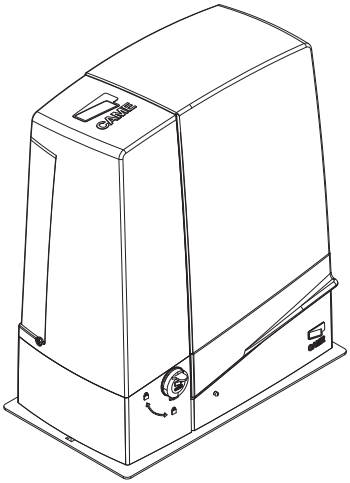
OPERATOR
FOR SLIDING GATES

FA00014-EN



BXV

Installation manual

SDN4 - SDN6 - SDN8 - SDN10

EN English

WARNING!
Important safety instructions for people:
READ CAREFULLY!

Foreword

• This product must only be used for its intended purpose. 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 gearmotor.

Before installing

(Checking what's there: if your evaluation is negative, do not proceed before having complied with all safety requirements)

• Check that the automated parts are in good mechanical order, that the gearmotor is level and aligned, and that it opens and closes properly. Make sure you have suitable mechanical stops • if the gearmotor is to be installed at a height of over 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 gearmotor, there must also be a 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 gearmotor • do not install the gearmotor upside down or onto elements that could yield and 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 gearmotor 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 demarcate the entire installation site to prevent unauthorized persons from entering the area, especially minors and children • be careful when handling gearmotors 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 (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 (such as the gate's plate) where necessary and in a visible place

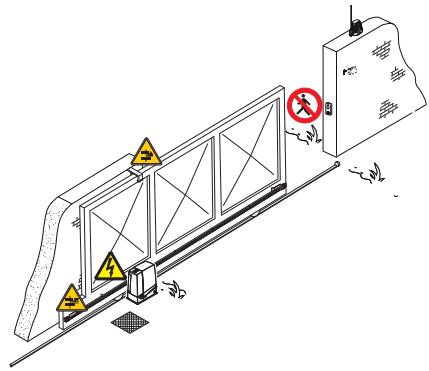
Special user-instructions and recommendations

• Keep gate operation areas clean and free of any obstructions. Make sure that the photocells are free of any overgrown vegetation and that the gearmotor'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 gearmotor from being accidentally activated. • The apparatus may be used by children of eight years and above and by physically, mentally and sensorially 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 about 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 GEARMOTOR 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 ANY SOLVENTS OR OTHER CHEMICAL PRODUCTS THAT MAY RUIN THE DEVICES • IF REPAIRS OR MODIFICATIONS ARE REQUIRED TO THE SYSTEM, RELEASE THE GEARMOTOR AND DO NOT USE IT UNTIL SAFETY CONDITIONS HAVE BEEN RESTORED • CUT OFF THE POWER SUPPLY BEFORE RELEASING THE GEARMOTOR 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 EXTRAORDINARY MAINTENANCE, CALL TECHNICAL ASSISTANCE • LOG THE JOB AND CHECKS INTO THE PERIODIC MAINTENANCE LOG.

ADDITIONAL SPECIAL RECOMMENDATIONS FOR EVERYONE

• KEEP AWAY FROM HINGES AND MECHANICAL MOVING PARTS • DO NOT ENTER THE GEARMOTOR'S AREA OF OPERATION WHEN IT IS MOVING • DO NOT COUNTER THE GEARMOTOR'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 POWER SUPPLY BEFORE PERFORMING ANY MAINTENANCE OR CLEANING.



DANGER OF HAND CRUSHING

DANGER! HIGH VOLTAGE.

NO TRANSITING WHILE THE BARRIER IS MOVING

DANGER OF FOOT CRUSHING

LEGEND

🕮 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.

REFERENCE REGULATIONS

Came S.p.A. is certified for the: ISO 9001 quality and ISO 14001 environmental management systems..
This product complies with the current regulations mentioned in the declaration of conformity.

DESCRIPTION

Operator complete with control board, movement control and obstruction detection device and mechanical limit switches for sliding gates weighing up 1,000 Kg and measuring 20 m in length.

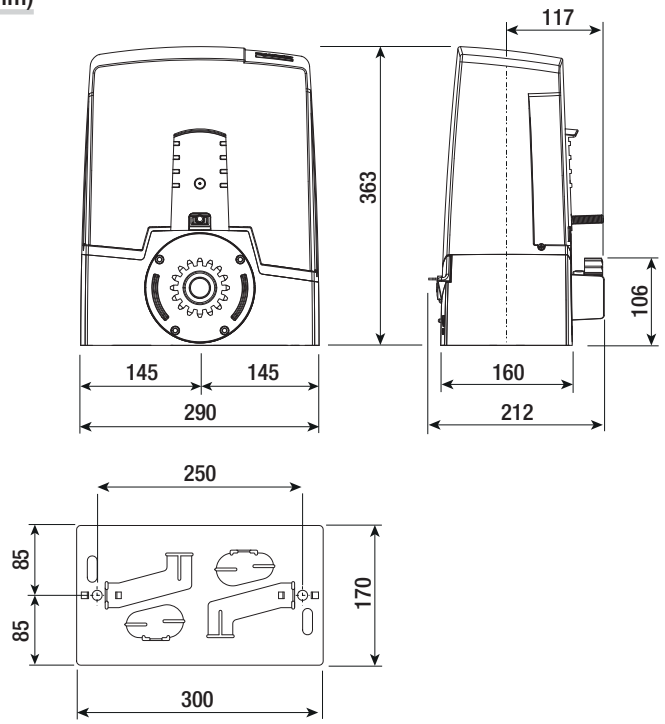
Intended use

The operator is designed to power sliding gates in residential and apartment block settings.
🕮 Any installation and/or use other than that specified in this manual is forbidden.

Limits to use

Type	SDN4	SDN6	SDN8	SDN10
Max. gate leaf length (m)	14	18	20	20
Maximum gate-leaf weight (kg)	400	600	800	1000
Pinion module	4	4	4	4

Dimensions (mm)

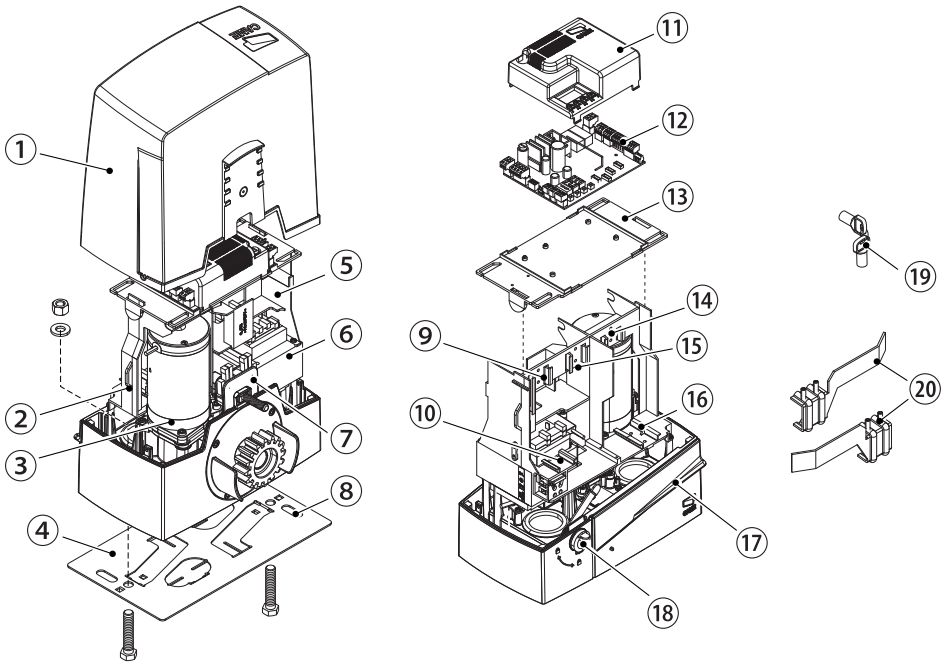


Technical data

Type	SDN4	SDN6	SDN8	SDN10
Protection rating (IP)	44	44	44	44
Power supply (V - 50/60 Hz)	230 AC	230 AC	230 AC	230 AC
Power supply motor (V)	24 DC	24 DC	24 DC	24 DC
Stand-by consumption (W)	5.5	5.5	5.5	5.5
Stand-by consumption with the RGP1 (W) module	0.5	0.5	0.5	0.5
Maximum power (W)	170	270	400	400
Duty cycle	INTENSIVE USE	INTENSIVE USE	INTENSIVE USE	INTENSIVE USE
Operating temperature (°C)	-20 ÷ +55	-20 ÷ +55	-20 ÷ +55	-20 ÷ +55
Thrust (N)	350	600	800	1000
Maneuvering speed (m/min)	12	12	11	11
Weight (Kg)	10	10.5	11.5	11.7

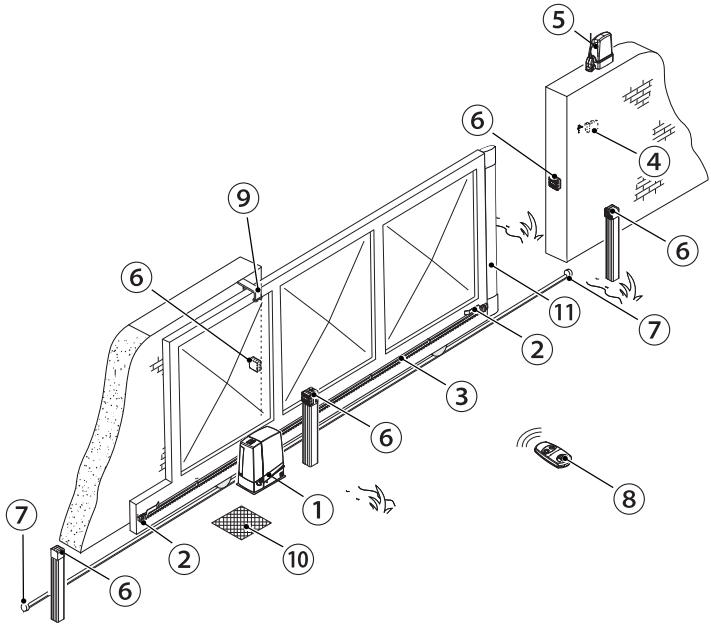
Description of parts

1. Cover
2. Board-fitting support
3. Gearmotor
4. Anchoring plate
5. Housing for two emergency batteries
6. Transformer
7. Mechanical limit switch
8. Release cable threading hole
9. Housing for the RGP1 module
10. Housing for thermostat with heating rod
11. Protection card lid
12. Control board
13. Control-board holder
14. Housing for the RLB39 battery charger
15. Housing for the GSM module
16. Housing for the SMA sensors
17. Release lever
18. Lock
19. Release key
20. Limit-switch fins



Standard installation

1. Operator
2. Limit-switch fins
3. Rack
4. Selector
5. Flashing light
6. Photocells
7. Mechanical gate stop
8. Transmitter
9. Slide guides
10. Junction pit
11. Sensitive safety-edge



GENERAL INSTALLATION INDICATIONS

⚠ Only skilled, qualified staff must install this product.

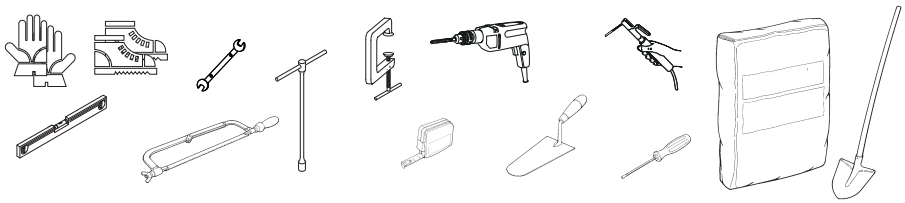
Preliminary checks

⚠ Before beginning the installation, do the following:

- check that the gate is stable and that the casters are in good working order and lubricated;
- check that the ground rails are well-fastened, entirely on the surface and are smooth and level so as not to obstruct the gate's movement;
- check that the upper slide-guides are friction-free;
- make sure there is are opening and closing mechanical gate stops;
- make sure that the point where the gearmotor is fastened is protected from any impacts and that the surface is solid enough;
- 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 (that is, with minimum contact openings of 3 mm);
- ⏚ make sure that any connections inside the container (ones that ensure continuity to the protection circuit) are fitted with additional insulation with respect to those of other electrical parts inside:
- set up suitable tubes and conduits for the electric cables to pass through, making sure they are protected from any mechanical damage.

Tools and materials

Make sure you have all the tools and materials you will need for installing in total safety and in compliance with applicable regulations. The figure shows some of the equipment installers will need.



Cable types and minimum thicknesses

Connection	Cable type	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
Control panel power supply 230 V AC	FROR CEI 20-22 CEI EN 50267-2-1	3G x 1.5 mm²	3G x 2.5 mm²	3G x 4 mm²
Flashing light		2 x 0.5 mm²		
Photocell transmitters		2 x 0.5 mm²		
Photocell receivers		4 x 0.5 mm²		
Command and safety device		2 x 0.5 mm²		
Antenna	the RG58 antenna	max 10 m		
Paired connection or CRP	UTP CAT5	max 1000 m		

📖 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

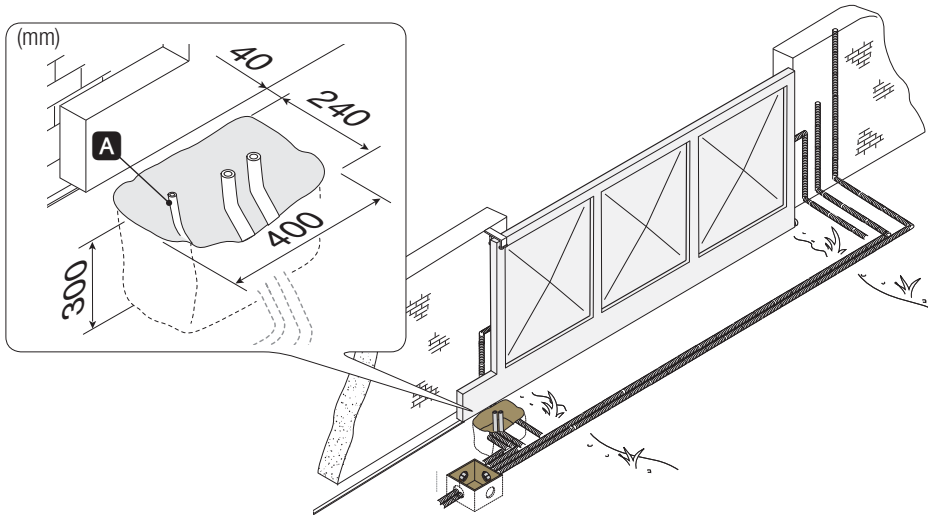
INSTALLATION

⚠The following illustrations are mere examples. Consider that the space available where to fit the barrier and accessories will vary depending on the area where it is installed. It is up to the installer to find the most suitable solution.

Corrugate tube laying

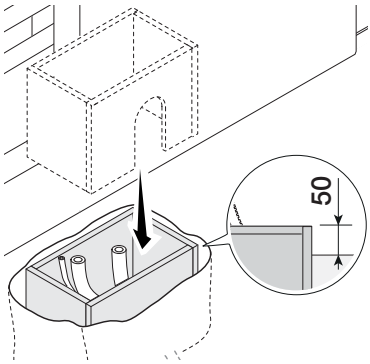
Dig a hole for the foundation frame.
Set up the corrugated tubes needed for making the connections coming out of the junction pit.
For connecting the gearmotor we suggest using a Ø 40 mm corrugated tube, whereas for the accessories we suggest Ø 25 mm tubes.
Set up a Ø 20 mm tube for running through the external release cable **A**.

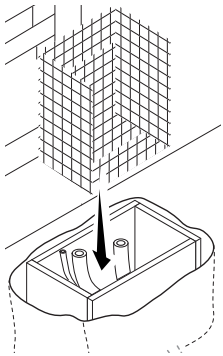
📖 The number of tubes depends on the type of system and the accessories you are going to fit.

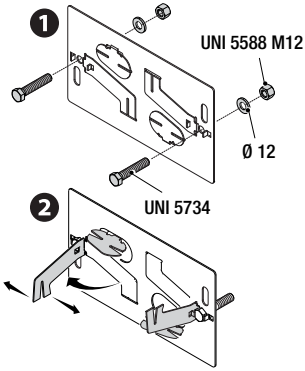


Laying the anchoring plate

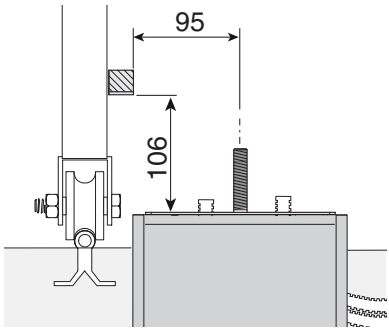
Set up a foundation frame that is larger than the anchoring plate and sink it into the dug hole. The foundation frame must jut out by 50 mm above ground level.
Fit an iron cage into the foundation frame to reinforce the concrete.
Fit the bolts into the anchoring plate and lock them using the washers and nuts. Remove the pre-shaped clamps using a screw driver or pliers.

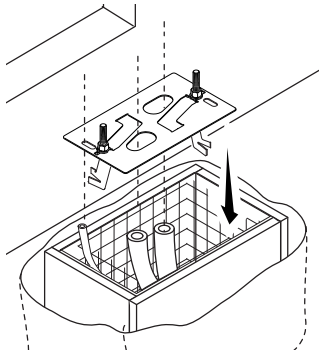




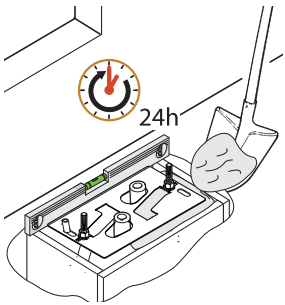


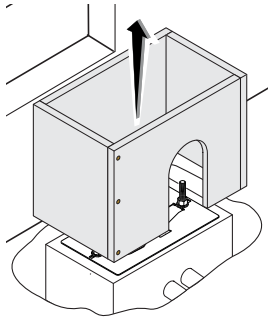
If the rack is already there, place the anchoring plate, being careful to respect the measurements shown in the drawing.
Careful! The tubes must pass through their corresponding holes.

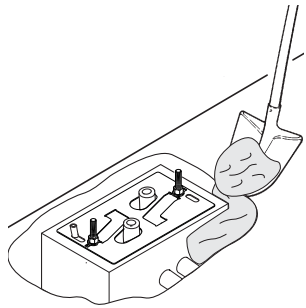




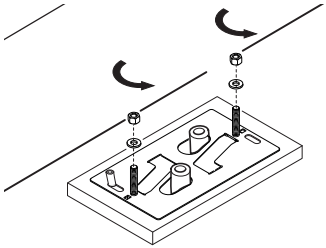
Fill the foundation frame with concrete. The plate must be perfectly level with the bolts which are entirely above surface.
Wait at least 24 hrs for the concrete to solidify.
Remove the foundation frame and fill the hole with earth around the concrete block.

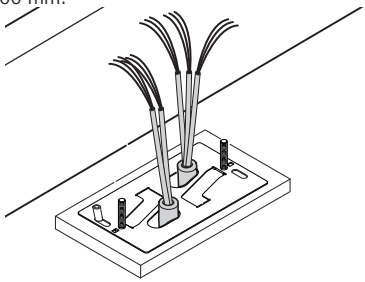






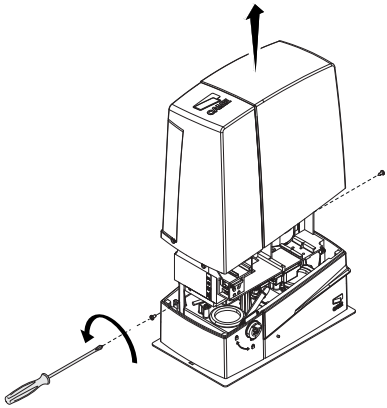
Remove the nut and washer from the bolts
Fit the electric cables into the tubes so that they come out about 600 mm.

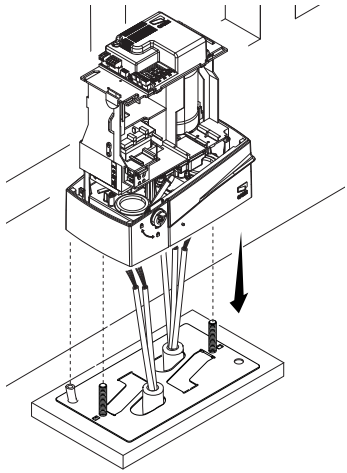




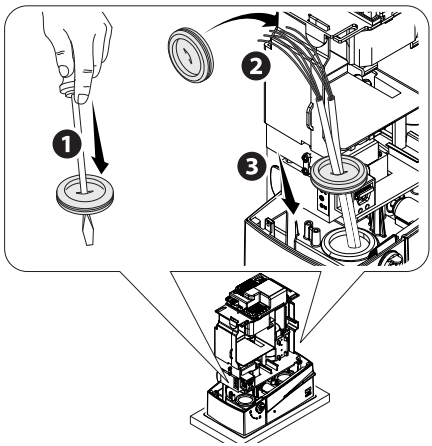
Setting up the gearmotor

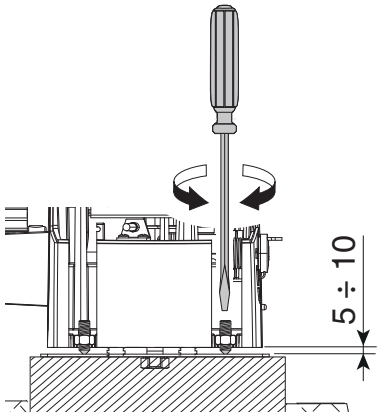
Remove the gearmotor cover by loosening the side screws.
Place the gearmotor above the anchoring plate.
Careful! The electric cables must pass under the gearmotor case.





Perforate the cable gland, pass the cables through and fit it into its corresponding housing.
Raise the gearmotor by 5 to 10 mm from the plate by turning the threaded feet, to make room for further pinion and rack adjustments.

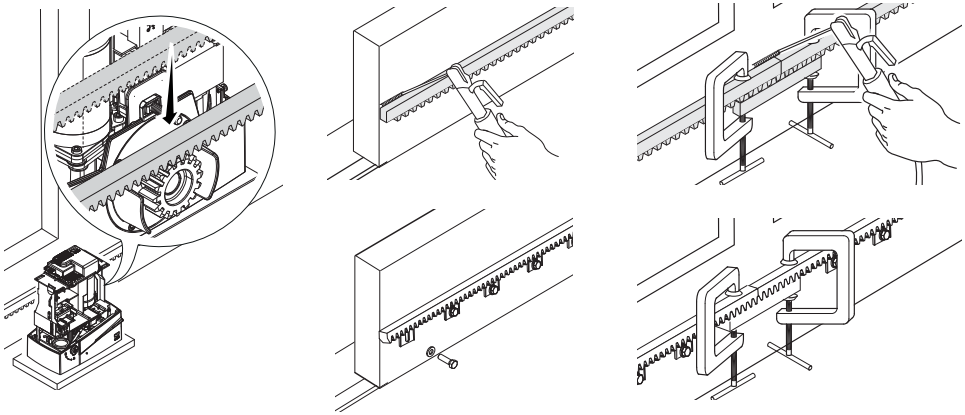




Fastening the rack

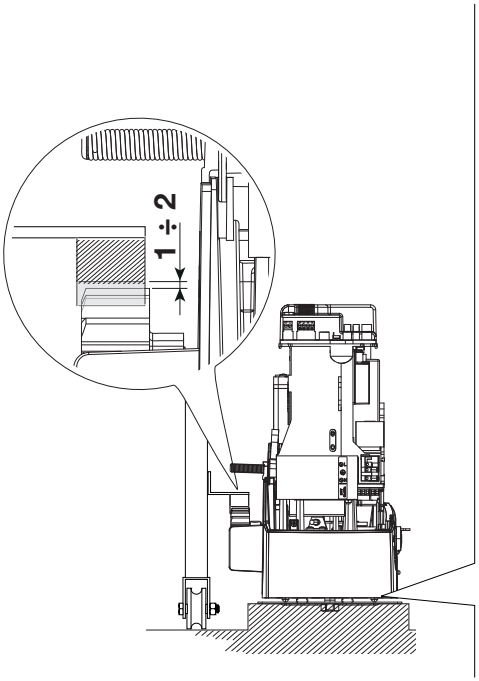
🕮 If the rack is already set up, the next step should be to adjust the rack-and-pinion coupling distance, otherwise, fasten it:
- release the gearmotor (see RELEASING THE GEARMOTOR paragraph);
- rest the rack above the gearmotor pinion;
- weld or fasten the rack to the gate along its entire length.

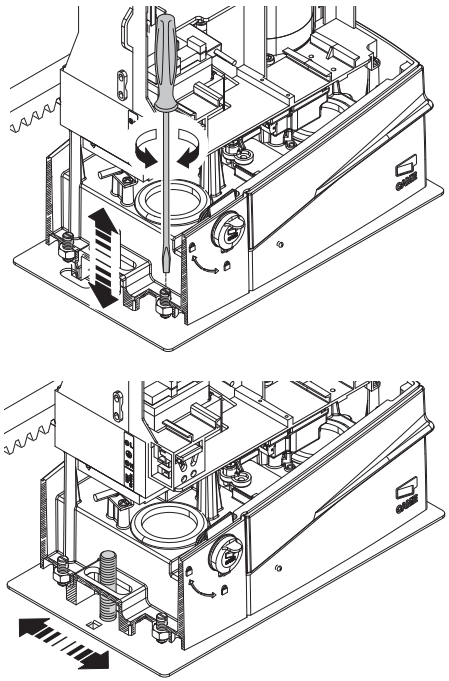
To assemble the rack modules, use an extra piece and rest it under the joint, then fasten it using two clamps.



Adjusting the pinion-rack coupling

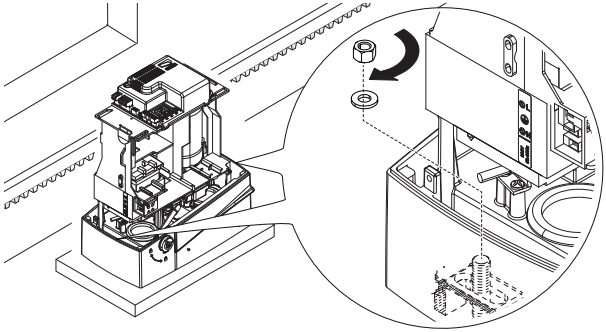
Manually open and close the gate and adjust the pinion-rack coupling distance using the threaded feet (vertical adjustment) and the holes (horizontal adjustment). This prevents the gate's weight from bearing down on the operator.





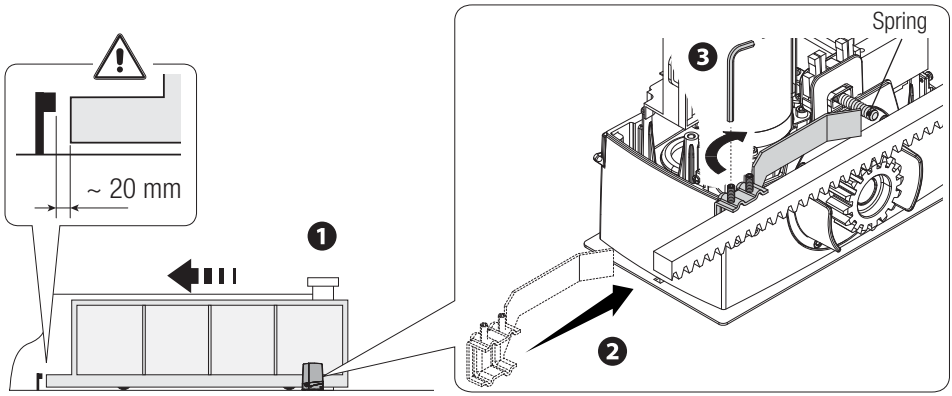
Fastening the gearmotor

Complete the adjusting, fasten the gearmotor to the plate using the washers and nuts.

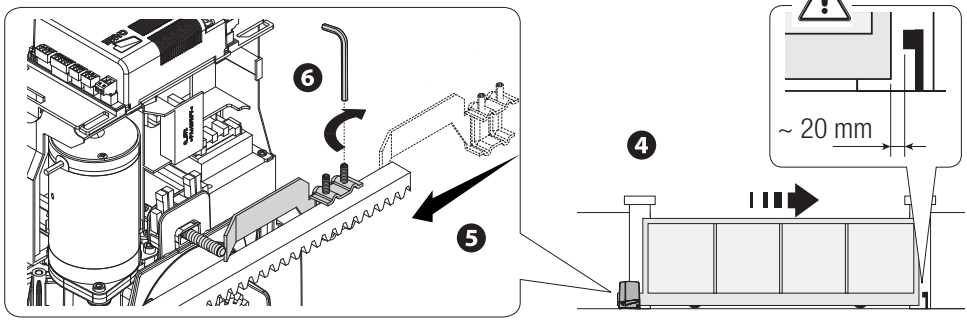


Establishing the limit-switch points

For opening:
- open the gate ❶;
- fit the opening limit-switch fin onto the rack until the micro switch activates (spring) and fasten it using the grub screws ❷❸.



For closing:
- close the gate ❹;
- fit the closing limit-switch fin into the rack until the micro-switch is activated (spring) and fasten it using the grub screws ❺❻.



ELECTRICAL CONNECTIONS AND PROGRAMMING

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

Power supply to the control board and control devices : 24 V AC/ DC.

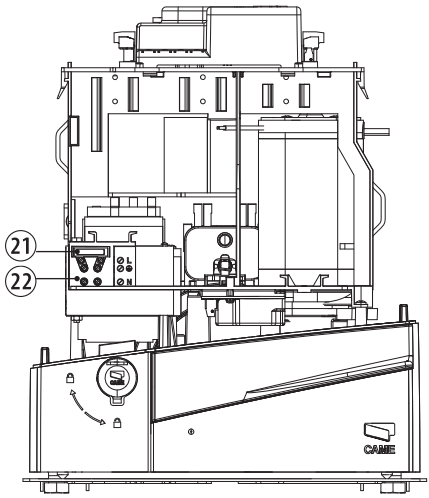
Functions on the input and output contacts, time adjustments and user-management settings are set and viewed on the control board's display.

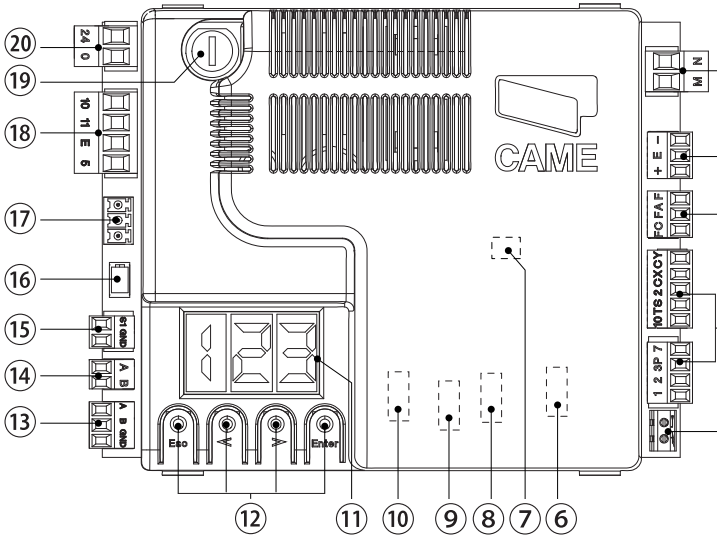
All connections are quick-fuse protected.

Fuses	ZN7
LINE - Line	1.6 A-F
ACCESSORIES - Accessories	2 A-F

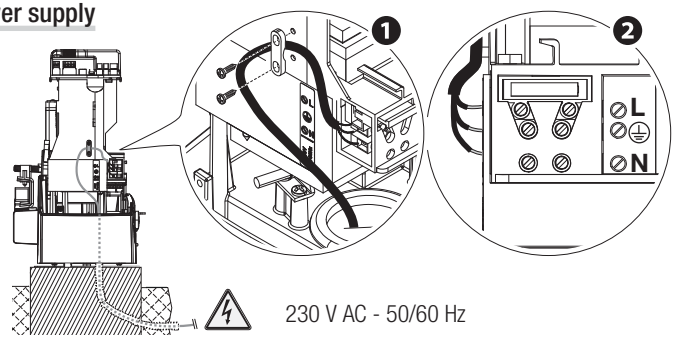
Description of parts

1. Terminal for gearmotors
2. Terminals for encoders
3. Terminals for limit-switches
4. Command and safety devices terminals
5. Antenna terminal
6. AF card connector
7. Memory Roll card connector
8. R700/R800 board connector
9. RSE board connector
10. Connector for the RIO-CONN card
11. Display
12. Programming buttons
13. Terminals for paired of CRP connection
14. Terminals for transponder devices
15. Keypad selector terminal
16. Connector for the GSM module
17. Terminals for the RGP1 module
18. Terminals for signaling devices
19. Accessories fuse
20. Terminals for powering the control board
21. Line fuse
22. Power supply terminal board

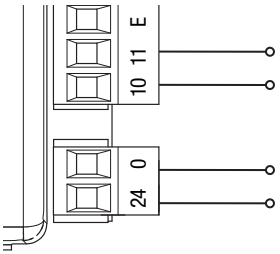




Power supply



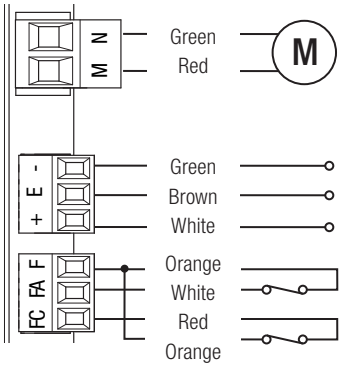
230 V AC - 50/60 Hz



24 V AC/DC - max 40 W accessories power-supply output

24 V AC/DC control board power-supply input

Factory wiring



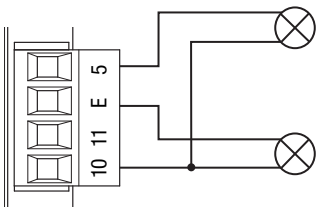
24 V DC gearmotor

Encoder

Opening limit-switch (NC contact)

Closing limit-switch (NC contact)

Signaling devices

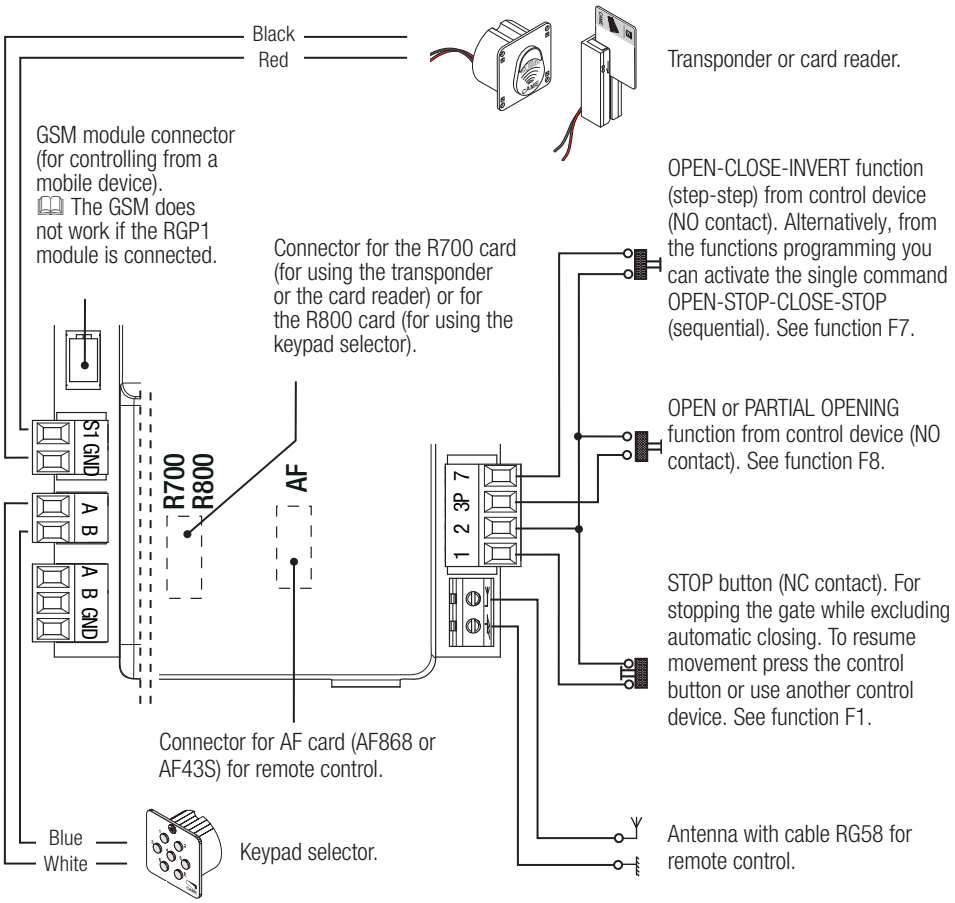


Gate open signaling output
(Contact rated for: 24 V AC/DC - 3 W max)
See function F 10.

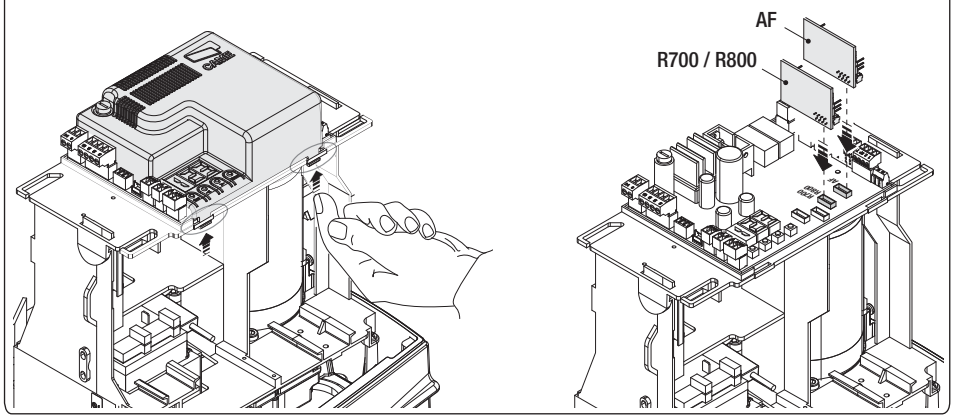
Either flashing light or cycle light connection output
(Contact rated for: 24 V AC/DC - 25 W max)
See function F 18.

Command and 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, remove the card cover.



Safety devices

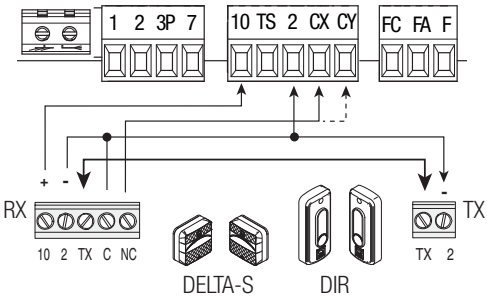
Photocells

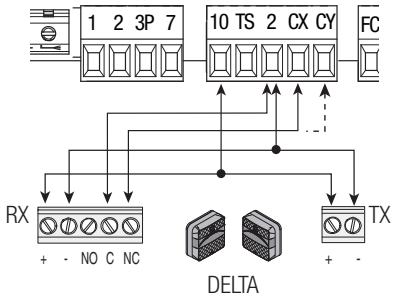
Configure contact CX or CY (NC), input for safety devices such as photocells, which comply with EN 12978 regulations.

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

- C1 reopening during closing. when the gate is closing, opening the contact causes the inversion of movement until opening is complete;
- 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. Stopping of the gate, if it is moving, with consequent automatic closing (if the automatic closing function has been entered);
- C4 obstacle wait. Stopping of the gate, if it is moving, which resumes movement once the obstruction is removed.

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





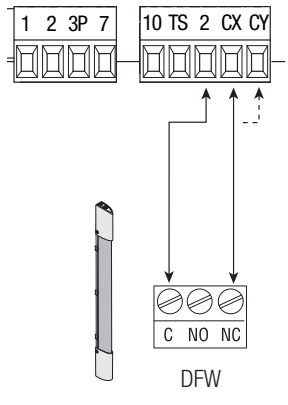
Sensitive Safety Edges

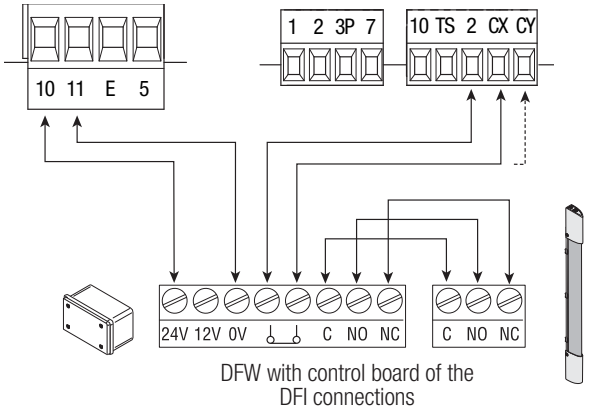
Configure contact CX or CY (NC), input for safety devices such as sensitive safety-edges, that are EN 12978 regulation compliant.

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

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

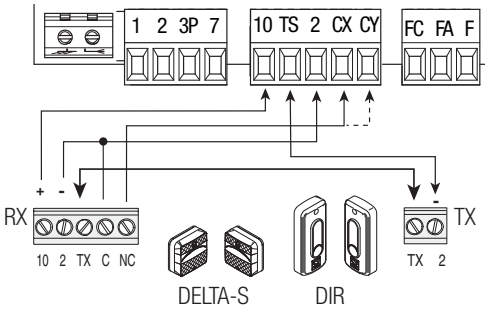
🕮 If contacts CX and CY are not used they should be deactivated during programming.

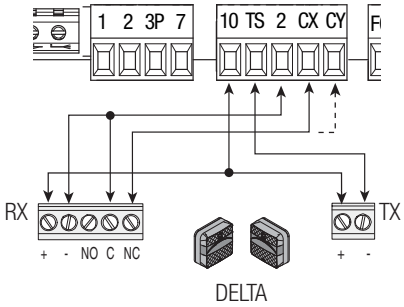




Connecting the safety devices (i.e. the safety test)

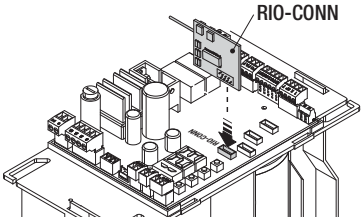
At each opening and closing command, the control board checks the efficacy of the safety devices (such as, photocells).
Any malfunction inhibits any command and is signaled on display E4.
Enable function F5 in programming.





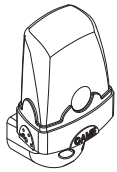
Rio Wireless devices

Fit the RIO-CONN card into the corresponding connector on the control board.
Set the function to be associated to the wireless device (F65, F66, F67 e F68).
Configure the RIO-EDGE, RIO-CELL and RIO-LUX wireless devices by following the indications shown in the folder enclosed with each accessory.
📖 If the devices are not configured with the RIO-CONN card, the E18 error message appears on the display.
⚠ If there are any radio-frequency disturbances to the system, the wireless system will inhibit the normal operation of the operator, and this error will show up on the display as E17.



RIO-EDGE

RIO-CELL

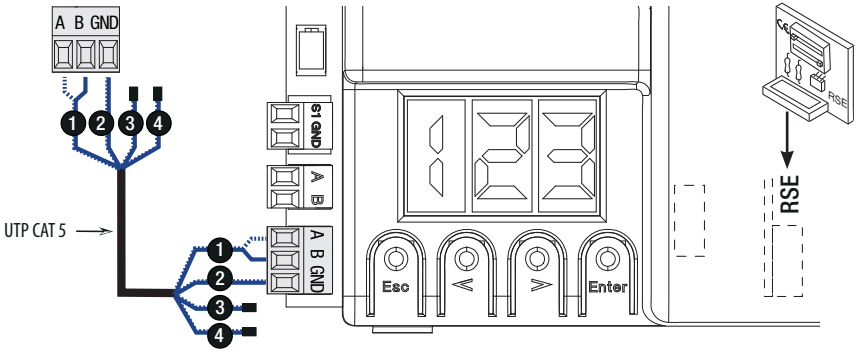


RIO-LUX

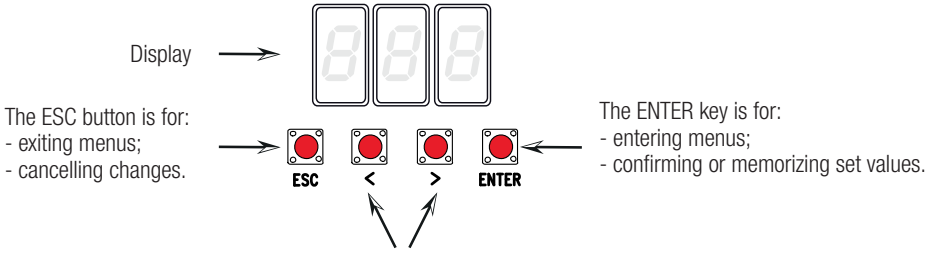
Connection for paired operation and for CRP (Came Remote Protocol)

See the PAIRED CONNECTION WITH SINGLE CONTROL chapter.

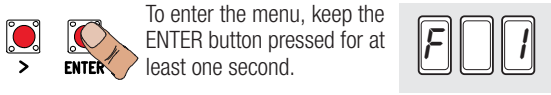
Fit the RSE card.

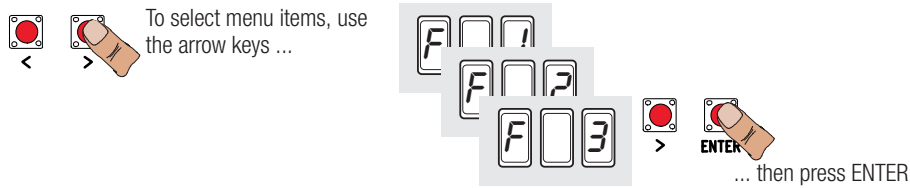


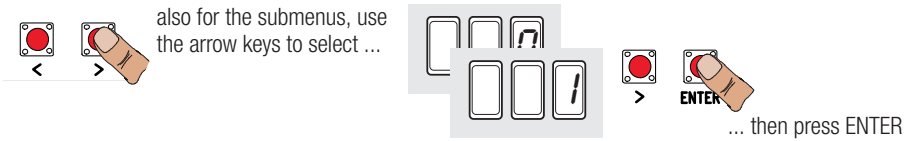
Description of programming commands

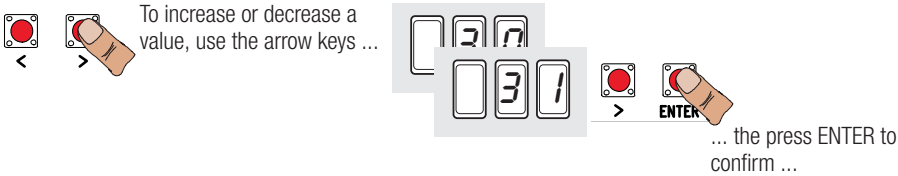


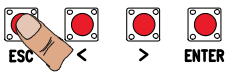
Browsing the menu











When the menu is active, the system cannot be used.

Functions map

F 1	Total stop function (1-2)
F 2	Function associated to input 2-CX
F 3	Function associated to input 2-CY
F 5	Safety test function
F 6	Maintained action function
F 7	Control mode on 2-7
F 8	Control mode on 2-3P
F 9	Obstruction detection with motor idle function
F 10	Function associated to the gate-open signaling output
F 11	Encoder exclusion
F 12	Slowed-down start function
F 14	Sensor type selection function
F 18	Additional light function
F 19	Automatic closing time
F 20	Automatic closing time after partial opening
F 21	Preflashing time
F 28	Adjusting opening speed
F 30	Adjusting opening slow-down speed
F 34	Sensitivity during movement
F 35	Sensitivity during slow-down
F 36	Adjusting partial opening
F 37	Adjusting the gearmotor's opening slow-down starting point
F 38	Adjusting the gearmotor's closing slow-down starting point
F 49	Managing the serial connection
F 50	Saving data in memory roll
F 51	Reading memory roll data
F 52	Transferring parameters from Master to Slave
F 54	Opening direction
F 56	Peripheral number
F 63	Changing COM speed
F 65	Function associated to the RIO-EDGE [T1] input
F 66	Function associated to the RIO-EDGE [T2] input
F 67	Function associated to the RIO-CELL [T1] input
F 68	Function associated to the RIO-CELL [T2] input
F 71	Partial opening time
U 1	Entering new user with an associated command
U 2	Deleting single users
U 3	Deleting all users
A 1	Motor-type setting
A 3	Calibrating travel
A 4	Resetting parameters
A 5	Counting maneuvers
H 1	Software version

Functions menu

📖 **IMPORTANT! Start programming by first performing the following: MOTOR-TYPE SETTING (A1), OPENING DIRECTION (F54), TOTAL STOP (F1) and TRAVEL CALIBRATION (A3)**

⚠ **Programming the features is to be done when the operator is stopped.**

📖 **You can memorize up to 25 users.**

F1	**Total stop [1-2]**	0 = Deactivated (**default**) / 1 = Activated
NC input – Gate stop that excludes any automatic closing; to resume movement, use the control device. The safety device is inserted into [1-2].		
F2	**Input [2-CX]**	0 = Deactivated (**default**) / 1 = C1 / 2 = C2 / 3 = C3 / 4 = C4 / 7 = C7 / 8 = C8
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, C8 = reclosing during opening by sensitive safety-edges.		
F3	**Input [2-CY]**	0 = Deactivated (**default**) / 1 = C1 / 2 = C2 / 3 = C3 / 4 = C4 / 7 = C7 / 8 = C8
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, C8 = reclosing during opening by sensitive safety-edges.		
F5	**Safety test**	0 = Deactivated (**default**) / 1 = CX / 2 = CY / 4 = CX+CY
After every opening or closing command, the board will check whether the photocells are working properly. 📖 The safety test is always active for wireless devices.		
F6	**Maintained action**	0 = Deactivated (**default**) / 1 = Activated
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.		
F7	**Command [2-7]**	0 = Step-step (**default**) / 1 = Sequential
From the control device connected to 2-7 it performs the step-step (open-close-invert) or sequential (open-stop-close-stop) command.		
F8	**Command [2-3P]**	0 = Opening (**default**) / 1 = Partial opening
From the control device connected to 2-3P it performs the total opening (0) or partial opening (1) of the gate. 📖 The partial opening time is adjusted on function F 71.		
F9	**Obstruction detection with motor idle**	0 = Deactivated (**default**) / 1 = Activated
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.		
F10	**Gate-.open signal output**	0 = lit when gate is open or moving (**default**) / 1 = when opening it flashes intermittently every half-second, when closing it flashes intermittently every second, stays lit when gate is open is off when gate is closed
It signals the gate status. The signal device is connected to contact 10-5.		
F11	**Encoder**	0 = Activated (**default**) / 1 = Deactivated

Managing slow-downs, obstruction detections and sensitivity.	
F12 Slowed-down departure	0 = Deactivated (**default**) / 1 = Activated
With each opening and closing command, the gate starts moving slowly for a few seconds.	
F14 Sensor type selection	0 = command with transponder sensor or magnetic card reader / 1 = command with keypad selector (**default**).
Setting the type of accessory for controlling the operator.	
F18 Additional light	0 = Flashing light (**default**) / 1 = Cycle
Output on contact 10-E. Flashing light: it flashes during the gate's opening and closing phases. Cycle: external light for increased lighting of the driveway, it stays lit from the beginning of the opening until complete closing, including the waiting time before the automatic closing.	
F19 Automatic closing time	0 = Deactivated (**default**) / 1 = 1 second / ... / 180 = 180 seconds
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 turn on if any of the safety devices trigger when an obstruction is detected, after a total stop or during a power outage.	
F20 Automatic closing time after a partial opening	0 = Deactivated / 1 = 1 second / … / 10 = seconds (**default**) / … / 180 = 180 seconds
The wait before the automatic closing starts after a partial opening command for an adjustable time of between 1 s and 180 s. The automatic closing does not turn on if any of the safety devices trigger when an obstruction is detected, after a total stop or during a power outage. 🕮 The F19 function must not be activated.	
F21 Preflashing time	0 = Deactivated (**default**) / 1 = 1 second / … / 10 = 10 seconds
Adjusting the pre-flashing time for the flashing light connected to 10-E before each maneuver. The flashing time is adjustable from 1 to 10 seconds.	
F28 Travel speed	60 = Minimum speed / … / 100 = Maximum speed (**default**)
Setting the gate's opening and closing speeds, calculated as a percentage.	
F30 Slow-down speed	10 = Minimum speed / … / 50 = Maximum speed (**default**)
Setting the gate's opening and closing slow-down speed, calculated as a percentage.	
F34 Boom travel sensitivity	10 = maximum sensitivity / … / 100 = minimum sensitivity (**default**)
Adjusting obstruction detection sensitivity during boom travel.	
F35 Slow-down sensitivity	10 = maximum sensitivity / … / 100 = minimum sensitivity (**default**)
Adjusting obstruction detection sensitivity during slow-down.	
F36 Adjusting partial opening	10 = 10% of the travel**(** default) / … / 80 = 80% of the travel
Adjustment as a percentage of total travel, during gate opening. 🕮 This function appears only is the Encoder function is activated.	

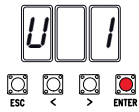
F37 Opening slow-down point	10 = 10% of the travel / … / 25 = 25% of the travel (**default**) / … / 60 = 60% of the travel
Percentage adjustment of the total gate travel, of the opening slow-down starting point. 🕮 This function appears only is the Encoder function is activated.	
F38 Closing slow-down point	10 = 10% of the travel / … / 25 = 25% of the travel (**default**) / … / 60 = 60% of the travel
Percentage adjustment of the total gate travel, from the closing slow-down starting point. 🕮 This function appears only is the Encoder function is activated.	
F49 Manage serial connection	0 = Deactivated (**default**) / 1 = Paired / 3 = CRP
To enable paired operation or the Came Remote Protocol.	
F50 Save data	0 = Deactivated (**default**) / 1 = Activated
Saving users and saved settings in memory roll. 🕮 This feature only appears if a memory roll has been fitted into the control board.	
F51 Read data	0 = Deactivated (**default**) / 1 = Activated
Uploading data saved in memory roll. 🕮 This feature only appears if a memory roll has been fitted into the control board.	
F52 Passing parameter in paired mode	0 = Deactivated (**default**) / 1 = Activated
Uploading settings from Master to Slave. 🕮 This appears only if function F49 is set to Paired.	
F54 Opening direction	0 = Opening towards the left (**default**) / 1 = Opening towards the right
For setting the gate opening direction.	
F56 Peripheral number	1 ----> 255
To set the peripheral's number from 1 to 255 for each control board when you have a system with several operators.	
F63 Change COM speed	0 = 1200 Baud / 1 = 2400 Baud / 2 = 4800 Baud / 3 = 9600 Baud / 4 = 14400 Baud / 5 = 19200 Baud / 6 = 38400 Baud / 7 = 57600 Baud / 8 = 115200 Baud
For setting the communication speed used in the CRP (Came Remote Protocol) connection system.	
F65 RIO-EDGE [T1] wireless input	0 = Deactivated (**default**) / 7 = P7 / 8 = P8
RIO-EDGE wireless safety device associated to any function chosen among those available: P7 = reopening during closing, P8 = reclosing during opening. For programming, see the instructions that come with the accessory. 🕮 This function only appears is the control board has been fitted with a RIO-CONN card.	
F66 RIO-EDGE [T2] wireless function	0 = Deactivated (**default**) / 7 = P7 / 8 = P8
RIO-EDGE wireless safety device associated to any function chosen among those available: P7 = reopening during closing, P8 = reclosing during opening. For programming, see the instructions that come with the accessory. 🕮 This function only appears is the control board has been fitted with a RIO-CONN card.	

F67 RIO-CELL [T1] wireless input	0 = Deactivated / 1 = P1 (**default**) / 2 = P2 / 3 = P3 / 4 = P4
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. For programming, see the instructions that come with the accessory. 📖 This function only appears is the control board has been fitted with a RIO-CONN card.	
F68 RIO-CELL [T2] wireless input	0 = Deactivated / 1 = P1 (**default**) / 2 = P2 / 3 = P3 / 4 = P4
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. For programming, see the instructions that come with the accessory. 📖 This function only appears is the control board has been fitted with a RIO-CONN card.	
F71 Partial opening time	5 = 5 seconds /..... / 40 = 40 seconds
After an opening command from the button connected to 2-3P, the gate opens for an adjustable time of between 5 seconds and 40 seconds. 📖 This function only appears if the Encoder function is deactivated.	
U 1 Entering a user	1 = Step-step command (open-close) / 2 = Sequential command (open-stop-close-stop) / 3 = Only open command / 4 = Partial command
Entering up to up to a 25 users maximum and associating to each one a function chosen among the existing ones. This must be done via transmitter or other control device (see "ENTERING USERS WITH ASSOCIATED COMMAND paragraph).	
U 2 Deleting a user	
Deleting a single user	
U 3 Deleting users	0 = Deactivated / 1 = Deleting all users
Deleting all users.	
A 1 Motor type	1 = 400 Kg / 2 = 600 Kg / 3 = 800 Kg / 4 = 1000 Kg
To set the gearmotor depending on the gate's weight.	
A 3 Calibrating boom travel	0 = Disable / 1 = Activate
Automatic calibration of the gate-leaf run (see the CALIBRATING GATE-LEAF RUN paragraph).	
A 4 Resetting parameters	0 = Disable / 1 = Activate
Warning! The default settings are restored and the travel calibration deleted.	
A 5 Counting maneuvers	0 = Number of maneuvers made / 1 = Deleting all maneuvers
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).	
H 1 Version	
View the firmware version.	

📖 When entering/deleting users, the flashing numbers that appear, are numbers that can be used for other users you may wish to enter (maximum 25 users).

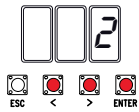
Entering a user with an associated command

Select U 1
Press ENTER to confirm.

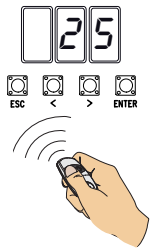


Select a command to associate to the user.
The commands are:
- step-step (open-close) = 1;
- sequential (open-stop-close-stop) = 2;
- open = 3;
- partial opening = 4.

Press ENTER to confirm...



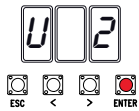
... a number from 1 to 25 will flash for a few seconds
Send the code from the transmitter or other control device, such as, a keypad selector or a transponder.
Associate the number to the entered user.



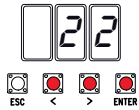
User	Associated command
1 -	
2 -	
3 -	
4 -	
5 -	
6 -	
7 -	
8 -	
9 -	
10 -	
11 -	
12 -	
13 -	
14 -	
15 -	
16 -	
17 -	
18 -	
19 -	
20 -	
21 -	
22 -	
23 -	
24 -	
25 -	

Deleting a single user

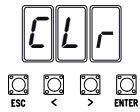
Select U 2.
Press ENTER to confirm.



Use the arrow keys select the number of the user you wish to delete.
Press ENTER to confirm...



... Clr will appear on the screen to confirm deletion.



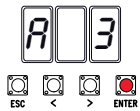
Travel calibration

📖 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.

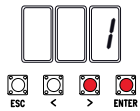
⚠ The mechanical end-stops are obligatory.

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

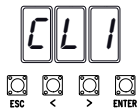
Select A 3.
Press ENTER to confirm.

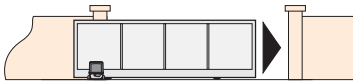


Select 1 and press ENTER to confirm the travel calibration operation.

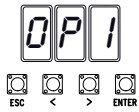


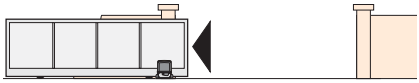
The gate will perform a closing maneuver until it reaches a final stop...





...then the gate will perform an opening maneuver until it reaches a final stop.

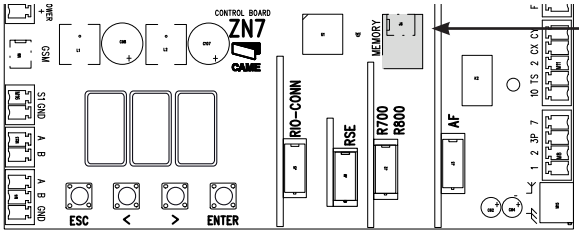




Memory Roll Card

To memorize user data and configure the system, to then reuse them with another control board even on another system.

📖 After memorizing the data, it is best to remove the Memory Roll.



Memory Roll.

PAIRED CONNECTION

🕮Important! Start by performing the following procedures on both operators:
- fit the RSE card (with the DIP-switches set to OFF) on the connector of both operator's cards.
- connect the two cards using a CAT 5 (max 1,000 m) cable on terminals A-A / B-B / GND-GND, see the PAIRED CONNECTION paragraph.
- connect all of the control and safety devices on the MASTER operator's control panel.

🕮Important! Deactivate function F19 (automatic closing time) on the SLAVE operator's control panel.

Configuring the MASTER operator

Select function F 49. Press ENTER to confirm.
Select 1 (paired) and press ENTER.
Perform settings and adjustments on the control board.

Transferring parameters from MASTER to SLAVE

Select function F 52 on the MASTER control panel.
Select 1 and press ENTER.

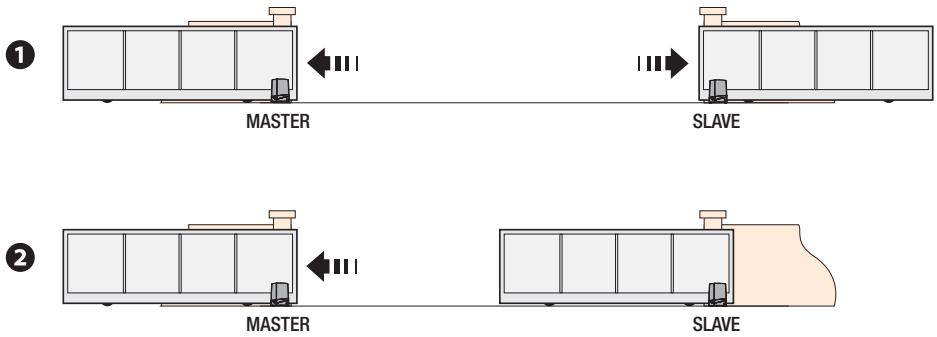
Programming

On both operators, set the following functions:
- the type of motor (A1);
- the opening direction (F54);
- total stop (F1);
- travel calibration (A3).

Proceed with the settings and adjustments on the MASTER control board.

Operating modes

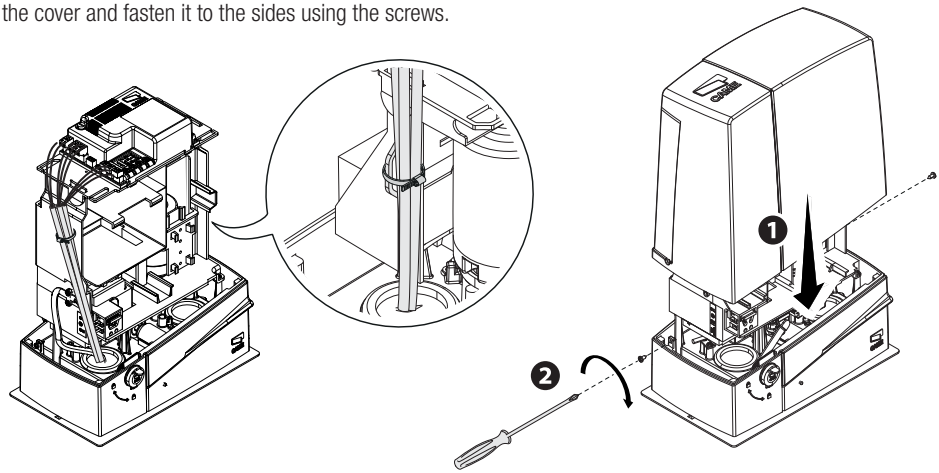
❶ Either STEP-STEP or ONLY OPEN command. Both leaves open.
❷ PARTIAL/PEDESTRIAN OPENING command. Only the MASTER operator's leaf opens.
For the types of command that can be selected and paired to users, see the ENTERING USERS WITH ASSOCIATED COMMANDS.



FINAL OPERATIONS

Once the electrical connections are done and the set up is finished, fasten the cables to the gearmotor jumper using a cable tie.

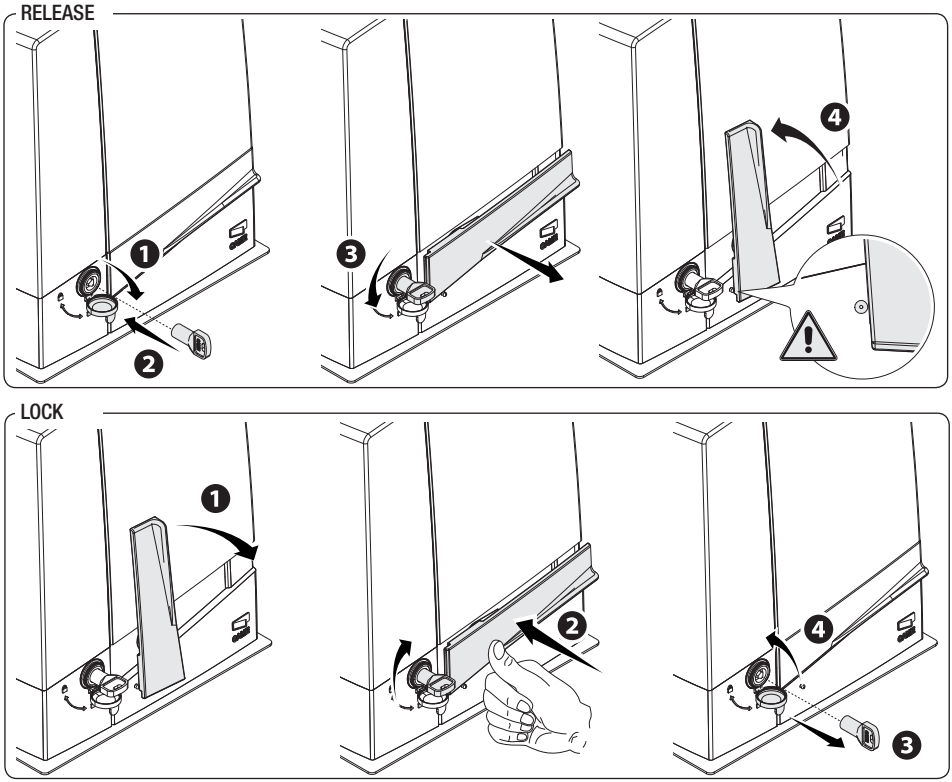
Fit the cover and fasten it to the sides using the screws.



RELEASING THE GEARMOTOR

⚠ 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.



ERROR MESSAGE

📖 The error messages are shown on the display.

E 1	The travel calibration was interrupted when the STOP button was activated
E 2	Calibrating the complete gate-travel
E 3	Encoder broken
E 4	Services test error
E 7	Insufficient working time
E 8	The NC contacts are open (for example, the limit-switches)
E 9	Closing obstruction
E 10	Opening obstruction
E 11	Maximum number of detected obstructions
E 14	Serial communication error
E 17	Wireless system error
E 18	The wireless system configuration is missing

MAINTENANCE

TROUBLES	POSSIBLE CAUSES	FIXES
It neither opens nor closes	• Power supply is missing • The gearmotor is stuck • The transmitter doesn't work • The transmitter is broken • The stop button is either stuck or broken • The opening/closing button or the key-switch selector is stuck • The wireless accessory does not work	• Check main power supply • Lock the gearmotor • Replace the batteries • Call for assistance • Call for assistance • Call for assistance • Call for assistance
The gate opens but does not close	• The photocells are dirty	• Clean and check proper functioning of the photocells

MAINTENANCE

Periodic maintenance

☞ Before any maintenance job, cut off the mains power supply, to prevent hazardous situations due to accidental movement of the operator.

Periodic maintenance log to be filled in by users 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 _____	

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 urban waste, and simply separated from other waste for recycling.

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

DO NOT DISPOSE OF IN NATURE!

♻ DISMANTLING AND DISPOSAL

Our products are made of various materials. Most of these (aluminum, plastic, iron, electrical cables) is 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.

DO NOT DISPOSE OF IN NATURE!

DECLARATION OF CONFORMITY

Declaration CE - Came S.p.A. declares that this device conforms to the essential, pertinent requirements provided by directives 2006/42/CE, 2006/95/CE and 2004/108/CE.

An original copy of the declaration of conformity is available on request.

*English - Manual code **FA00014-EN** v. **3** 04/2016 - © Came S.p.A.*
The data and information in this manual are susceptible to changes at any time and without prior notice

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