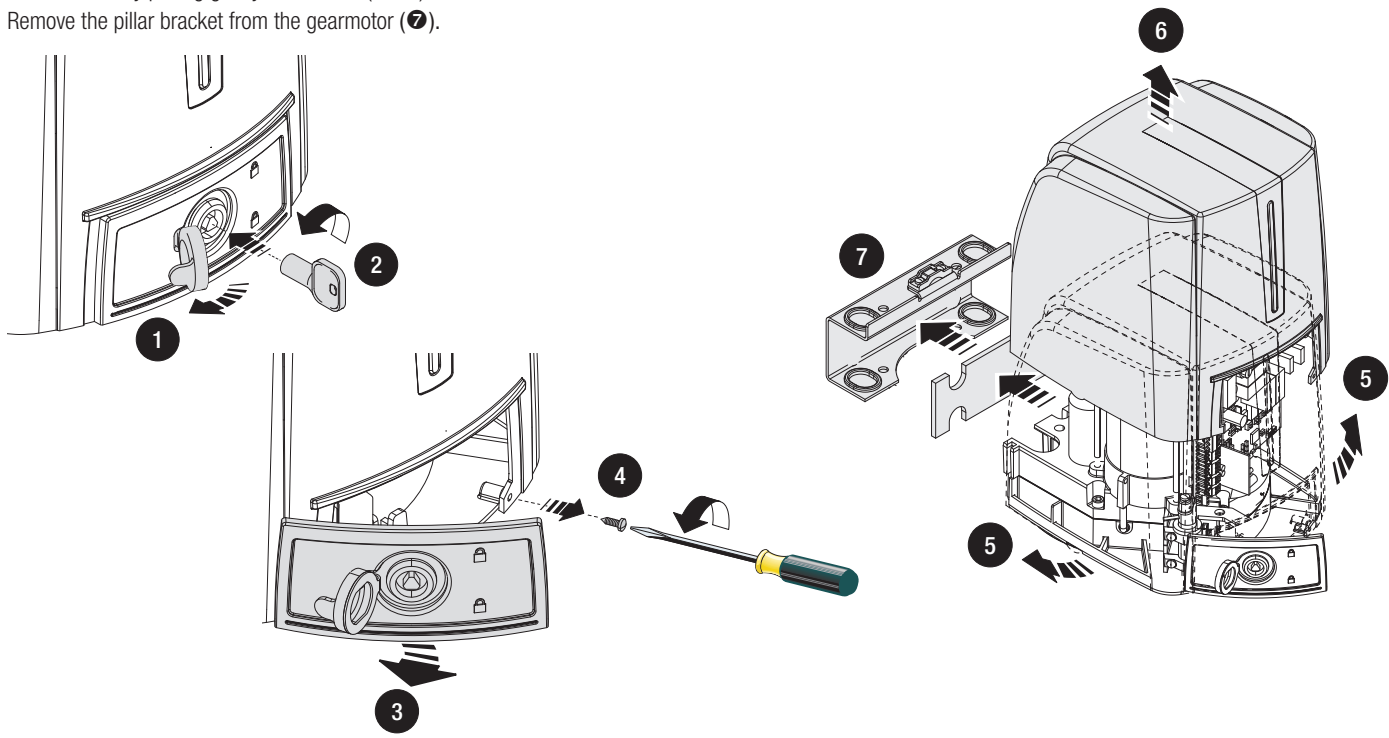


Before installing the operator, remove the cover from the gearmotor. Remove the protective lock cap from the release hatch, insert the key in the lock and turn it (1 2).

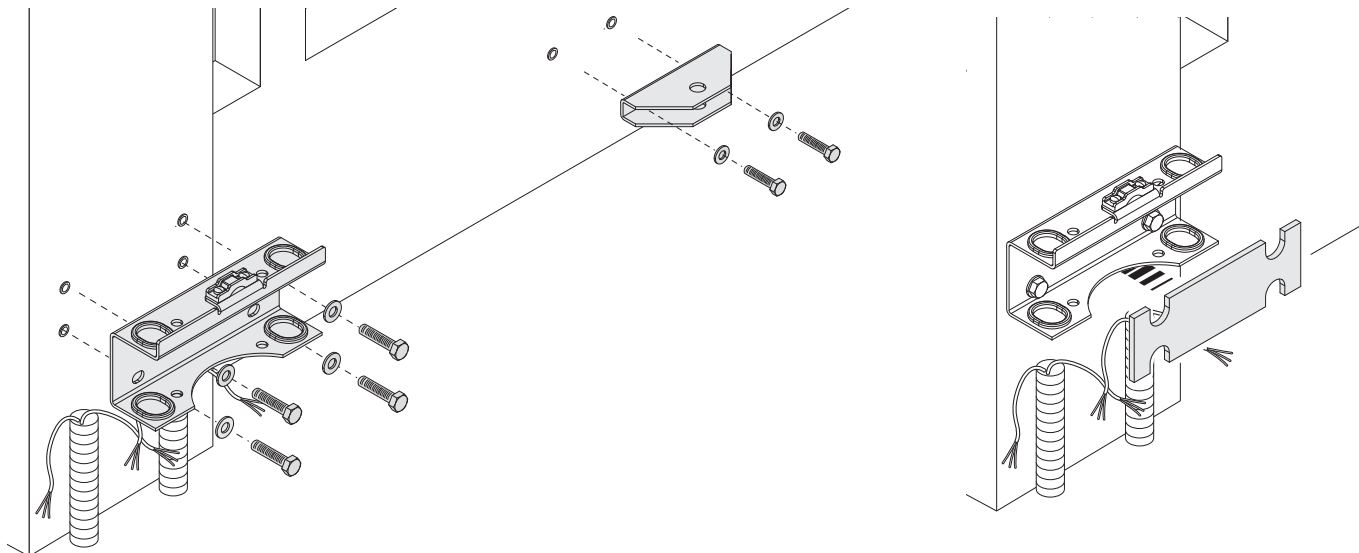
Open the hatch and unscrew the screw securing the cover to the gearmotor (3 4).

Lift the cover by pulling gently on the side (5 6).

Remove the pillar bracket from the gearmotor (7).

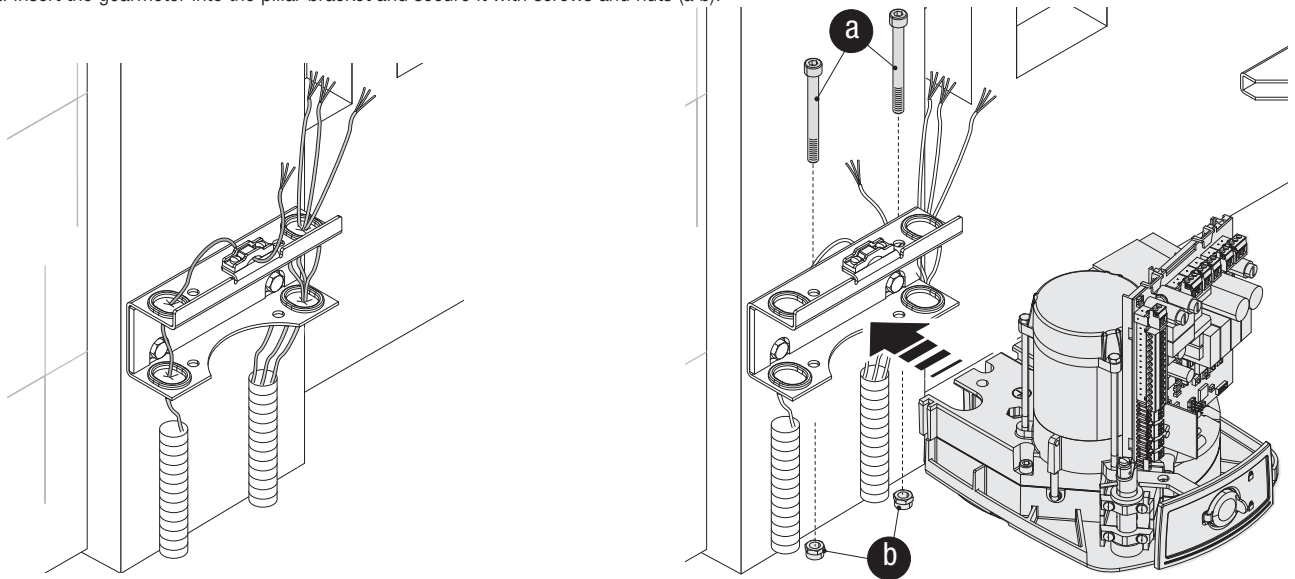


Secure the brackets with suitable screws. Insert the rubber shim into the pillar bracket.

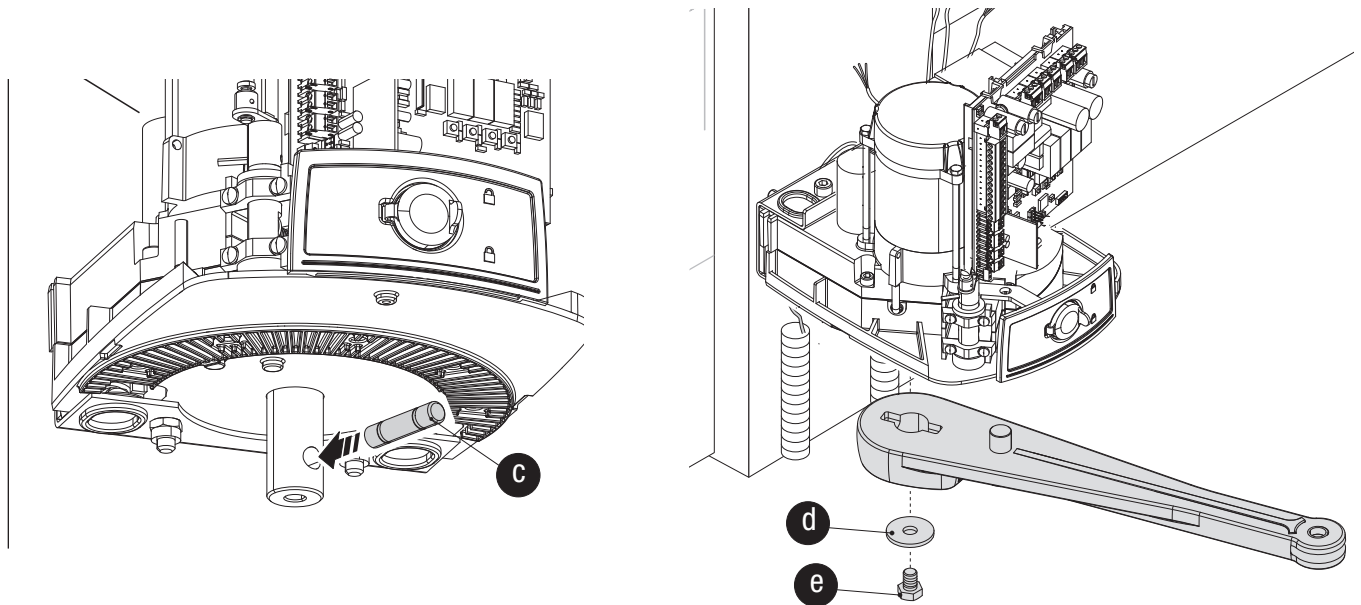


Securing the gearmotor

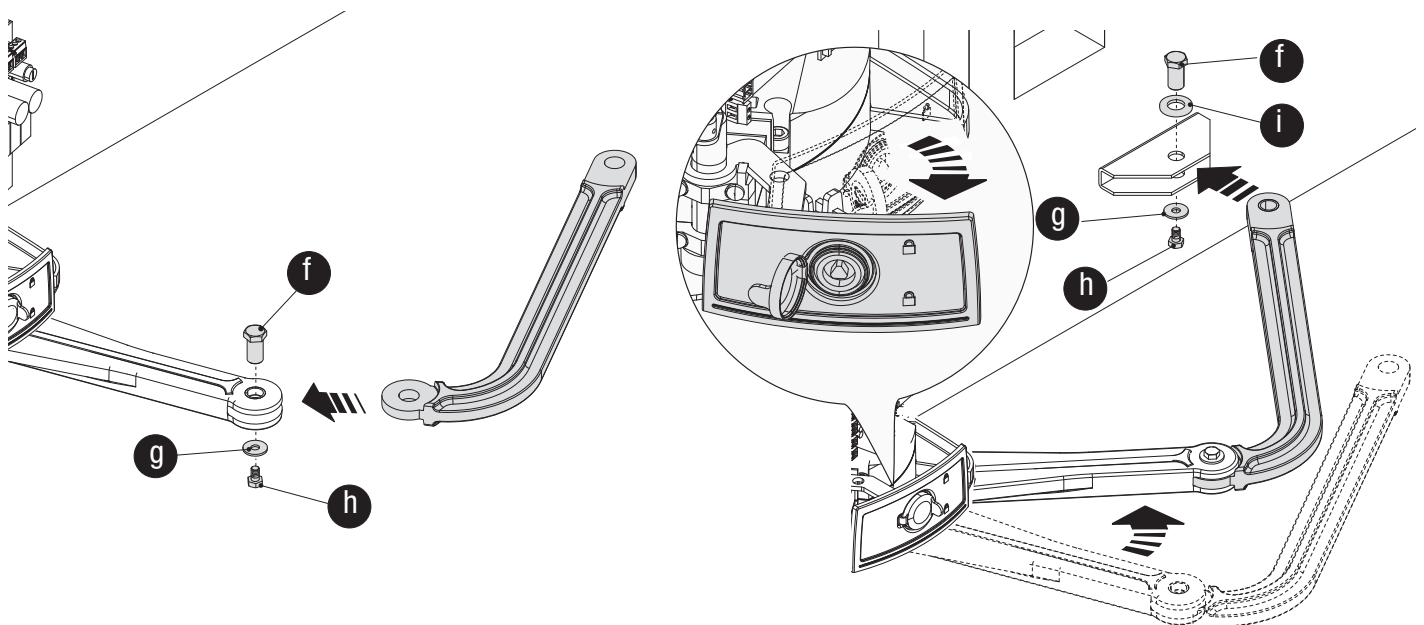
Prepare the electrical cables needed for the connections, passing them through the cable glands and securing them to the U-bolt on the pillar mounting bracket. Insert the gearmotor into the pillar bracket and secure it with screws and nuts (a b).



Insert the plug (c) into the hole in the gearmotor shaft. Secure the transmission arm to the shaft with the slow shaft washer (d) and the screw (e).



Secure the drive arm to the transmission arm using the pin, the screw and the washer (f g h).
Release the gearmotor, secure the drive arm to the gate bracket as shown in the drawing (f i g h).



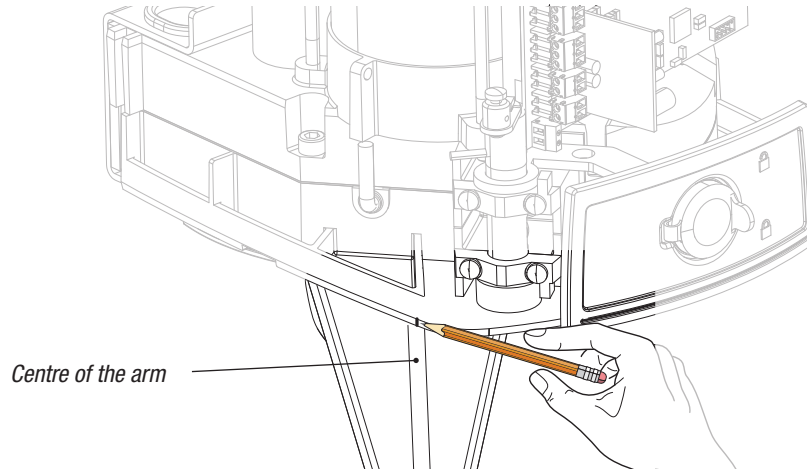
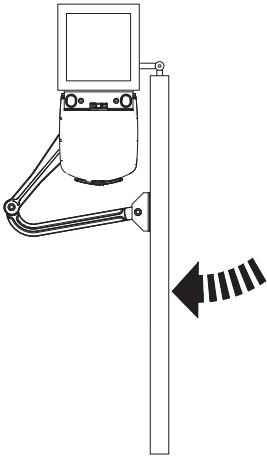
⚠ Caution: if there are no end stops, end runs must be fitted.

Securing mechanical stops

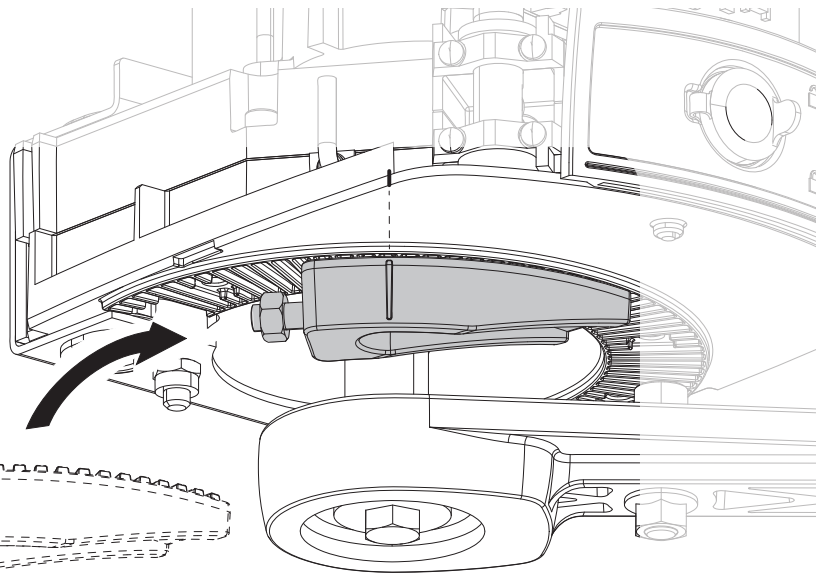
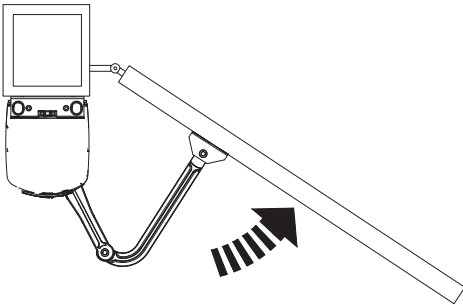
Unlock the gearmotor.

During opening.

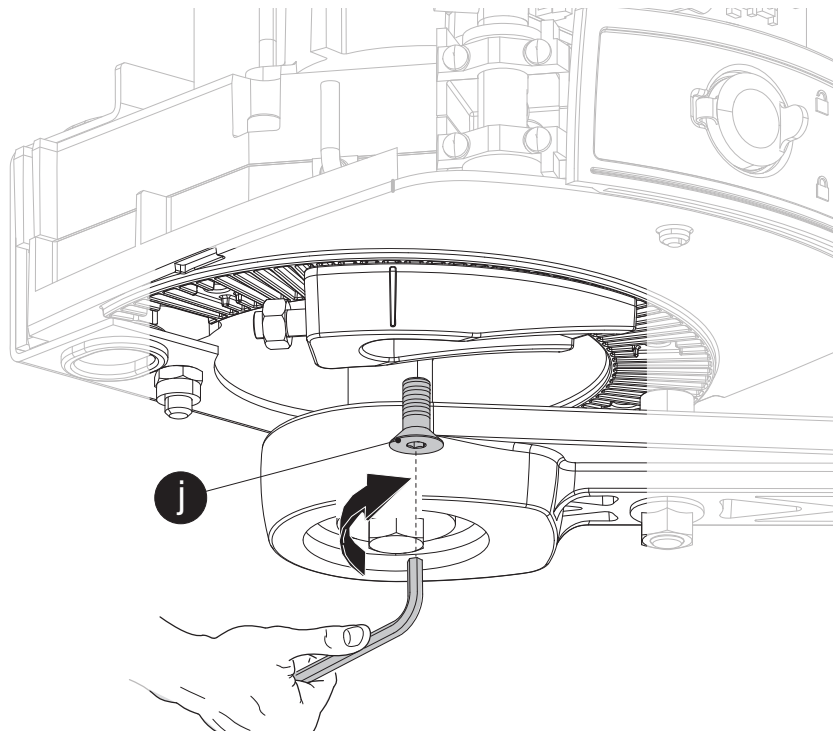
Open the leaf completely. Mark the casing by the centre of the arm.



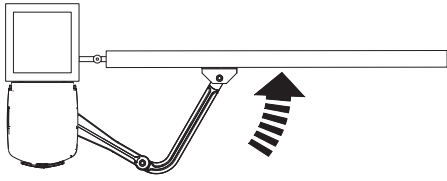
Close the leaf manually Insert the mechanical stop as shown. The mark on the casing must match the groove on the end run.



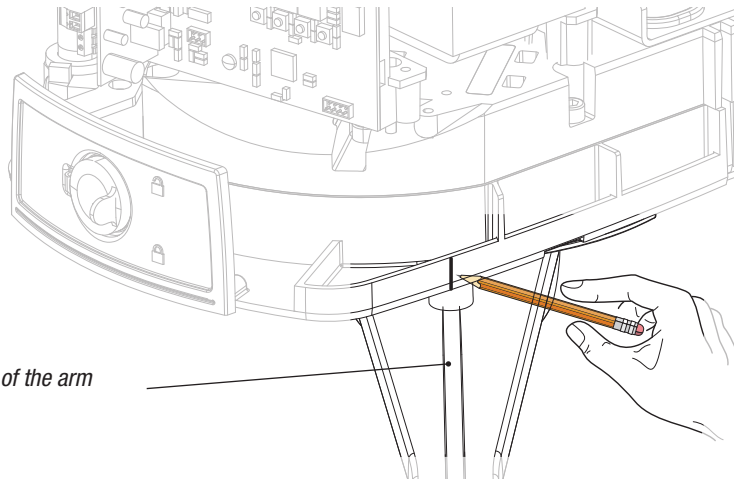
Secure the stop using the screw (j).



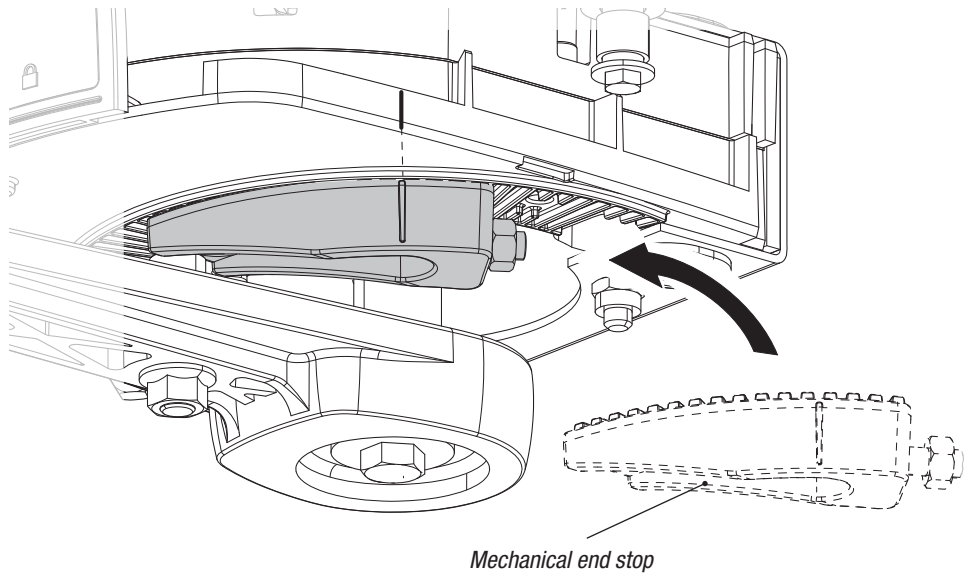
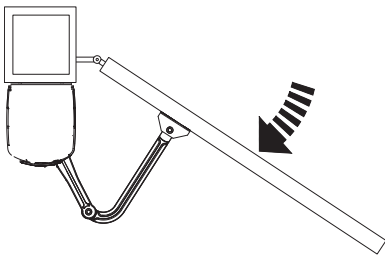
During closing.
Mark the casing by the centre of the arm.



Centre of the arm

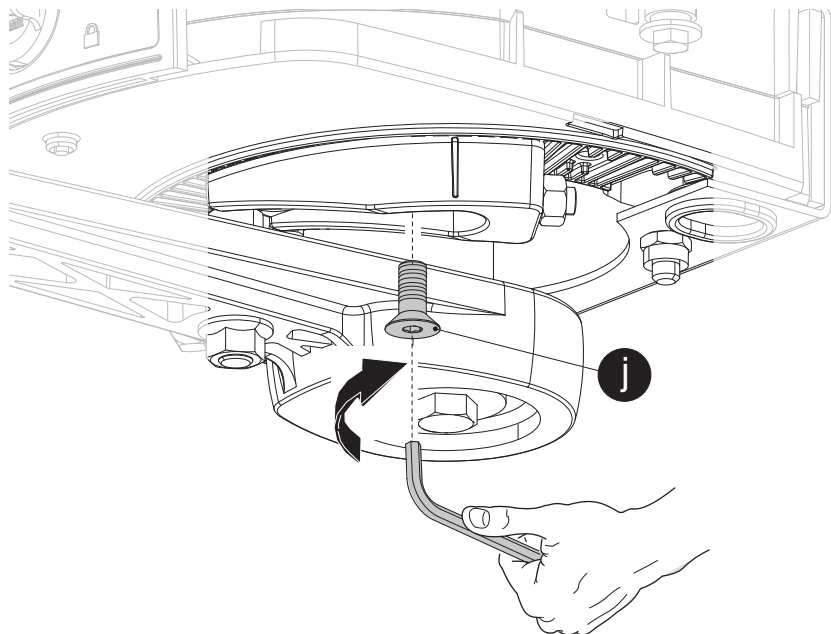


Open the leaf manually. Insert the mechanical stop as shown.



Mechanical end stop

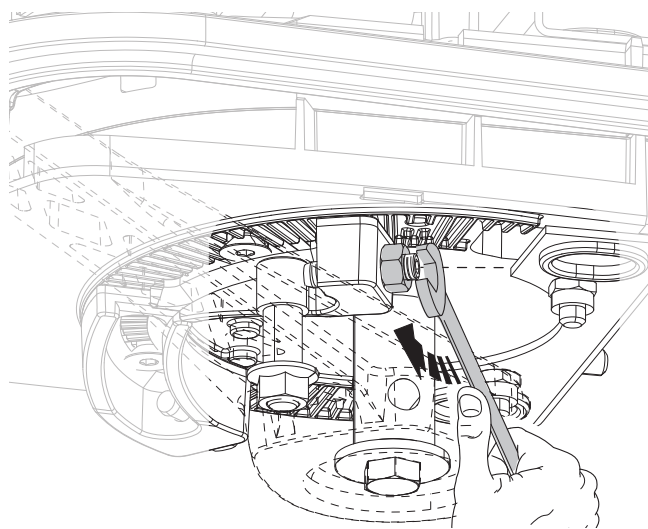
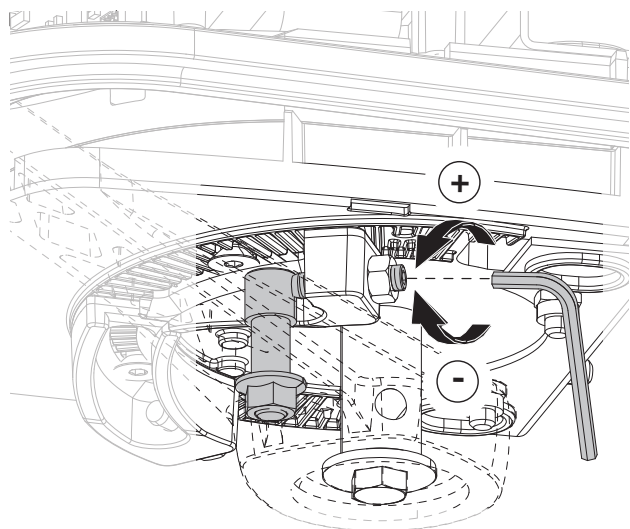
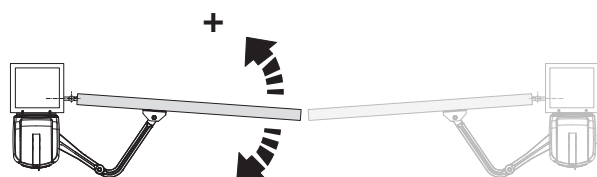
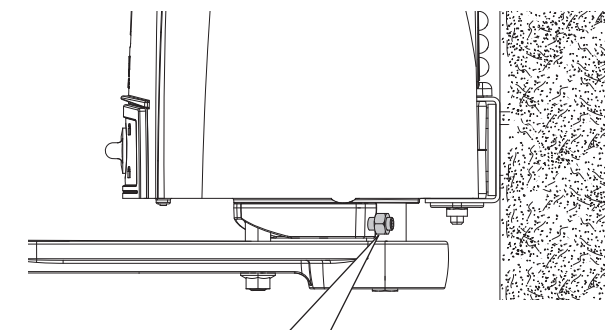
Secure the stop using the screw (j).



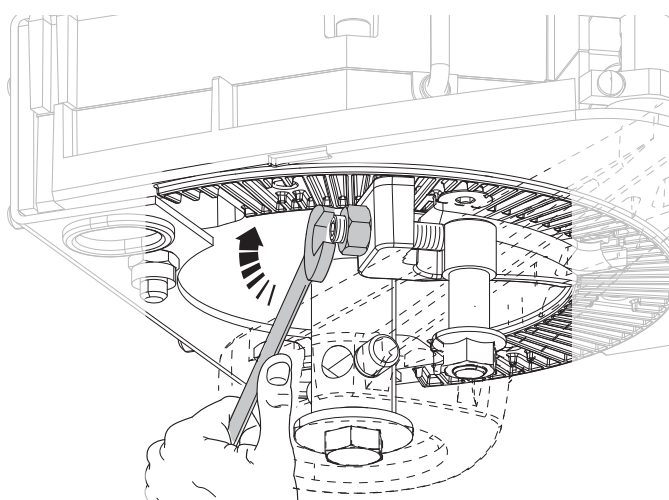
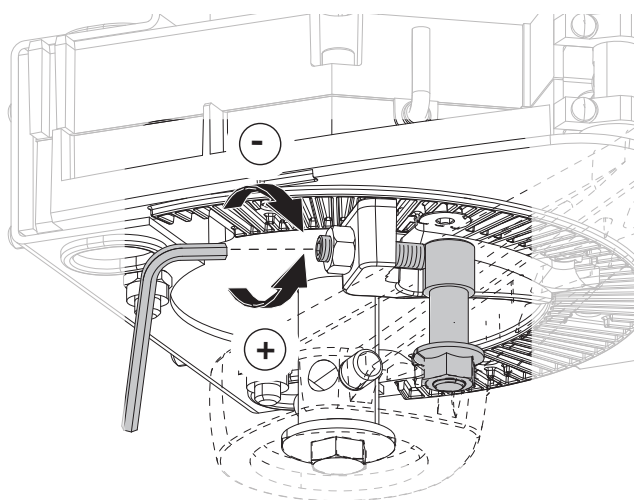
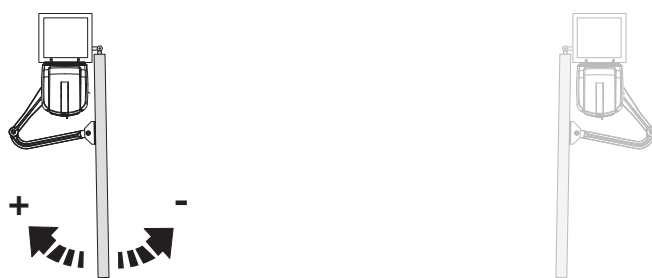
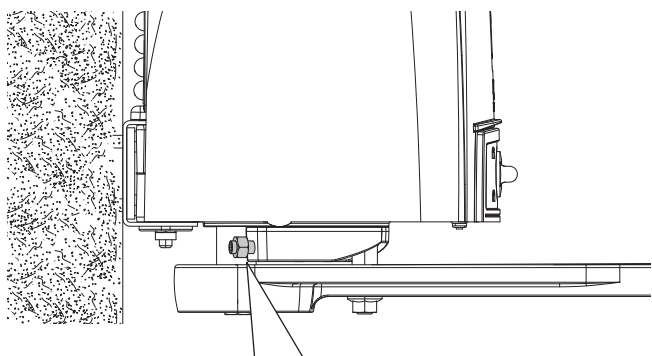
Determining the end run points

For left-hand gearmotor (internal view).

With the gearmotor released and the leaf closed, adjust the closing end run anchor, turning it clockwise and anti-clockwise. Secure the anchor with the nut (see drawing).

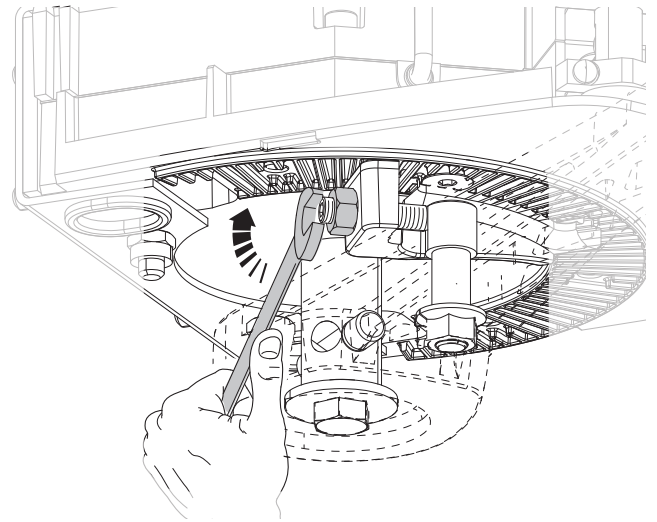
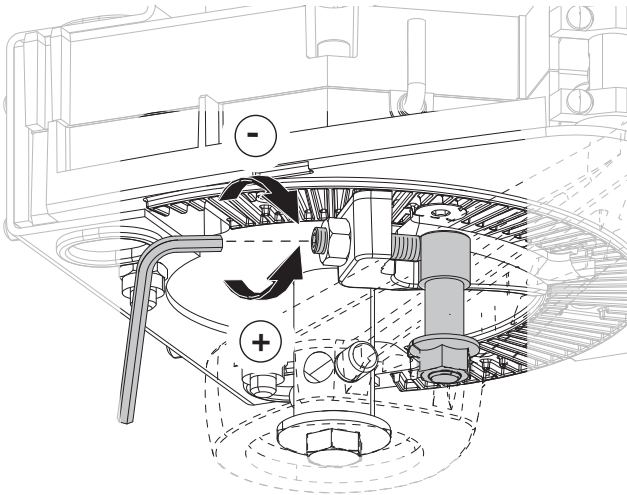
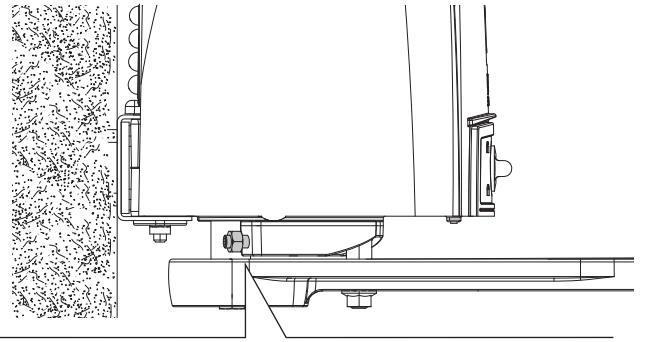
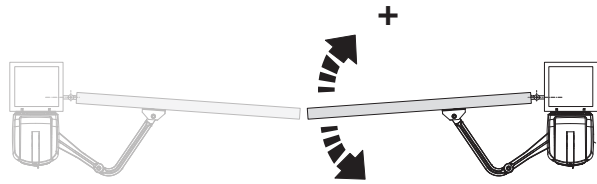


Similarly, adjust the opening end run using the anchor on the other stop (see drawing).

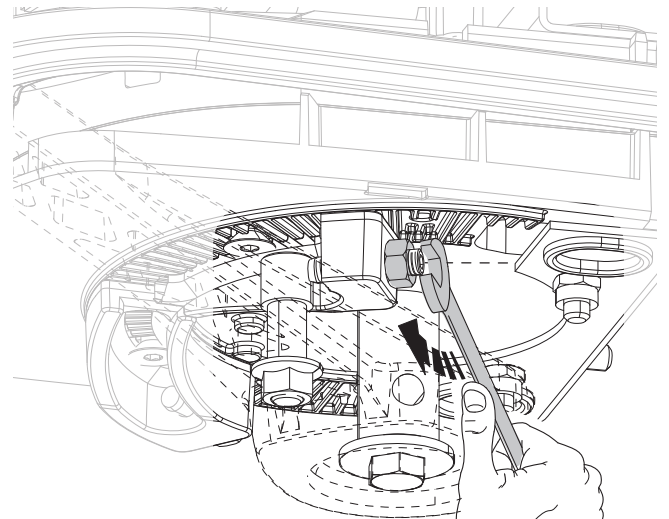
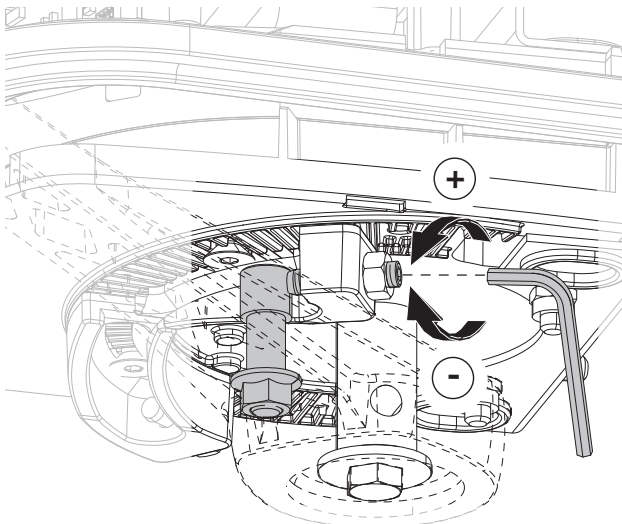
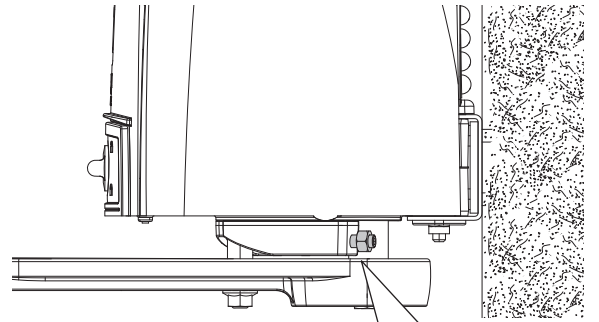


For right-hand gearmotor (internal view).

With the gearmotor released and the leaf closed, adjust the closing end run anchor, turning it clockwise and anti-clockwise. Secure the anchor with the nut (see drawing).



Similarly, adjust the opening end run using the anchor on the other stop (see drawing).



ELECTRICAL CONNECTIONS AND PROGRAMMING

⚠ **Caution!** Before intervening on the control panel, disconnect mains power and remove the batteries if inserted.

The control board is powered at 230 VAC with a frequency of 50-60 Hz.

The control devices and accessories are powered at 24 VAC.

⚠ The total power of the accessories should not exceed 40 W.

The functions on the input and output contacts and the adjustments of the times and management of the users are set and viewed on the display managed by a software program.

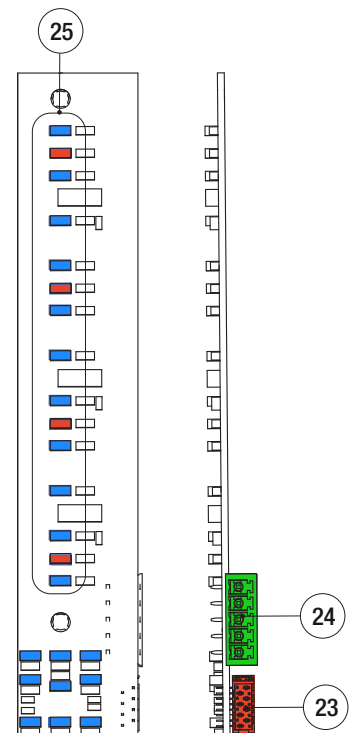
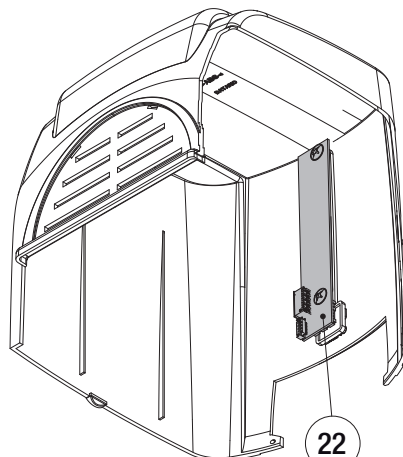
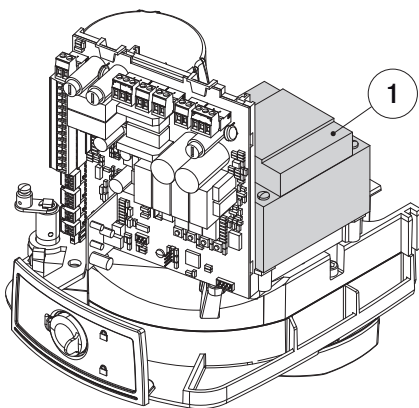
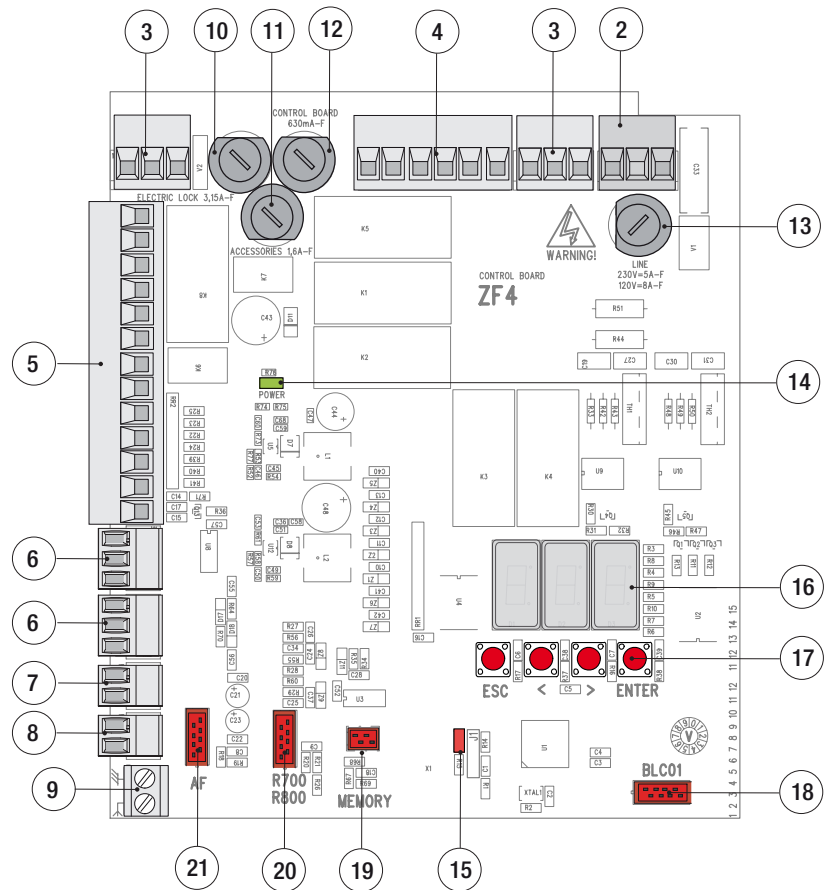
All the connections are protected by quick fuses.

FUSE TABLE

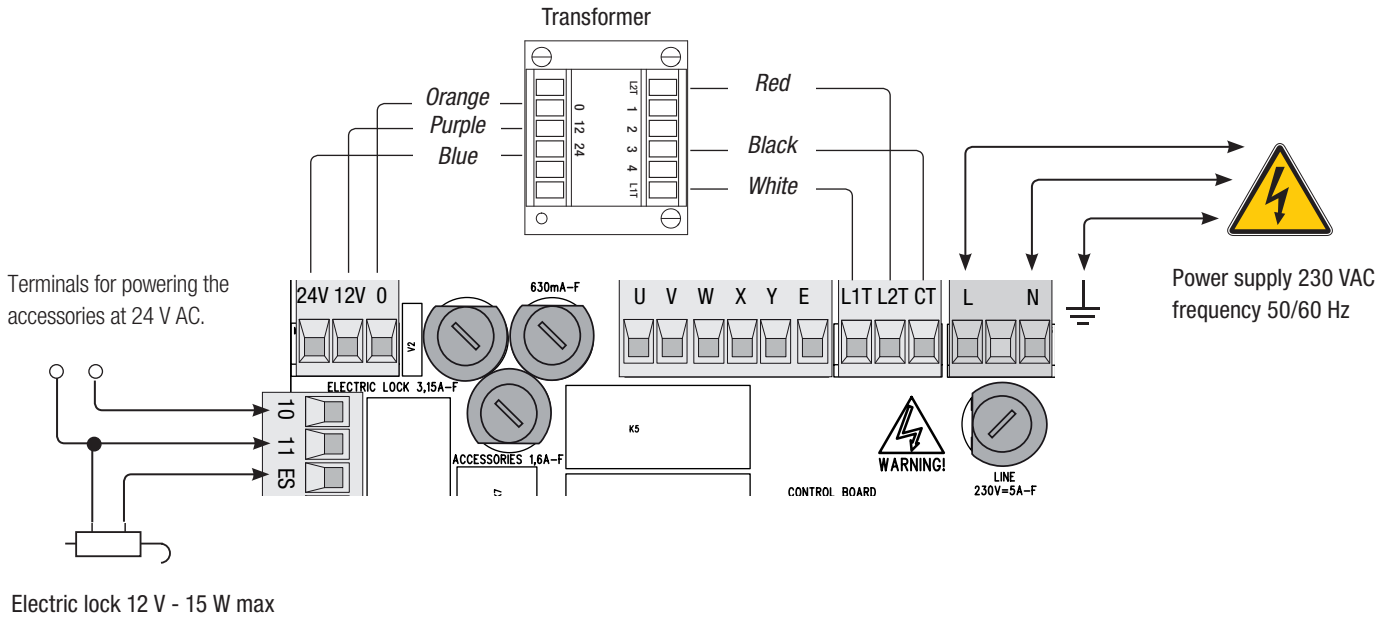
Line fuse	5 A-F
Panel fuse	630 mA-F
Accessory fuse	1,6 A-F
Electric lock fuse	3.15 A-F

Description of the components

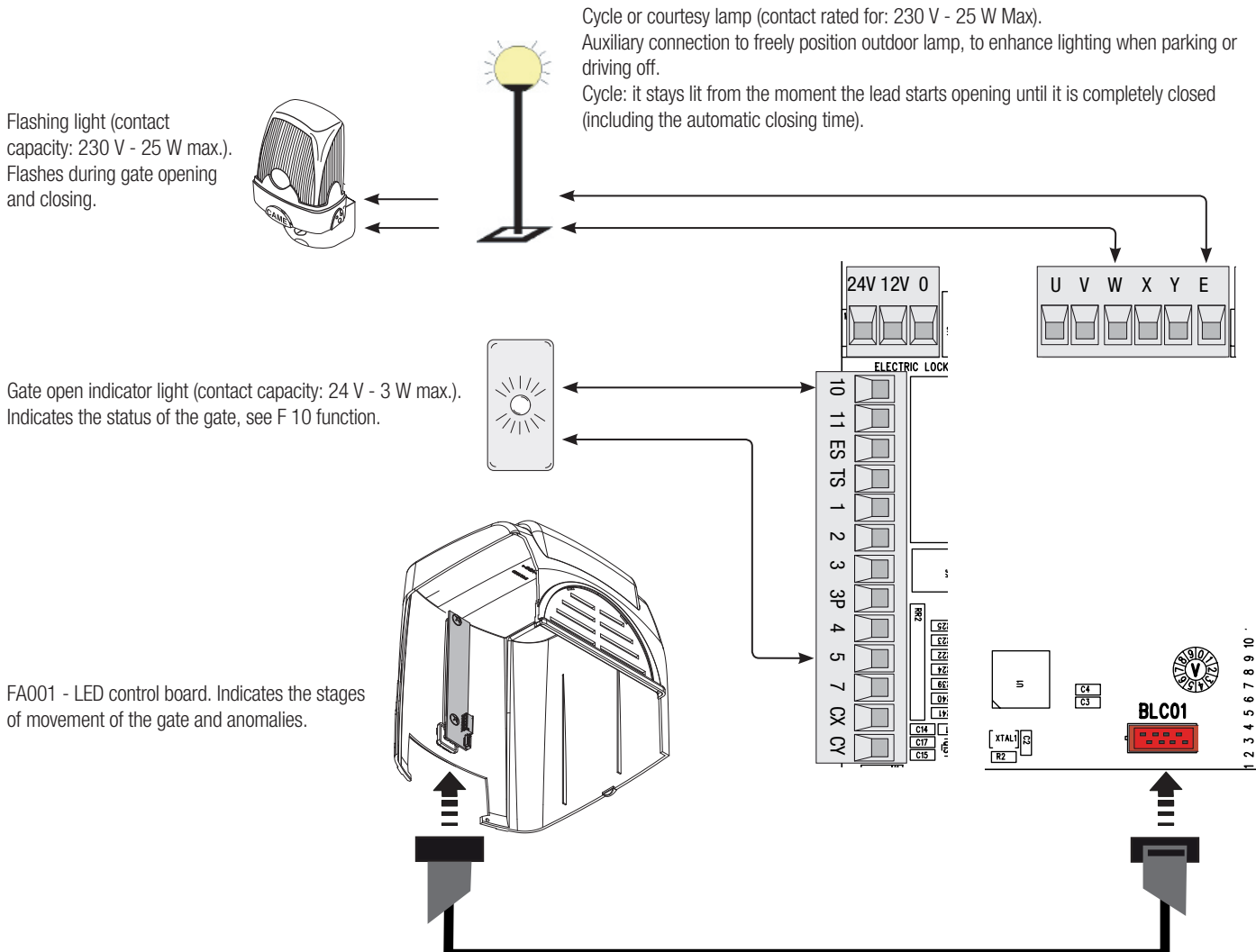
1. Transformer
2. 230 V power supply terminal block
3. Transformer terminal block
4. Gearmotor terminal block
5. Control and safety device terminal block
6. Encoder terminal block
7. Transponder device terminal block
8. Keypad selector terminal block
9. Antenna terminal block
10. Accessory fuse
11. Panel fuse
12. Line fuse
13. Transformer thermal protection terminal block
14. Power indicator LED
15. Programming indicator LED
16. Display
17. Programming buttons
18. FA001 board connection connector
19. Memory roll card connector
20. R700 or R800 board connector
21. AF board connector
22. LED control board
23. Connector for connection to the ZF4 panel
24. Terminal block for connection to the second LED control board
25. Gate status indicator LED



Power supply



Warning devices



Control devices

Stop button (NC contact) Stops the gate with the exclusion of automatic closing. To resume movement, press the control button or other control device.

N.B. if not in use, select 0 (Disabled) from the F 1 function.

OPEN ONLY function from the control device (NO contact)

PARTIAL OPENING/PEDESTRIAN function from the control device (NO contact)

CLOSE ONLY function from the control device (NO contact)

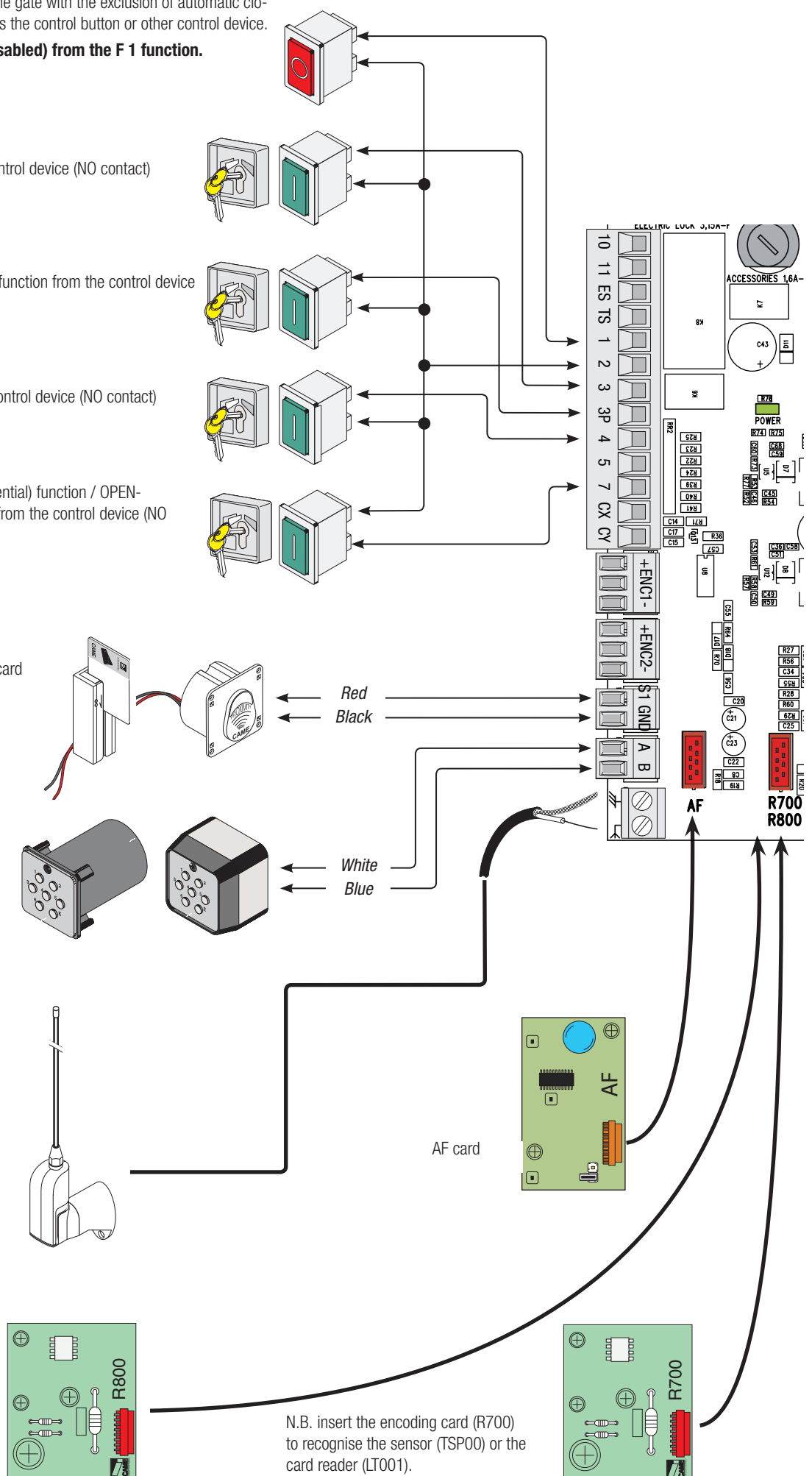
OPEN-STOP-CLOSE-STOP (sequential) function / OPEN-CLOSE-REVERSE (step-by-step) from the control device (NO contact)

See F7 function

Contact (NO) for transponder or card reader with R700 card).

Contact (NO) for keypad with R800 card).

Antenna with RG58 cable.

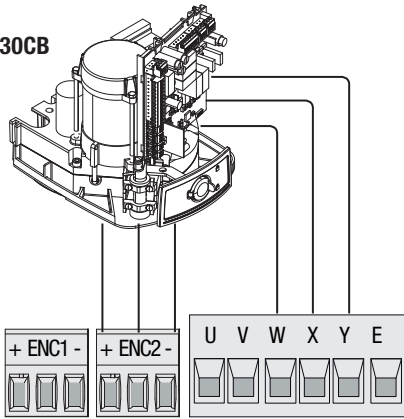


N.B. insert the encoding card (R800) to recognise the keypad (S6000/S7000).

N.B. insert the encoding card (R700) to recognise the sensor (TSP00) or the card reader (LT001).

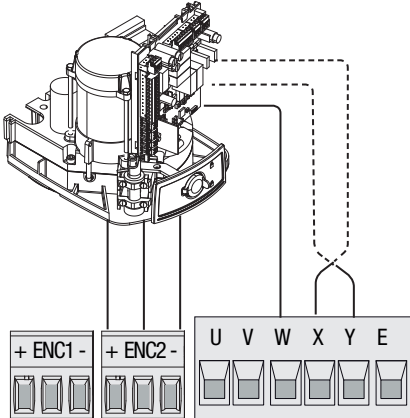
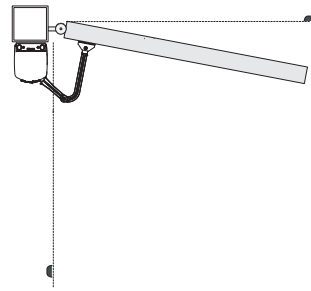
Connecting the gearmotor with encoder

FA40230CB

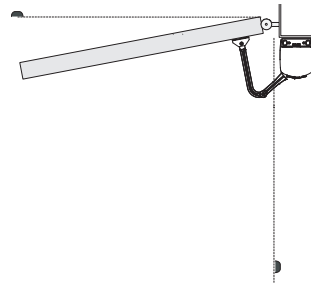


Encoder wire colour:
 + = White
 ENC = Brown
 - = Green

Electrical connections:
 operator installed on the left (internal view).
(Default configuration)



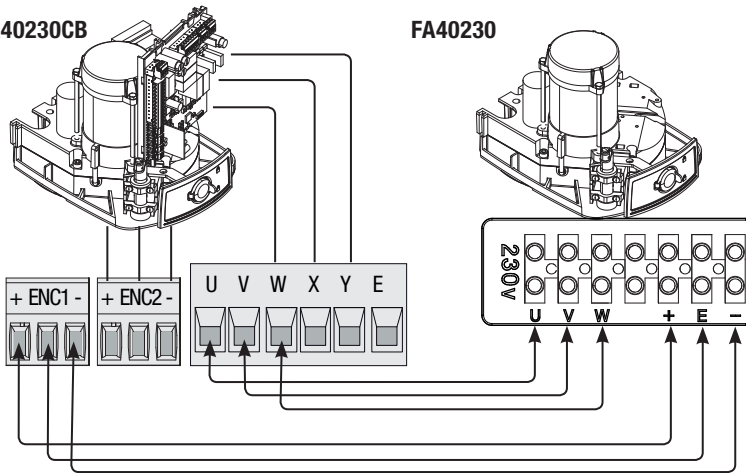
Electrical connections:
 operator installed on the right (internal view).



Connection between the gearmotor with encoder and the second gearmotor

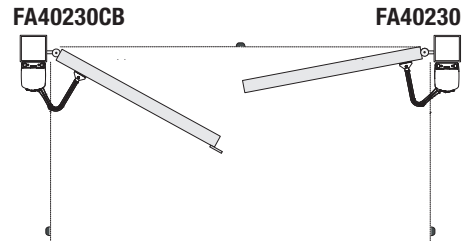
FA40230CB

FA40230



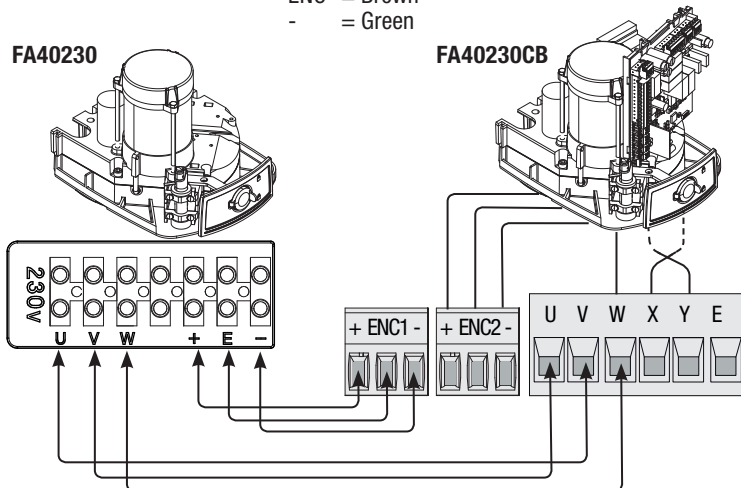
Encoder wire colour:
 + = White
 ENC = Brown
 - = Green

Electrical connections:
 operator installed on the left and gearmotor installed on the right (internal view) with operator with delayed closing.
(Default configuration)

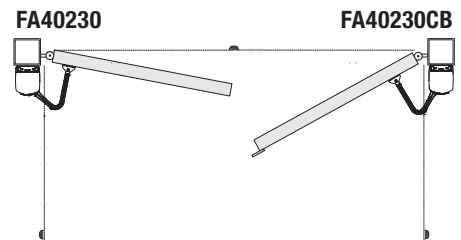


FA40230

FA40230CB



Electrical connections:
 gearmotor installed on the left and operator installed on the right (internal view) with operator with delayed closing.



Safety devices

Photocells

Configure the CX or CY (NC) contact, input for safety devices such as photocells, compliant with the EN 12978 standard.

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

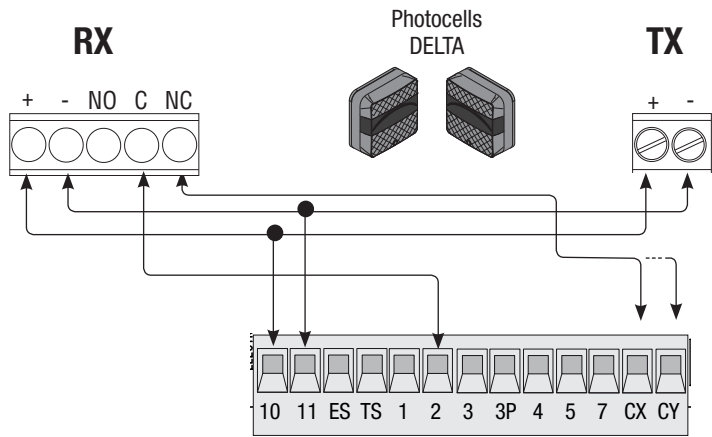
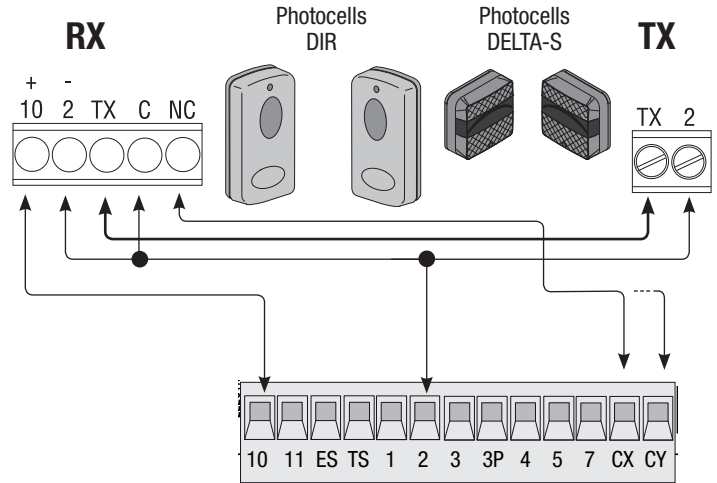
- C1 reopening during closing. While the leaves are closing, the opening of the contact causes the reversal of the direction of movement until completely open;

- C2 reclosing during opening. While the leaves are opening, the opening of the contact causes the reversal of the direction of movement until completely closed;

- C3 partial stop. The leaves stop, if moving, with consequent preparation for automatic closing (if the automatic closing function has been enabled);

- C4 waiting for obstacle. The leaves stop, if in movement, with consequent resumption of movement after the obstacle has been removed.

N.B. if the CX and CY contacts are not used, they must be disabled in programming.



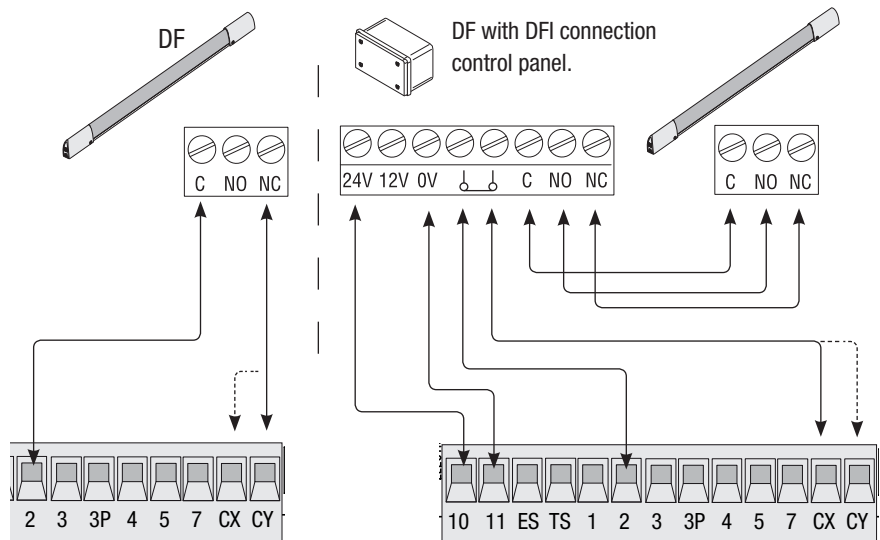
Sensitive edges

Configure the CX or CY (NC) contact, input for safety devices such as sensitive edges, compliant with the EN 12978 standard. See CX (F2 function) or CY (F3 function) input functions in:

- C7 reopening during closing. While the gate is closing, the opening of the contact causes the reversal of the direction of movement until completely open;

- C8 reclosing during opening. While the gate is opening, the opening of the contact causes the reversal of the direction of movement until completely closed.

N.B. if the CX and CY contacts are not used, they must be disabled in programming.

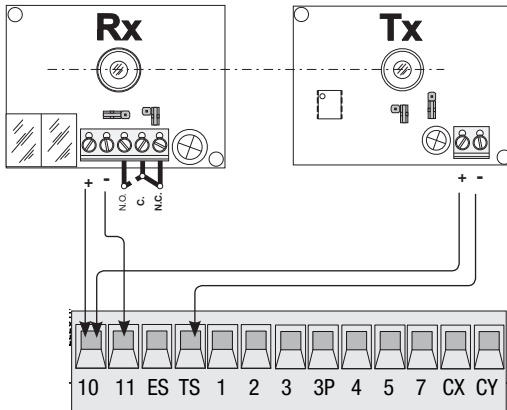


Photocell safety connection

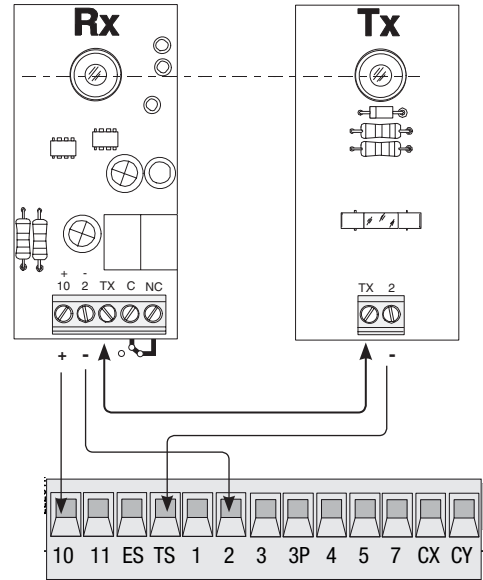
With each opening or closing command, the panel checks that the photocells work. Any anomaly inhibits any command.

Use the F 5 function to select on which inputs to activate the link.

DELTA

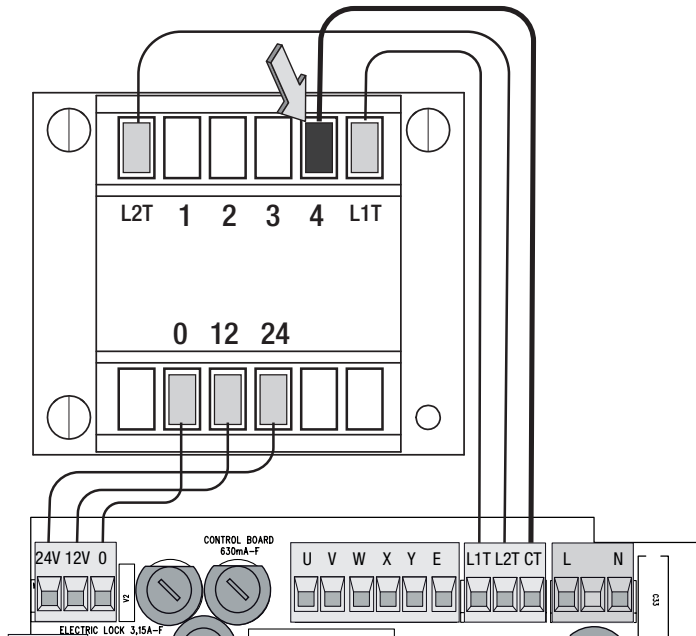


DIR / DELTA S



Adjusting motor torque

To vary the motor torque, move the indicated faston to one of the 4 positions: 1 min to 4 max.

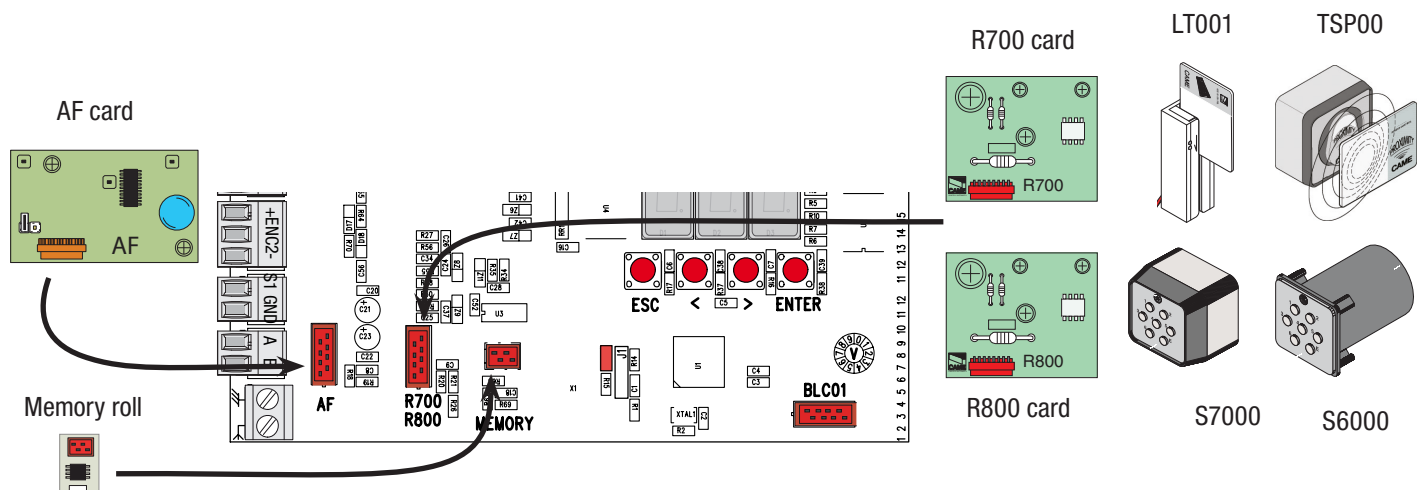


Memorising data

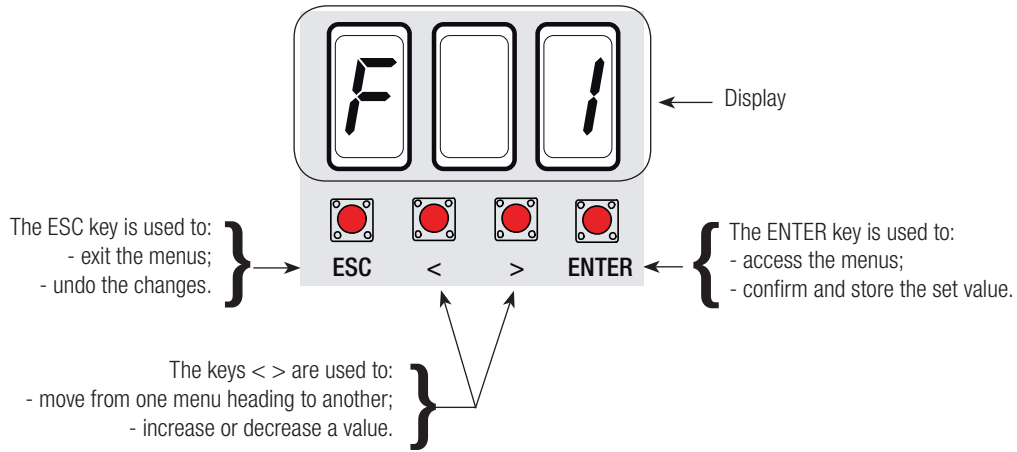
To enter, modify, and remove users or control the operator via radio, insert the AF card.

If using the transponder or the card reader, insert the R700 card. If using the keypad, on the other hand, insert the R800 card.

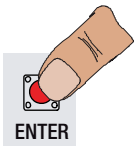
The memory roll is used to memorise user data and system configuration, which can then be used in another control board.



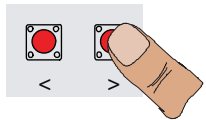
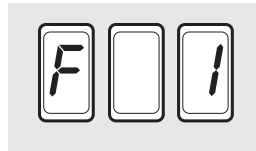
Description of programming commands



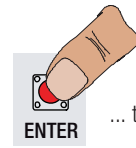
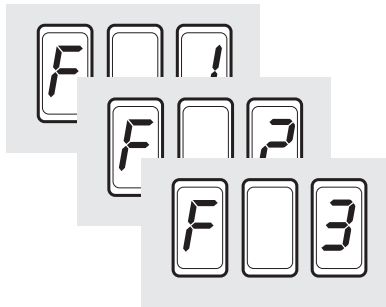
Menu navigation



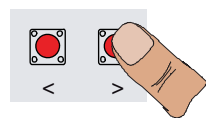
To access the menu, hold down the ENTER button for at least one second.



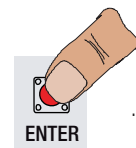
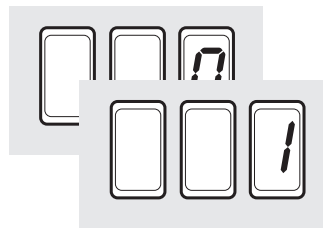
To choose the menu heading, move using the arrows...



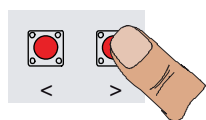
... then press ENTER



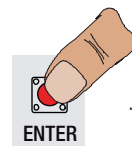
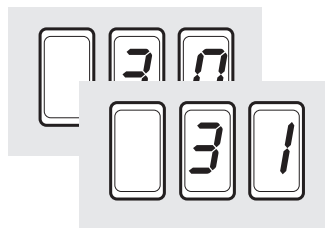
navigate the "sub-menus" using the arrows as well...



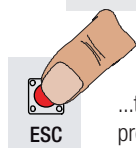
... then press ENTER



To increase or decrease the value, use the arrows...

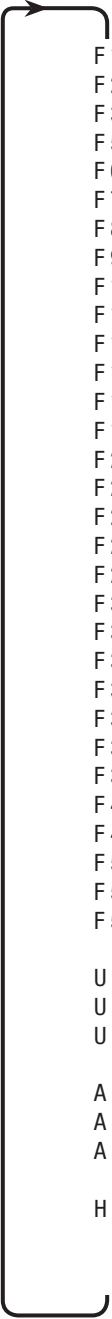


... then press ENTER to confirm...



...to exit the menu, wait 10 seconds or press ESC.

Menu mapping



F 1	Total stop feature (1-2)
F 2	Function associated to CX input
F 3	Function associated to CY input
F 5	Safety test function
F 6	Maintained action function
F 7	Command mode on 2-7
F 8	Command mode on 2-3
F 9	Obstacle detection when motor is idle function
F 10	Indicator light function
F 11	Excluding encoder
F 14	Sensor-type selection feature
F 16	Recoil function
F 18	Supplementary light feature
F 19	Automatic closing time
F 20	Automatic closing time after partial opening;
F 21	Pre-flashing time
F 22	Working time
F 23	Delay time when closing
F 24	Delay time when closing
F 30	Adjusting motor slow down speed
F 34	Sensitivity during movement
F 35	Sensitivity during deceleration
F 36	Adjusting open-partially
F 37	Adjusting the motor's starting point of slow down when opening
F 38	Adjusting the motor's starting point of slow down when closing
F 39	Adjusting the motor's end-strike starting point when opening
F 40	Adjusting the motor's end-strike starting point when closing
F 46	Setting the number of motors
F 50	Saving date in the memory roll
F 51	Reading memory roll data
F 59	Enabling CAME logo feature
U 1	Registering new users with associated command
U 2	Cancelling one user
U 3	Completely cancel users
A 2	Motor test
A 3	Calibrating travel
A 4	Reset parameters
H 1	Software version

Motor test and calibration menu

Important! Start programming, performing these operations first:

- 1 Motor test;**
- 2 Run calibration.**

A2	Motor test	0 = Disabled / 1 = Enabled
Check the operation of the gearmotor and the correct direction of rotation(see motor test paragraph)		
A3	Run calibration	0 = Disabled / 1 = Enabled
Automatic gate run calibration (see run calibration paragraph).		
A4	Reset parameters	0 = Disabled / 1 = Enabled
Caution! If necessary, you can restore the default parameters with the following function:		
Default settings reset operation and run calibration deletion.		

Function menu

F1	Total stop [1-2] 0 = Disabled (default) / 1 = Enabled
NC input - The gate is stopped and any automatic closing is disabled. To resume movement, use the control device. The safety device must be inserted on [1-2].	
F2	Input [2-CX] 0 = Disabled (default) / 1 = C1 / 2 = C2 / 3 = C3 / 4 = C4 / 7 = C7 / 8 = C8
NC input - Possibility of associating: C1 = reopening during closing for photocells, C2 = reclosing during opening for photocells, C3 = partial stop, C4 = waiting for obstacle, C7 = reopening during closing for sensitive edges, C8 = reclosing during opening for sensitive edges.	
F3	Input [2-CY] 0 = Disabled (default) / 1 = C1 / 2 = C2 / 3 = C3 / 4 = C4 / 7 = C7 / 8 = C8
NC input - Possibility of associating: C1 = reopening during closing for photocells, C2 = reclosing during opening for photocells, C3 = partial stop, C4 = waiting for obstacle, C7 = reopening during closing for sensitive edges, C8 = reclosing during opening for sensitive edges.	
F5	Safety test 0 = Disabled (default) / 1 = CX / 2 = CY / 3 = CX+CY
After each opening or closing command, the panel checks that the photocells work correctly.	
F6	Hold-to-run 0 = Disabled (default) / 1 = Enabled
The gate opens and closes when a button is pressed. Button to open the contact [2-3] and button to close the contact [2-4]. All other control devices, also radio, are disabled.	
F7	Command [2-7] 0 = step-by-step (default) / 1 = sequential
Step-by-step = open-close, sequential = open-stop-close-stop.	
F8	Command [2-3P] 0 = pedestrian opening (default) / 1 = partial opening
Pedestrian opening (complete opening of the second leaf) or partial opening (partial opening of the second leaf: the degree of opening depends on the percentage of run adjustment set with F36).	
F9	Obstacle detection with the motor at a standstill 0 = Disabled (default) / 1 = Enabled
With the gate closed, open or after a total stop, the gearmotor remains at a standstill if the safety devices (photocells or sensitive edges) detect an obstacle.	
F10	Indicator light 0 = on when the gate is open and moving (default) / 1 = flashes intermittently every half second during opening flashes intermittently every second during closing on steady when the gate is open off when the gate is closed
Indicates the status of the gate. The bulb is inserted on the 10-5 contact.	
F11	Encoder disabling 0 = encoder enabled (default) / 1 = encoder disabled
Excludes management of slowdowns, obstacle detection and sensitivity.	
F14	Sensor type selection 0 = command with transponder sensor or magnetic card reader 1 = command with keypad (default)
Setting the type of sensor for controlling the operator.	
F16	Water hammer 0 = Disabled (default) / 1 = Enabled
Before each opening and closing manoeuvre, the leaves push to the end of their run to facilitate the release of the electric lock. The thrust time is set using F26.	
F18	Additional lamp 0 = Flashing light (default) / 1 = Cycle
Exit on the contact [W-E]. The flashing light works during opening and closing. The cycle lamp remains on from the start of opening to complete closing, including the wait time before automatic closing.	
F19	Automatic closing time 0 = Disabled (default) / 1 = 1 s / 2 = 2 s / ... / 180 = 180 s
The wait before automatic closing starts from reaching the end run point for a time that can be set between 1 and 180 seconds. Automatic closing is not activated in the event that the safety devices intervene after detecting an obstacle, after a total stop or in the event of a power failure.	
F20	Automatic closing time after partial opening 5 = 5 s (default) / 1 = 1 s / 2 = 2 s / ... / 180 = 180 s
The wait before automatic closing starts from a partial opening or pedestrian command for a time that can be set between 1 and 180 seconds. Automatic closing is not activated in the event that the safety devices intervene after detecting an obstacle, after a total stop or in the event of a power failure. F19 does not have to be disabled.	
F21	Pre-flashing time 0 = Disabled (default) / 1 = 1 s / 2 = 2 s / ... / 10 = 10 s
When an opening or closing command is sent, the flashing light on [10-E] flashes before starting the manoeuvre. The flashing time can be set between 1 s and 10 s.	
F22	Working time 5 = 5 s / 6 = 6 s / ... / 120 = 120 s (default)
Gearmotor operating time, during opening and closing. This can be set between 5 and 120 seconds.	

F23	Opening delayed time 0 = Disabled (default) / 1 = 1 s / 2 = 2 s / ... / 10 = 10 s
After an opening command, the M1 gearmotor starts with a delay. The delay time can be set between 1 s and 10 s.	
F24	Closing delay time 0 = Disabled (default) / 1 = 1 s / 2 = 2 s / ... / 25 = 25 s
After a closing command or after automatic closing, the M2 gearmotor starts with a delay. The delay time can be set between 1 s and 25 s.	
F30	Slowdown speed 0 = Disabled / 1 = maximum speed; / 2 = Vintermediate speed (default) / 3 = minimum speed.
Setting the gearmotor speed during slowdown.	
F33	Calibration speed 30 = Minimum speed / ... / 50 = Speed (default) / ... / 60 = Maximum speed
Setting the speed of the run during calibration.	
F34	Run sensitivity 10 = maximum sensitivity / ... / 100 = minimum sensitivity (default)
Adjusting the sensitivity of obstacle detection during the run.	
F35	Slowdown sensitivity 10 = maximum sensitivity / ... / 100 = minimum sensitivity (default)
Adjusting the sensitivity of obstacle detection during slowdown.	
F36	Partial opening adjustment 10 = 10% of the run (default) / ... / 80 = 80% of the run
Adjustment in percentage of the total run, from leaf opening of the M2 gearmotor.	
F37	Opening slowdown point 10 = 10% of the run / ... / 25 = 25% of the run (default) / ... / 60 = 60% of the run
Adjustment in percentage of the total run, from the starting point of slowdown during opening.	
F38	Closing slowdown point 10 = 10% of the run / ... / 25 = 25% of the run (default) / ... / 60 = 60% of the run
Adjustment in percentage of the total run, from the starting point of slowdown during closing.	
F39	Opening approach point 1 = 1% of the run / ... / 5 = 5% of the run (default) / ... / 10 = 10% of the run
Adjustment in percentage of the total run, from the starting point of approach during opening.	
F40	Closing approach point 1 = 1% of the run / ... / 5 = 5% of the run (default) / ... / 10 = 10% of the run
Adjustment in percentage of the total run, from the starting point of approach during closing.	
F46	Number of motors 0 = M1 and M2 (default) / 1 = M2
Setting the number of gearmotors connected to the control panel.	
F50	Data saving 0 = Disabled (default) / 1 = Activated
Saving the users and memorised settings in the memory roll. N.B. this function appears only if a memory roll has been inserted in the control board.	
F51	Data reading 0 = Disabled (default) / 1 = Enabled
Loading the data saved into the memory roll. N.B. this function appears only if a memory roll has been inserted in the control board.	
F59	Enabling CAME logo 0 = Disabled / 1 = Enabled (default) / 10 = 10 s / ... / 180 = 180 s
The CAME can remain always on (default), always off, or can come on after the gate has closed for a time that can be set between 10 s and 180 s.	

User menu

U1	Adding a user 1 = Step-by-step command (open-close) / 2 = Sequential command (open-stop-close-stop) / 3 = Open only command / 4 = Pedestrian/partial command
Entry of up to 25 users and association of each with a function chosen from those available. Entry must be done with the transmitter or other command device (see user paragraph with associated command).	
U2	Deleting a user
Deleting a single user.	
U3	Deleting a user 0 = Disabled / 1 = Deleting all users
Deleting all users.	

Info menu

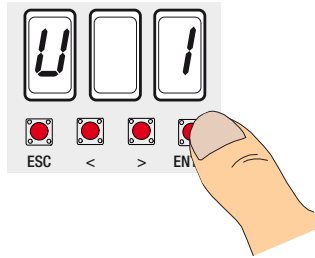
H 1	Version
Shows the software version.	

Adding a user with associated command

N.B. when adding/deleting users, the numbers displayed flashing are numbers that are available and can be used for users to be added (max. 25 users).

Caution! Before adding users, remove the memory roll board if present.

Select U 1.
Press ENTER to confirm.

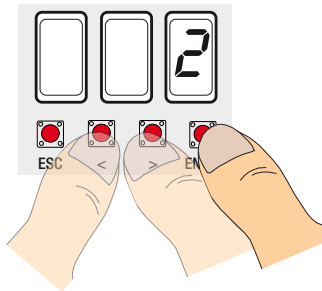


Select a command to associate with the user.

The commands are:

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

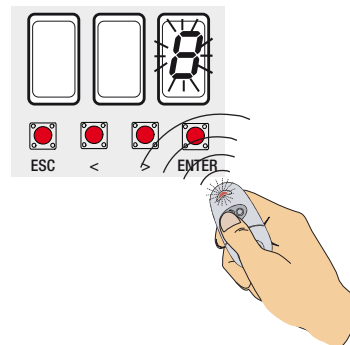
Press ENTER to confirm...




... a number from 1 to 25 flashes for a few seconds.

Send the code from the transmitter or other command device (e.g. keypad selector).

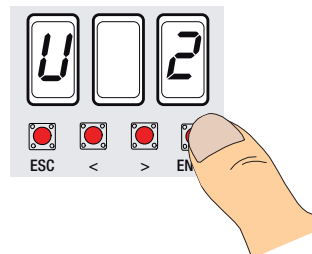
Assign the number to the user entered.



User	Associated command
1 - Mario Rossi	open-close
2 - Paolo Verdi	open
3 - 	
4 -	
5 -	
6 -	
7 -	
8 -	
9 -	
10 -	
11 -	
12 -	
13 -	
14 -	
15 -	
16 -	
17 -	
18 -	
19 -	
20 -	
21 -	
22 -	
23 -	
24 -	
25 -	

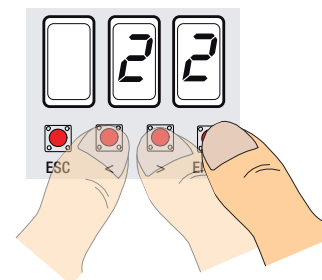
Deleting a single user

Select U 2.
Press ENTER to confirm.

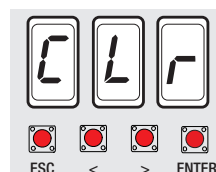


Choose the number of the user to delete using the keys marked with arrows.

Press ENTER to confirm...

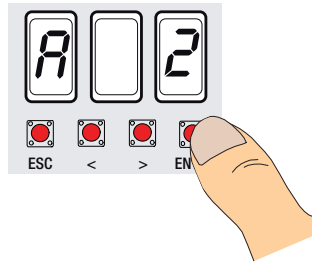


... CLR appears to confirm the deletion.

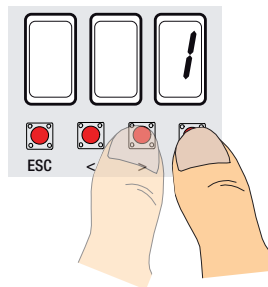


Motor test

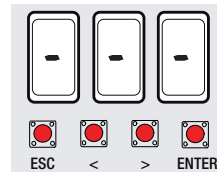
Select A 2.
Press ENTER to confirm.



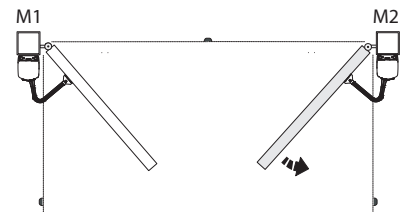
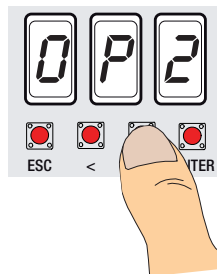
Select 1 to activate the test.
Press ENTER to confirm...



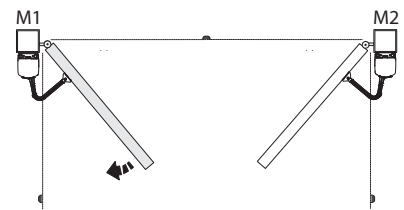
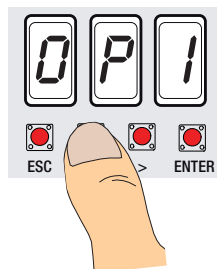
...“---” appears while waiting for the command.



Hold down the key marked with the arrow > and check that the second gearmotor leaf (M2) performs an opening manoeuvre.
N.B. if the leaf performs a closing manoeuvre, reverse the motor phases.



Perform the same procedure with the key marked with the arrow < to check the leaf on the first gearmotor (M1).
N.B. if the leaf performs a closing manoeuvre, reverse the motor phases.

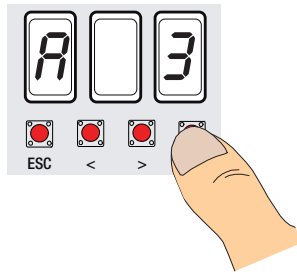


Run calibration

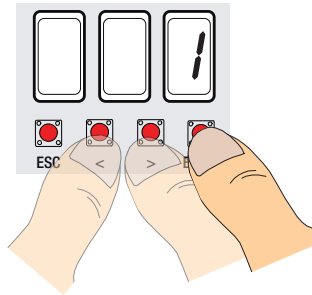
N.B. before calibrating the run, check that the manoeuvre area is free from any obstacle and check for the presence of one mechanical end stop for opening and one for closing.

Important! During calibration, all safety devices will be disabled except for the TOTAL STOP device.

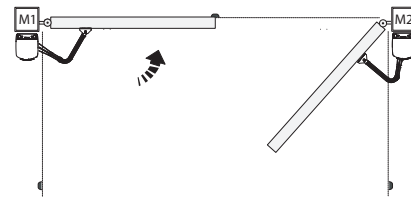
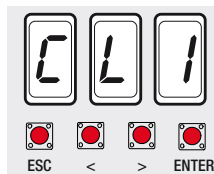
Select A 3.
Press ENTER to confirm.



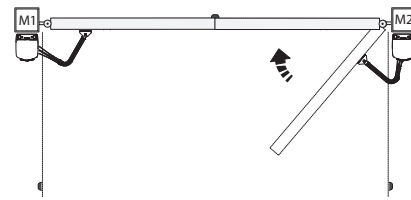
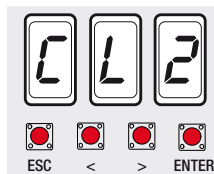
Select 1 and press ENTER to confirm the automation run calibration operation.



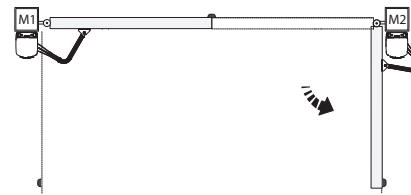
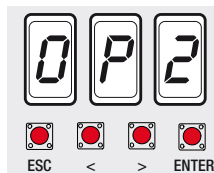
The leaf of the first gearmotor will perform a closing manoeuvre to the end run...



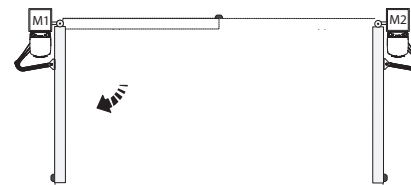
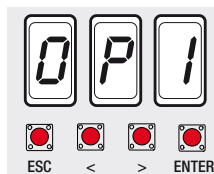
...the leaf of the second gearmotor will then perform the manoeuvre...



...the leaf of the second gearmotor will then perform an opening manoeuvre to the end run...



...the leaf of the first gearmotor will then perform the same manoeuvre.

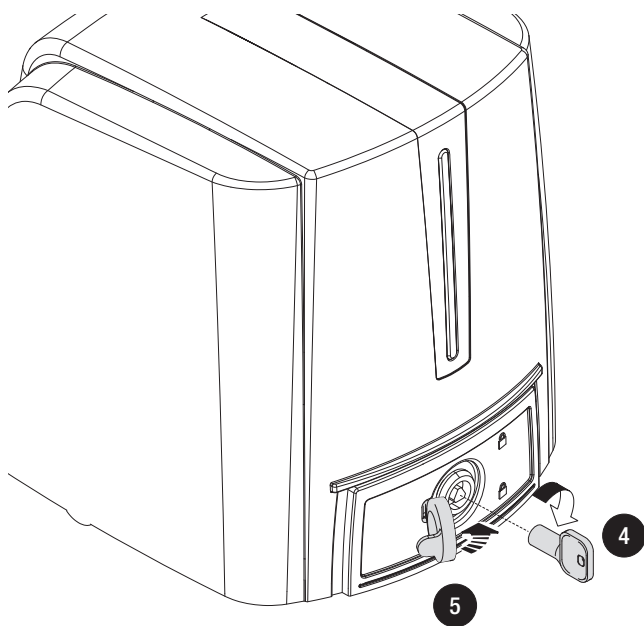
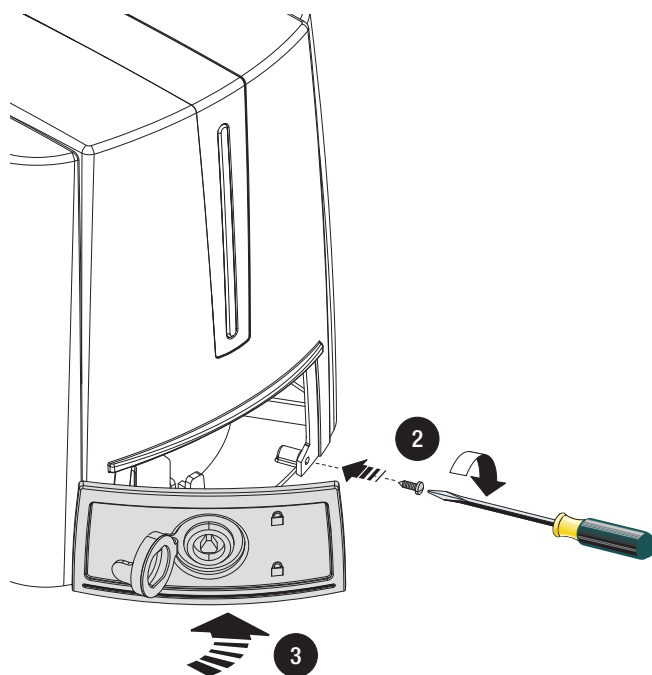
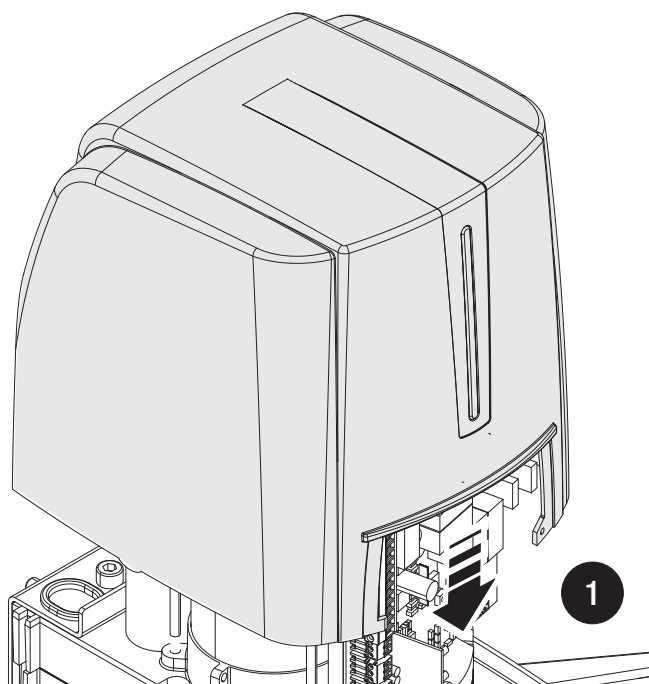


Securing the cover

After making the electrical connections and completing programming, insert the cover on the gearmotor and secure it **1 2**.

Close the hatch **3**, lock the gearmotor with the key and insert the protective cap **4 5**.

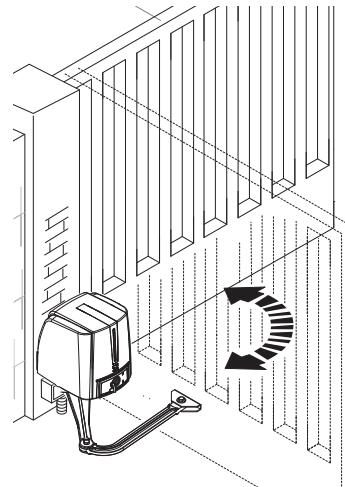
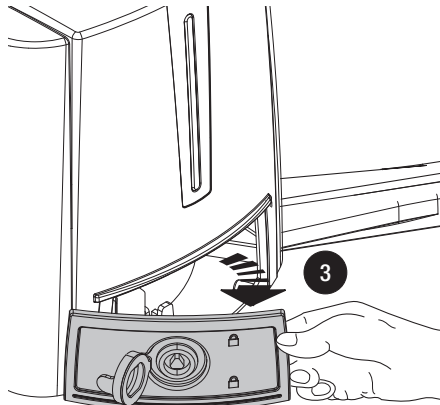
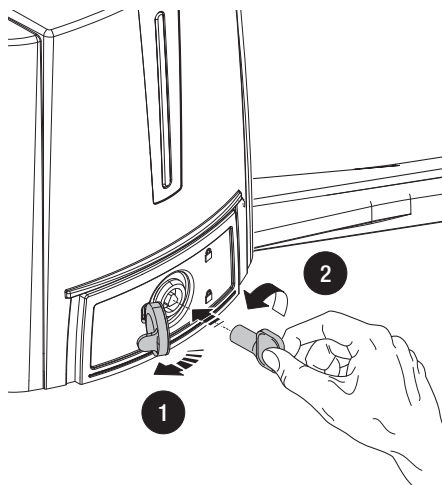
N.B. when inserting the cover, pay attention to the cable connecting the FA001 card to the control board.



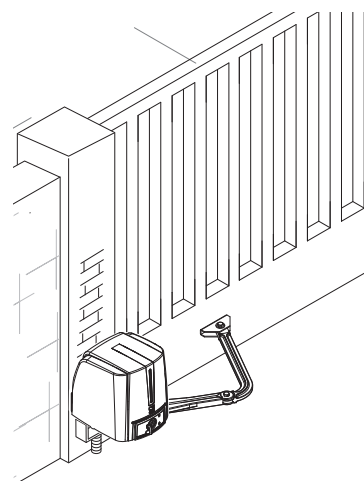
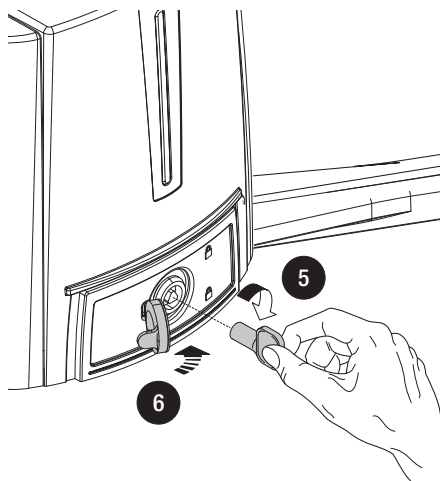
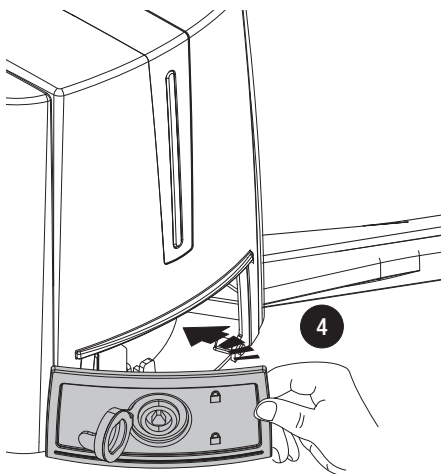
Releasing the gearmotor

The operator's manual release may cause an uncontrolled movement of the gate, if the gate has any mechanical problems or if it is not level and properly balanced.

RELEASING



LOCKING



INSTALLING AND CONNECTIONS FOR OUTER OPENING

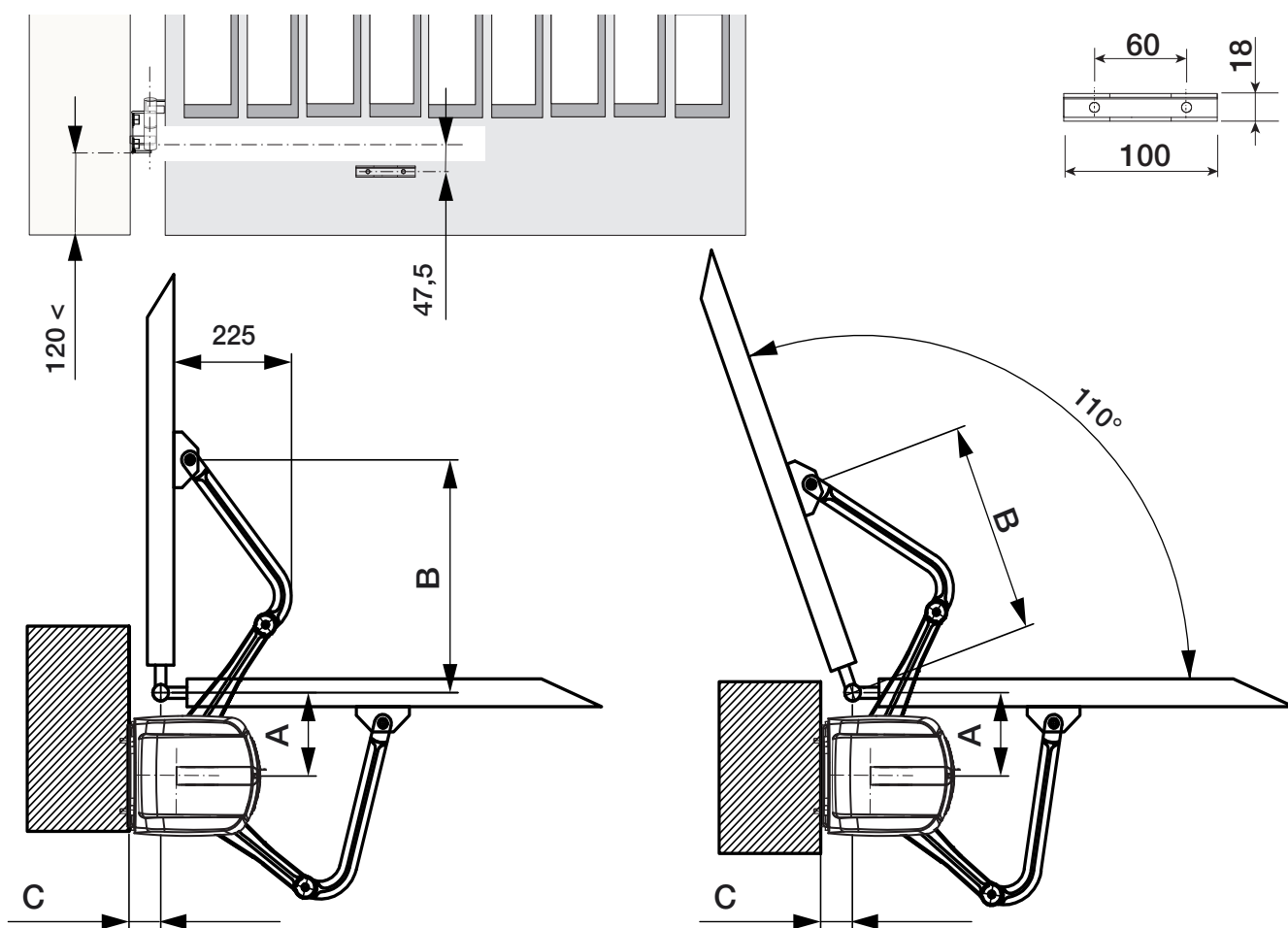
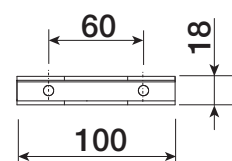
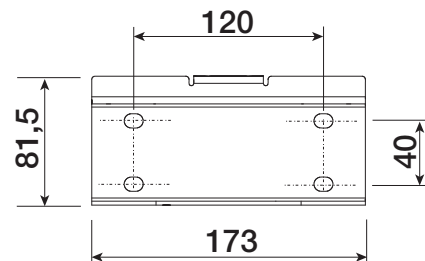
Following, are the only things that change compared to a standard installation:

Fastening the brackets

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.

Application dimension (mm)

Leaf opening arc (°)	A	C MAX	B
90°	150	60	420
110°	150	60	380

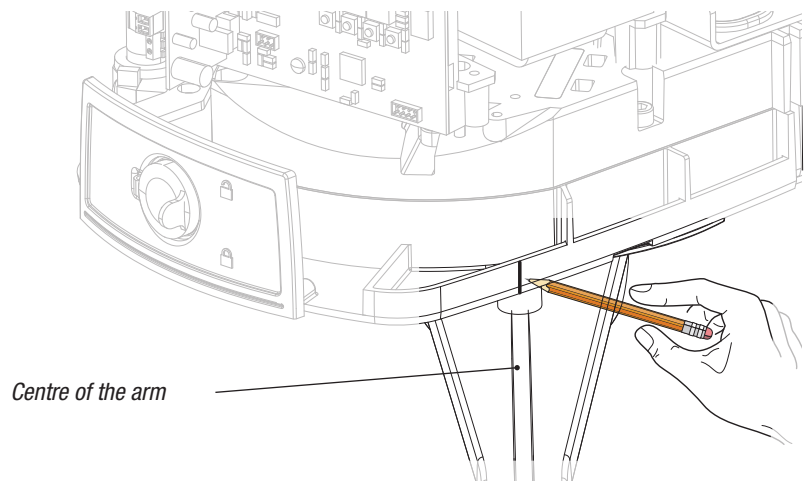
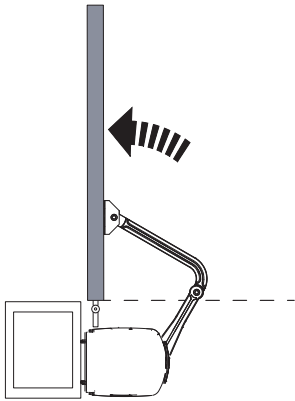


Securing mechanical stops

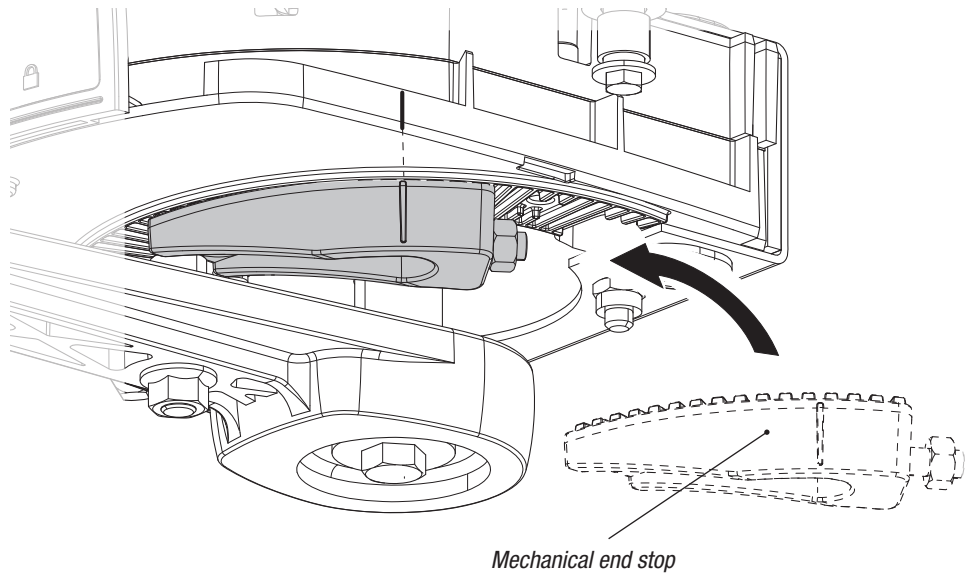
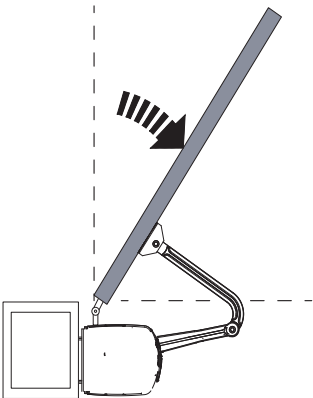
△ Fit end runs if there are no end stops.

Unlock the gearmotor.

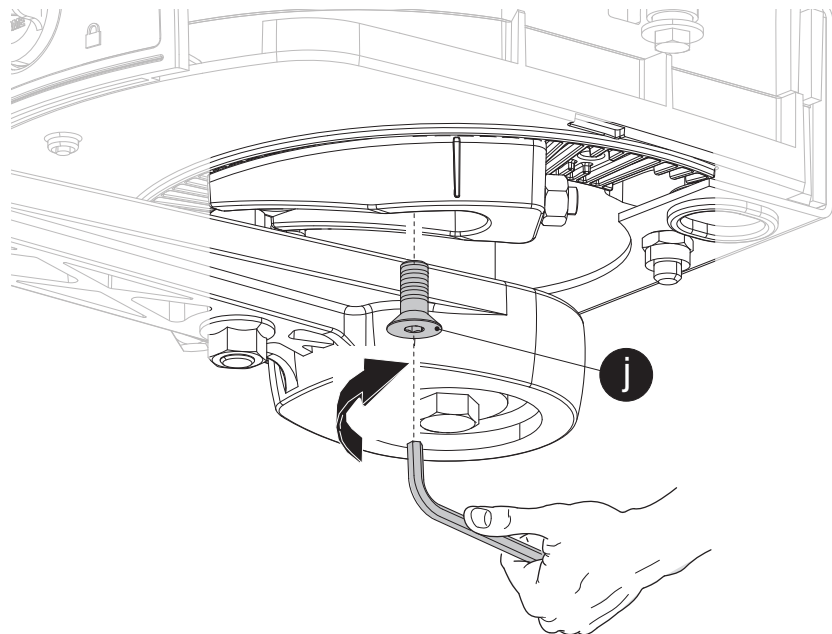
When opening: open the leaf completely. Mark the casing by the centre of the arm.



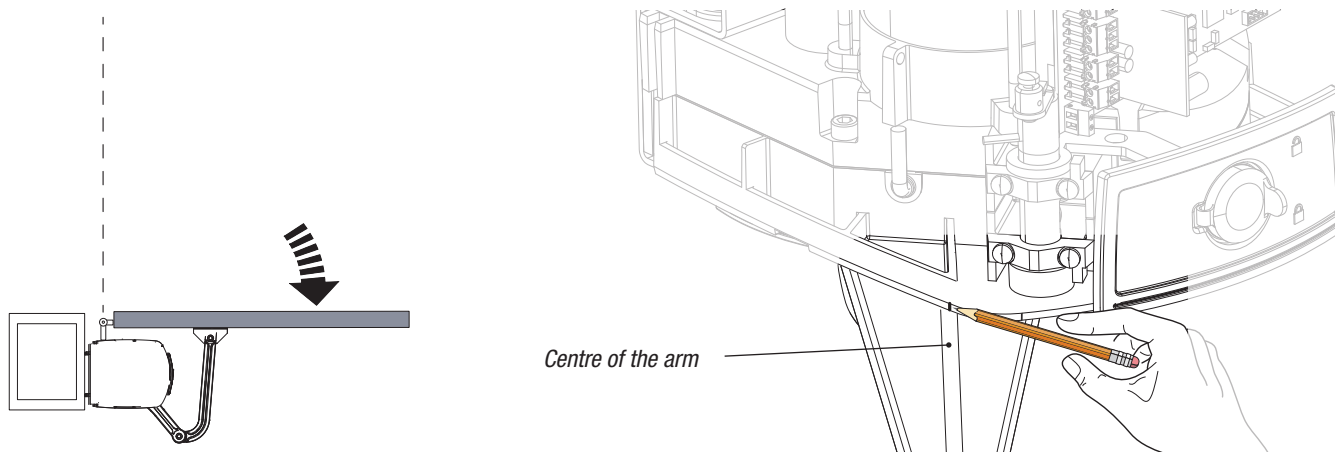
Close the leaf manually Insert the mechanical stop as shown. The mark on the casing must match the groove on the end run.



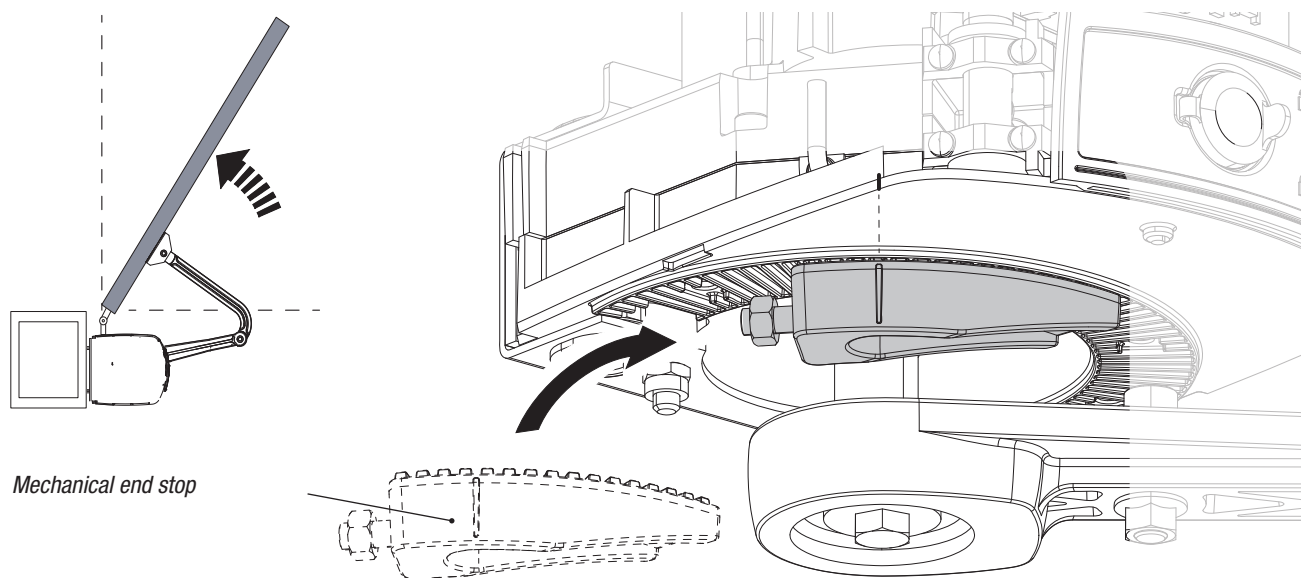
Secure the stop using the screw **j**.



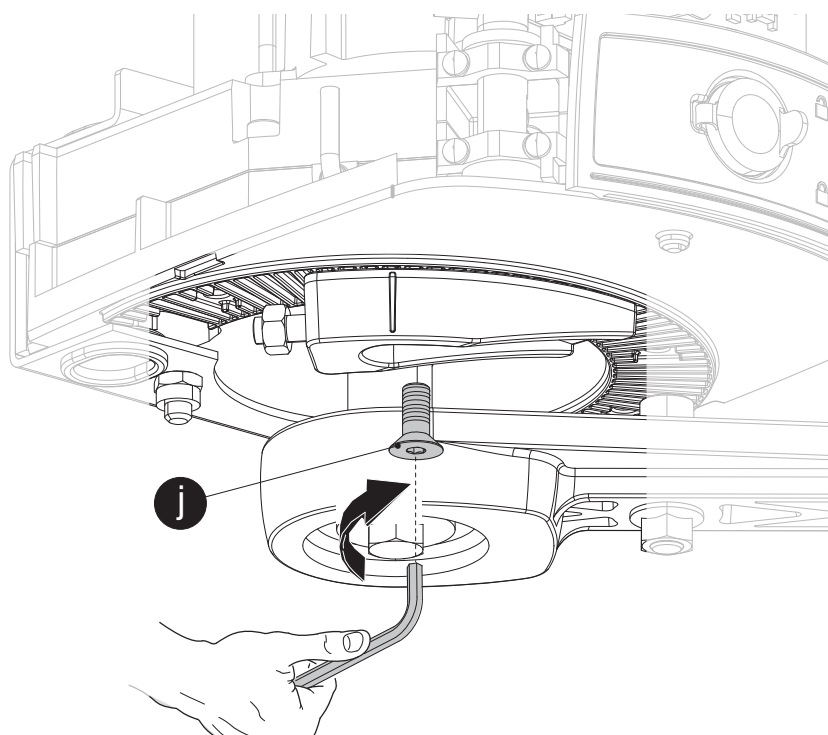
When closing: mark the casing by the centre of the arm.



Open the leaf manually. Insert the mechanical stop as shown.



Secure the stop using the screw **j**.

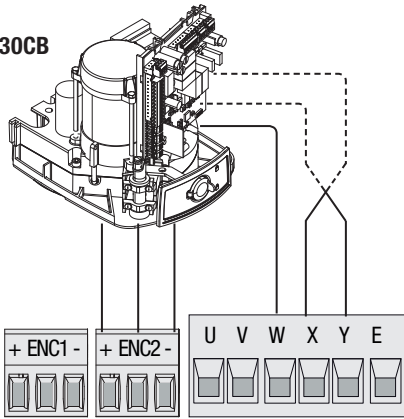


Determining the end run points

Please refer to the chapter on opening inwards.

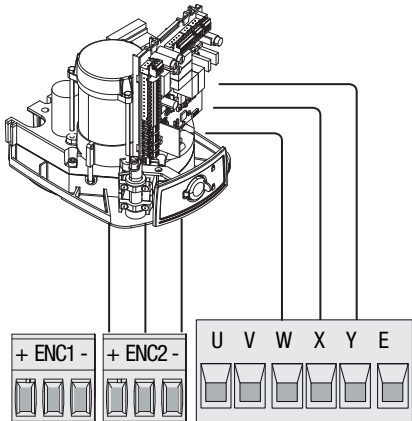
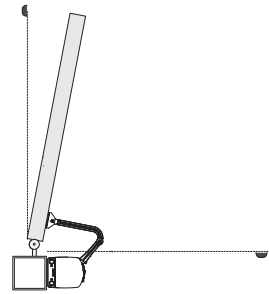
Connecting the gearmotor with encoder

FA40230CB

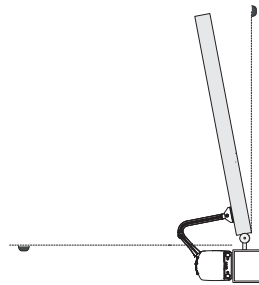


Encoder wire colour:
 + = White
 ENC = Brown
 - = Green

Electrical connections:
 operator installed on the left (internal view).
(Default configuration)



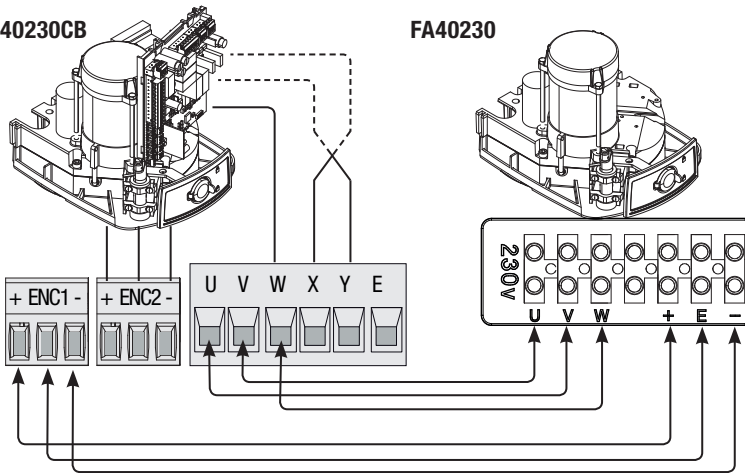
Electrical connections:
 operator installed on the right (internal view).



Connection between the gearmotor with encoder and the second gearmotor

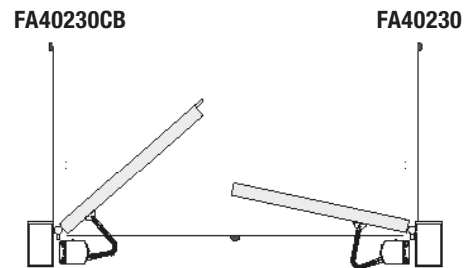
FA40230CB

FA40230



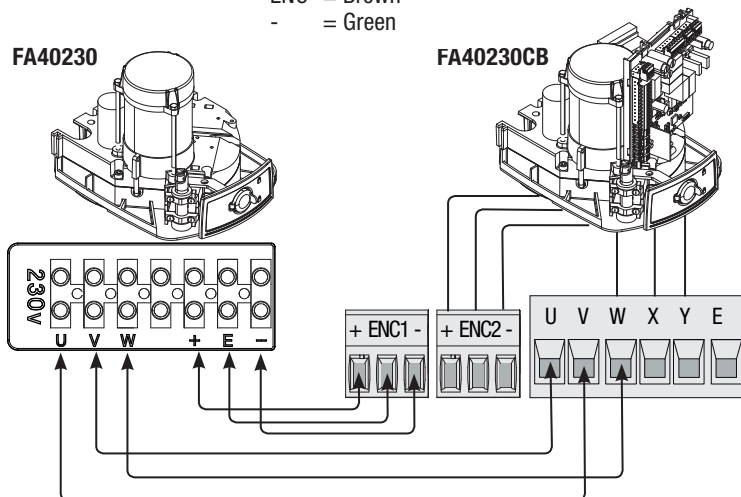
Encoder wire colour:
 + = White
 ENC = Brown
 - = Green

Electrical connections:
 operator installed on the left and gearmotor installed on the right (internal view) with operator with delayed closing.
(Default configuration)

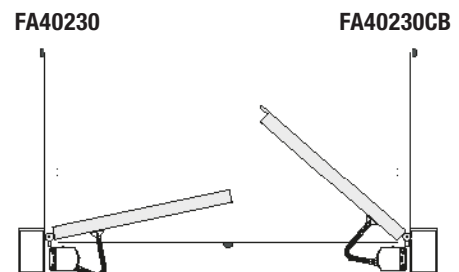


FA40230

FA40230CB



Electrical connections:
 gearmotor installed on the left and operator installed on the right (internal view) with operator with delayed closing.



MAINTENANCE

Periodic maintenance

☞ Before any maintenance, disconnect power to prevent any possible dangerous situations that can be caused by accidental movement of the device.

Periodic maintenance log to be completed by the user (every six months)

Date	Notes	Signature

Extraordinary maintenance

⚠ The following table is for logging any extraordinary maintenance jobs, repairs and improvements performed by specialized contractors.

📖 Any extraordinary maintenance jobs must be done only by specialized technicians.

Extraordinary maintenance log

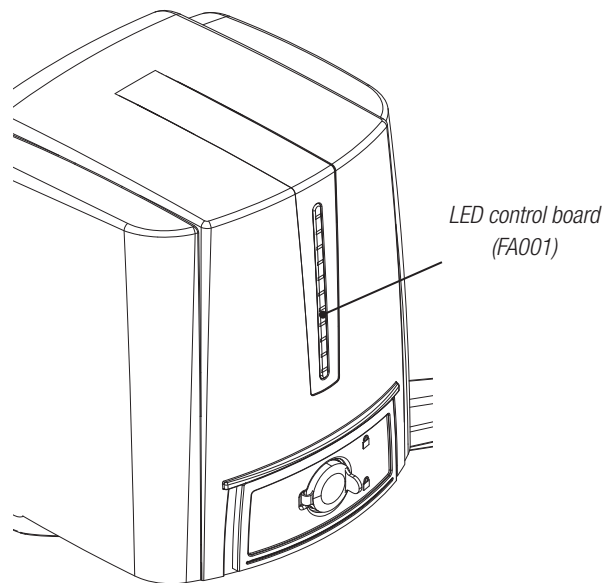
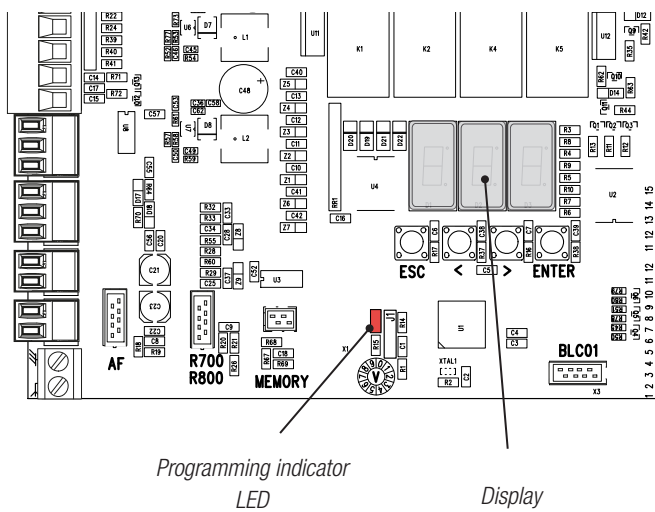
Fitter's stamp	Name of operator
	Job performed on (date)
	Technician's signature
	Requester's signature
Job performed _____ _____ _____	

Fitter's stamp	Name of operator
	Job performed on (date)
	Technician's signature
	Requester's signature
Job performed _____ _____ _____	

Fitter's stamp	Name of operator
	Job performed on (date)
	Technician's signature
	Requester's signature
Job performed _____ _____ _____	

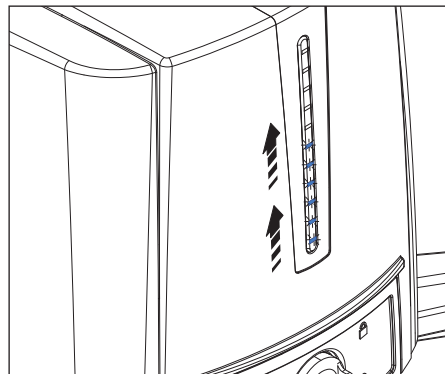
ERROR MESSAGES AND WARNINGS

- Er1: motor calibration interrupted; check correct motor connection and operation of the M1 gearmotor.
- Er2: motor calibration interrupted; check correct motor connection and operation of the M2 gearmotor.
- Er3: encoder broken; contact service.
- Er4: service test error; check the correct connection and operation of the safety devices.
- Er5: insufficient work time; check the set time. This may be insufficient to complete the working cycle.
- Er6: maximum number of obstacles detected.
- C0: contact 1-2 (stop) check connection of the connected device or associated function.
- C1, C2, C3, C4, C7 e C8: contacts CX and/or CY check connection of the connected device or associated function.
- LED flashing red programming indicator: control board not yet calibrated for the run.
- When LEDs 1 and 2 on the control board (FA001) flash red, this indicates encoder malfunctioning. Contact service.
- When LEDs 1, 2, 3 and 4 on the control board (FA001) flash red, this indicates that the normally closed (NC) contacts (e.g. photocells, stop button) are open.

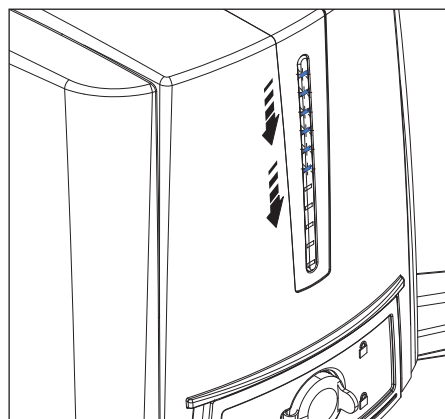


LED CONTROL BOARD (FA001) INDICATIONS

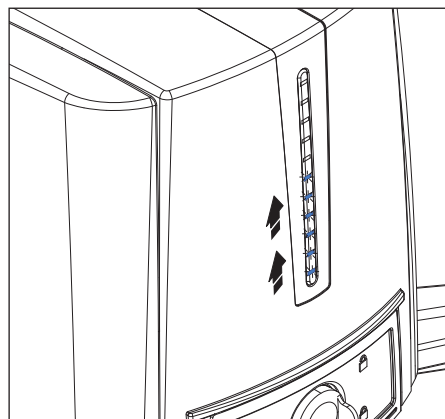
FAST switch-on of the blue LED UPWARDS, indicating that the leaves are opening.



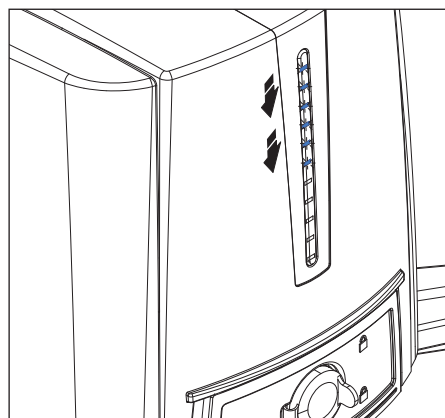
FAST switch-on of the blue LED DOWNWARDS, indicating that the leaves are closing.



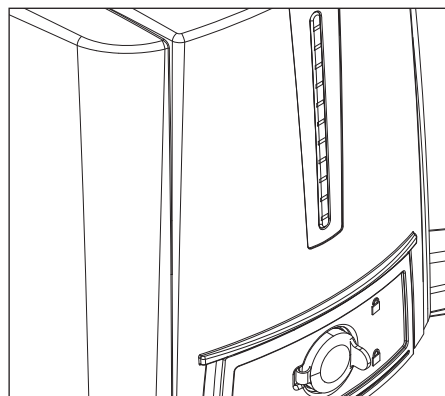
SLOW switch-on of the blue LED UPWARDS, indicating that the leaves are slowing down during opening.



SLOW switch-on of the blue LED DOWNWARDS, indicating that the leaves are slowing down during closing.



The CAME logo is always on.



DISMANTLING AND DISPOSAL

☞ CCAME S.p.A. implements an EN ISO 14001-certified and compliant Environmental Management System at its plants, to ensure environmental protection. Please continue our efforts to protect the environment, something that CAME considers to be one of the foundations in developing its business and market strategies, simply by observing brief recommendations as regards disposal:

♻️ DISPOSAL OF PACKAGING

Packaging components (cardboard, plastic, etc.) can be disposed of together with normal household waste without any difficulty, by simply separating the different types of waste and recycling them.

Before proceeding, it is always advisable to check specific regulations in force in the place of installation.

DISPOSE OF PROPERLY!

♻️ DISPOSAL OF THE PRODUCT

Our products are made with different materials. Most of them (aluminium, plastic, iron, electrical cables) can be disposed of together with normal household waste. They can be recycled if collected, sorted and sent to authorised centres.

Other components (control boards, transmitter batteries etc.), on the other hand, may contain pollutants.

They should therefore be removed and handed over to companies authorised to recover and recycle them.

Before proceeding, it is always advisable to check specific regulations in force in the place of disposal.

DISPOSE OF PROPERLY!

REFERENCE REGULATIONS

The product complies to the reference regulations in effect.

The contents of this manual may change, at any time, and without notice.

CAME 

CAME.COM

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