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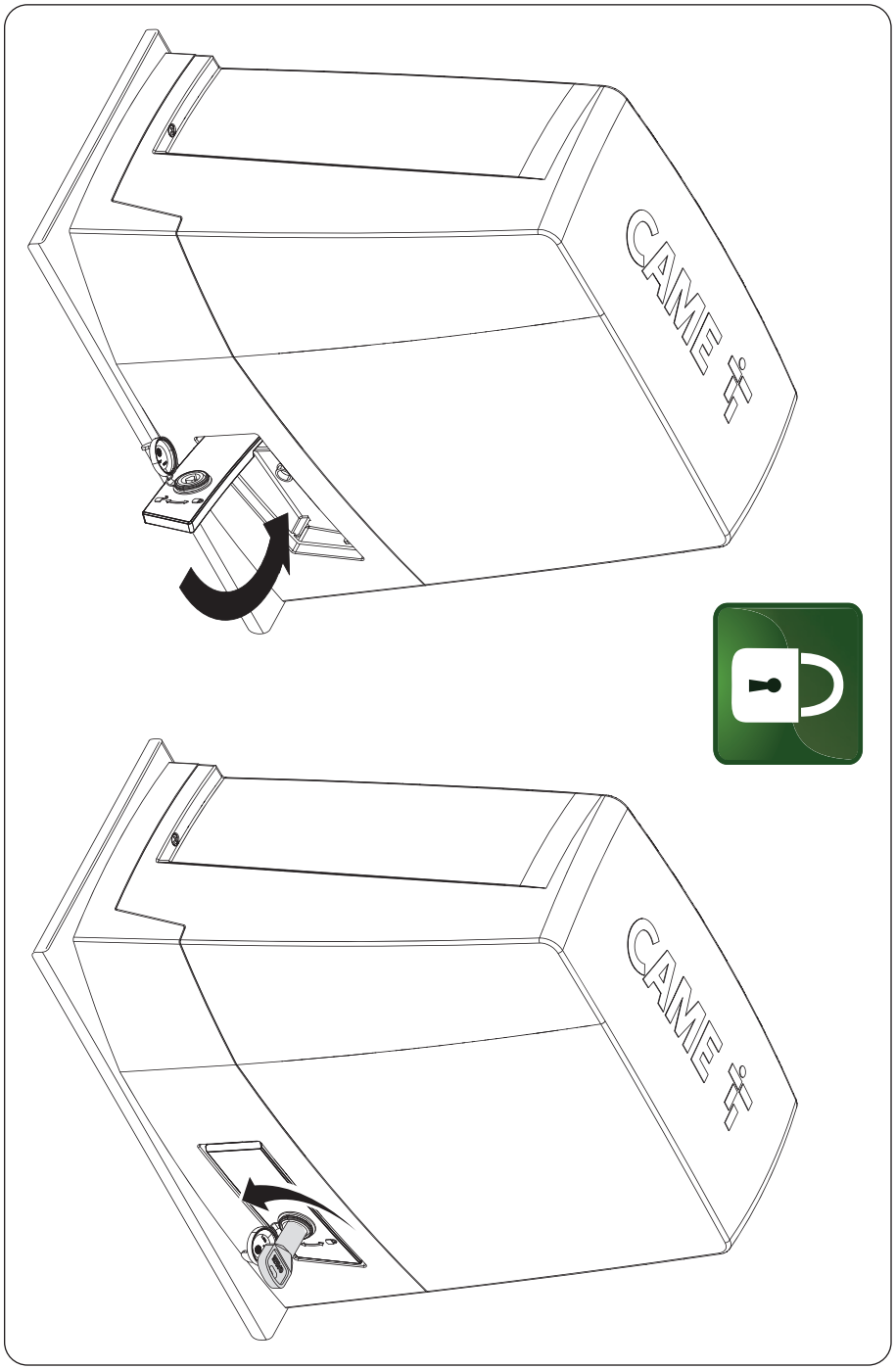
FA01443-EN

# Sliding-gate operators

## BKV15AGE BKV20AGE BKV25AGE
## BKV15AGS BKV20AGS BKV25AGS
## BKV15ALS BKV20ALS BKV25ALS
## BKV15RGS BKV20RGS

INSTALLATION MANUAL

EN English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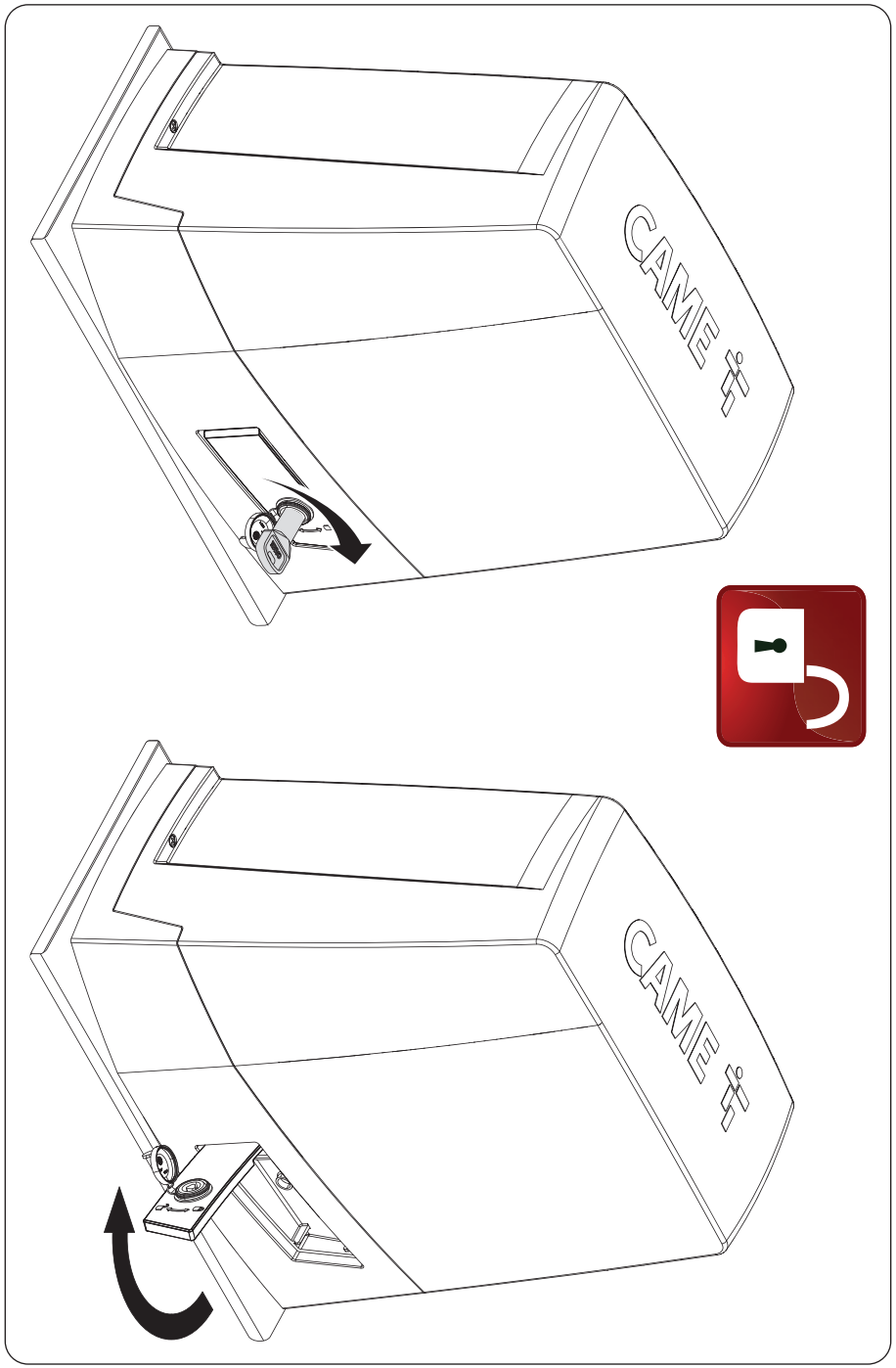
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## GENERAL PRECAUTIONS FOR INSTALLERS

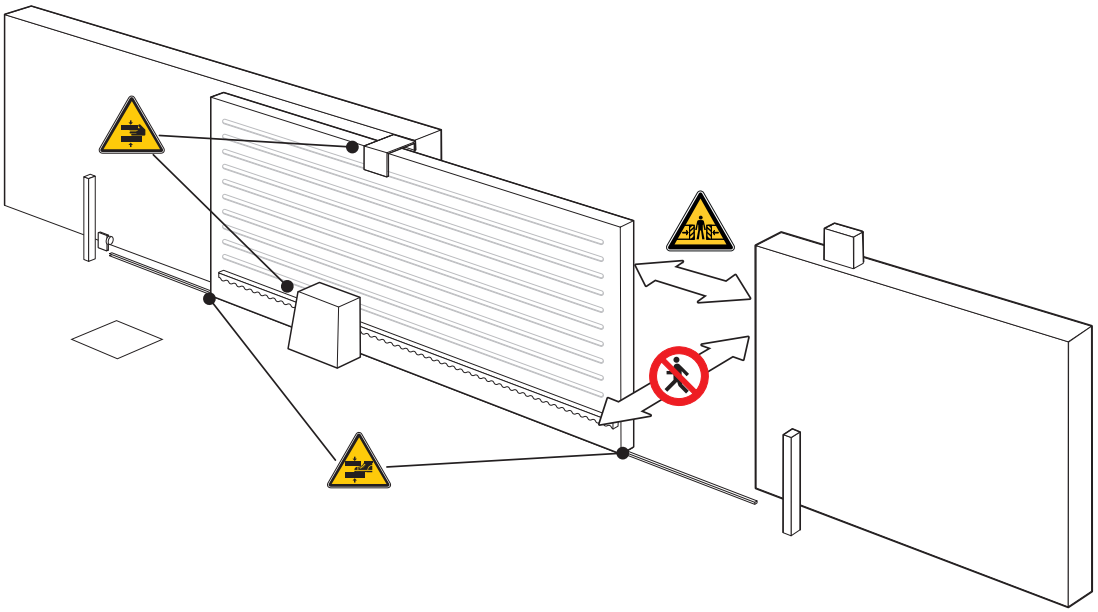
***⚠ Important safety instructions.***

***⚠ Please follow all of these instructions. Improper installation may cause serious bodily harm.***

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

Only use this product for its intended purpose. Any other use is hazardous. • The manufacturer cannot be held liable for any damage caused by improper, unreasonable or erroneous use. • This product is defined by the Machinery Directive (2006/42/EC) as partly completed machinery. • Partly completed machinery means an assembly which is almost machinery but which cannot in itself perform a specific application. • Partly completed machinery is only intended to be incorporated into or assembled with other machinery or other partly completed machinery or equipment thereby forming machinery to which the Machinery Directive (2006/42/EC) applies. • The final installation must comply with the Machinery Directive (2006/42/EC) and the European reference standards in force. • The manufacturer declines any liability for using non-original products, which would also void the warranty. • All operations indicated in this manual must be carried out exclusively by skilled and qualified personnel and in full compliance with the regulations in force. • The device must be installed, wired, connected and tested according to good professional practice, in compliance with the standards and laws in force. • Make sure the mains power supply is disconnected during all installation procedures. • Check that the temperature ranges given are suitable for the installation site. • Do not install on slopes i.e. any surfaces that are not perfectly level. • Do not install the operator on surfaces that could yield and bend. If necessary, add suitable reinforcements to the anchoring points. • Make sure that no direct jets of water can wet the product at the installation site (sprinklers, water cleaners, etc.). • Make sure you have set up a suitable dual-pole cut-off device along the power supply that is compliant with the installation rules. It should completely cut off the power supply according to category III surcharge conditions. • Demarcate the entire site properly to prevent unauthorised personnel from entering, especially minors. • In case of manual handling, have one person for every 20 kg that needs hoisting; for non-manual handling, use proper hoisting equipment in safe conditions. • Use suitable protection to prevent any mechanical hazards due to persons loitering within the operating range of the operator. • The electrical cables must pass through special pipes, ducts and cable glands in order to guarantee adequate protection against mechanical damage. • The electrical cables must not touch any parts that may overheat during use (such as the motor and transformer). • Before installation, check that the guided part is in good mechanical condition, and that it opens and closes correctly. • The product cannot be used to automate any guided part that includes a pedestrian gate, unless it can only be enabled when the pedestrian gate is secured. • Make sure that nobody can become trapped between the guided and fixed parts, when the guided part is set in motion. • Use additional protection to prevent your fingers from being crushed between the pinion and rack. • All fixed controls must be clearly visible after installation, in a position that allows the guided part to be directly visible, but far away from moving parts. In the case of a hold-to-run control, this must be installed at a minimum height of 1.5 m from the ground and must not be accessible to the public. • If not already present, apply a permanent tag that describes how to use the manual release mechanism close to it. • Make sure that the operator has been properly adjusted and that the safety and protection devices and the manual release are working properly. • Before handing over to the final user, check that the system complies with the harmonised standards and the essential requirements of the Machinery Directive (2006/42/EC). • Any residual risks must be indicated clearly with proper signage affixed in visible areas, and explained to end users. • Put the machine's ID plate in a visible place when the installation is complete. • If the power-supply cable is damaged, it must be immediately replaced by the manufacturer or by an authorised technical assistance centre, or in any case, by qualified staff, to prevent any risk. • Keep this manual inside the technical folder along with the manuals of all the other devices used for your automation system. • Make sure to hand over to the end user all the operating manuals of the products that make up the final machinery.

## Main points of danger for people



No transiting while the barrier is moving.

Risk of entrapment.

Risk of trapping hands.

Risk of trapping feet.

## DISMANTLING AND DISPOSAL

CAME S.p.A. employs an Environmental Management System at its premises. This system is certified and compliant with the UNI EN ISO 14001 standard to ensure that the environment is respected and 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, etc.) can be disposed of easily as solid urban waste, separated for recycling.

Before dismantling and disposing of the product, please always check the local laws in force.

DISPOSE OF THE PRODUCT RESPONSIBLY

DISPOSING OF THE PRODUCT

Our products are made of various materials. Most of these materials (aluminium, plastic, iron and electrical cables) are classified as solid urban waste. They can be separated for recycling and disposed of at authorised waste treatment plants.

Other components (electronic boards, transmitter batteries, etc.) may contain pollutants.

These must be removed and disposed of by an authorised waste disposal and recycling firm.

It is always advisable to check the specific laws that apply in your area.

DISPOSE OF THE PRODUCT RESPONSIBLY

## PRODUCT DATA AND INFORMATION

### Key

📖 This symbol shows which parts to read carefully.

⚠ This symbol shows which parts describe safety issues.

☛ This symbol shows what to tell users.

📖 The measurements, unless otherwise stated, are in millimetres.

### Description

801MS-0300
BKV15AGS - Operator with 36 V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, movement and obstruction-detecting device for gates weighing up to 1500 kg that are up to 20 m long.

801MS-0310
BKV20AGS - Operator with 36 V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, movement and obstruction-detecting device for gates weighing up to 2000 kg that are up to 20 m long.

801MS-0320
BKV25AGS - Operator with 36 V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, movement/obstruction-detection device and module 6 pinion for gates weighing up to 2500 kg that are up to 20 m long.

801MS-0330
BKV15RGS - High performance operator with 36V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, movement and obstruction-detecting device for gates weighing up to 1500 kg that are up to 20 m long.

801MS-0340
BKV20RGS - High performance operator with 36V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, movement and obstruction-detecting device for gates weighing up to 2000 kg that are up to 20 m long.

801MS-0350
BKV15AGE - Plus operator with 36 V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, magnetic limit switches and clock accessory included for gates weighing up to 1500 kg that are up to 20 m long.

801MS-0360
BKV20AGE - Plus operator with 36 V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, magnetic limit switches and clock accessory included for gates weighing up to 2000 kg that are up to 20 m long.

801MS-0370
BKV25AGE - Plus operator with 36 V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, module 6 pinion, magnetic limit switches and clock accessory included for gates weighing up to 2500 kg that are up to 20 m long.

801MS-0301
BKV15ALS - High-performance operator with 36V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, movement and obstruction-detecting device for gates weighing up to 1500 kg that are up to 20 m long. RAL 7040 grey cover.

801MS-0311
BKV20ALS - High-performance operator with 36V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, movement and obstruction-detecting device for gates weighing up to 2000 kg that are up to 20 m long. RAL 7040 grey cover.

801MS-0321
BKV25ALS - High-performance operator with 36 V motor, featuring a control board with graphic display, Adaptive Speed & Torque Technology, 4 safety inputs, movement and obstruction-detecting device, and module 6 pinion for gates weighing up to 2500 kg that are up to 20 m long. RAL 7040 grey cover.

### Intended use

Solution for large sliding gates.

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

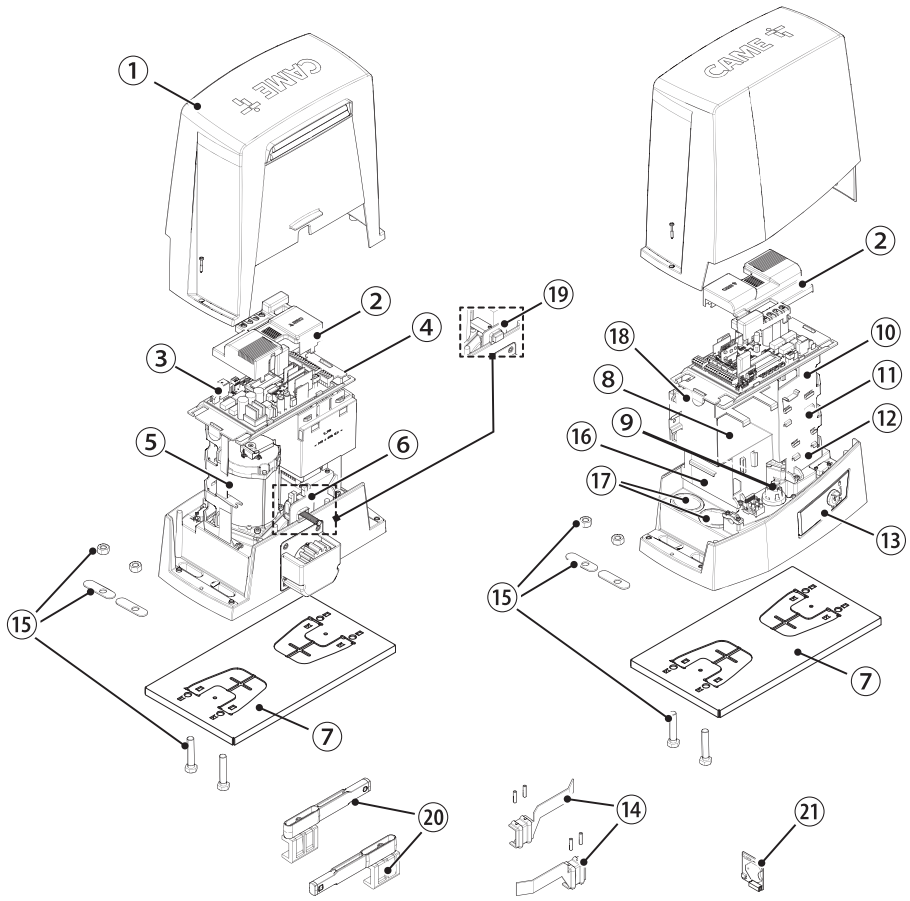
## Description of parts

### Operator

❶ Cover
❷ Board protection cover
❸ Control board
❹ Board-holder support
❺ Gearmotor
❻ Mechanical limit switch
❼ Anchoring plate
❽ Housing for two emergency batteries
❾ Housing for thermostat with cartridge
❿ Housing for the RGSM001 module
⓫ Housing for the 806SA-0090 card
⓬ Housing for the RGP1 module
⓭ Release lever
⓮ Mechanical limit-switch tabs
⓯ Fixtures and fittings
⓰ Housing for UR042 module
⓱ Holes for the electrical cables
⓲ Housing for SMA module
⓳ Magnetic limit switch*
⓴ Magnetic limit-switch tabs*
㉑ Clock card (806SA-0120)*

* Only for BKV15AGE, BKV20AGE and BKV25AGE

* 🕮 Magnetic limit switches are an alternative to mechanical limit switches.



## Control board

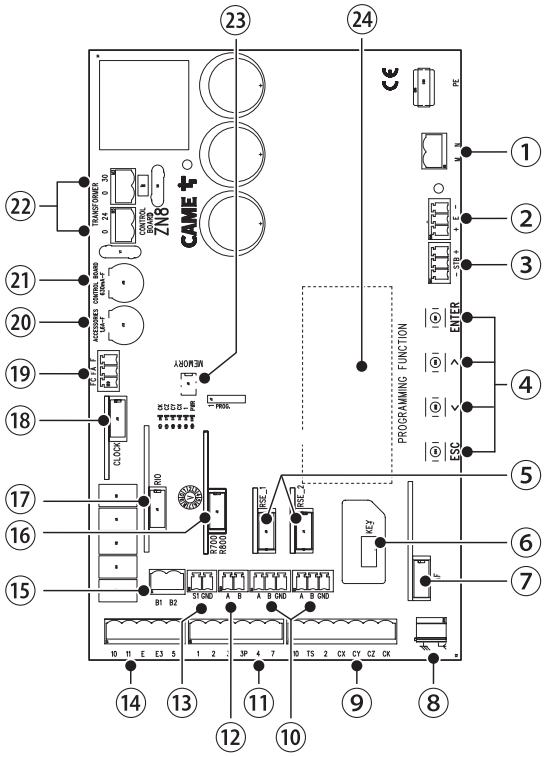
📖 The functions on the input and output contacts, the time settings and user management are set and viewed on the display.

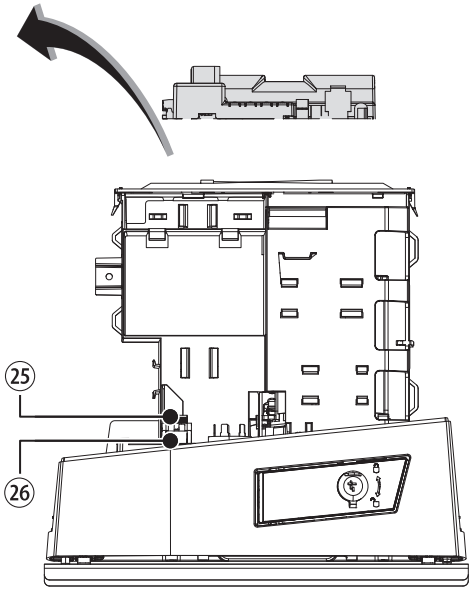
📖 All connections are protected by quick fuses.

⚠ For the system to work properly, before fitting any plug-in card, DISCONNECT THE MAIN POWER SUPPLY and remove any batteries.

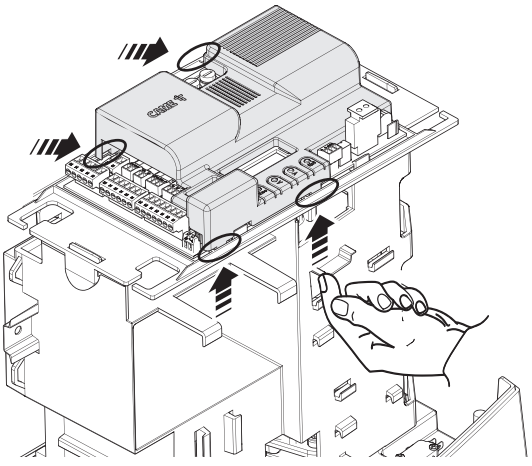
⚠ Before working on the control panel, disconnect the mains power supply and remove the batteries, if any.

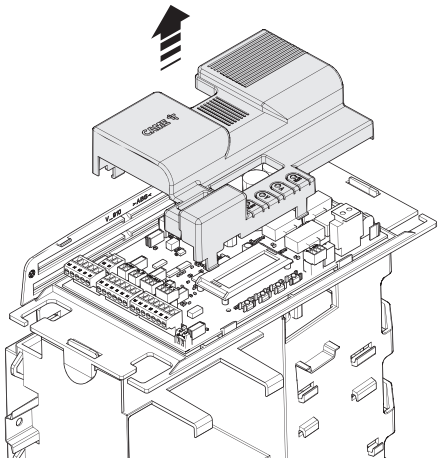
1. Terminal board for connecting the gearmotor
2. Terminal board for connecting the encoder
3. Terminal board for connecting the RGP1 module or 806SA-0090 card
4. Programming buttons
5. RSE card connector
6. Connector for CAME KEY
7. Connector for plug-in radio frequency card (AF)
8. Terminal board for connecting the antenna
9. Terminal board for connecting the safety devices
10. Terminal board for connecting the paired function or the CRP
11. Terminal board for connecting control devices
12. Terminal board for connecting the keypad selector
13. Terminal board for connecting the transponder selector switch
14. Terminal board for connecting the signalling devices
15. Terminal board for B1-B2 output
16. Connector for the R700 or R800 decoding card
17. Connector for the RIOCN8WS module
18. Connector for the clock card (806SA-0120)
19. Terminal board for limit-switch micro-switches
20. Accessories fuse
21. Control board fuse
22. Terminal board for connecting the transformer
23. Memory Roll card connector
24. Display
25. Line fuse
26. Power supply terminal board



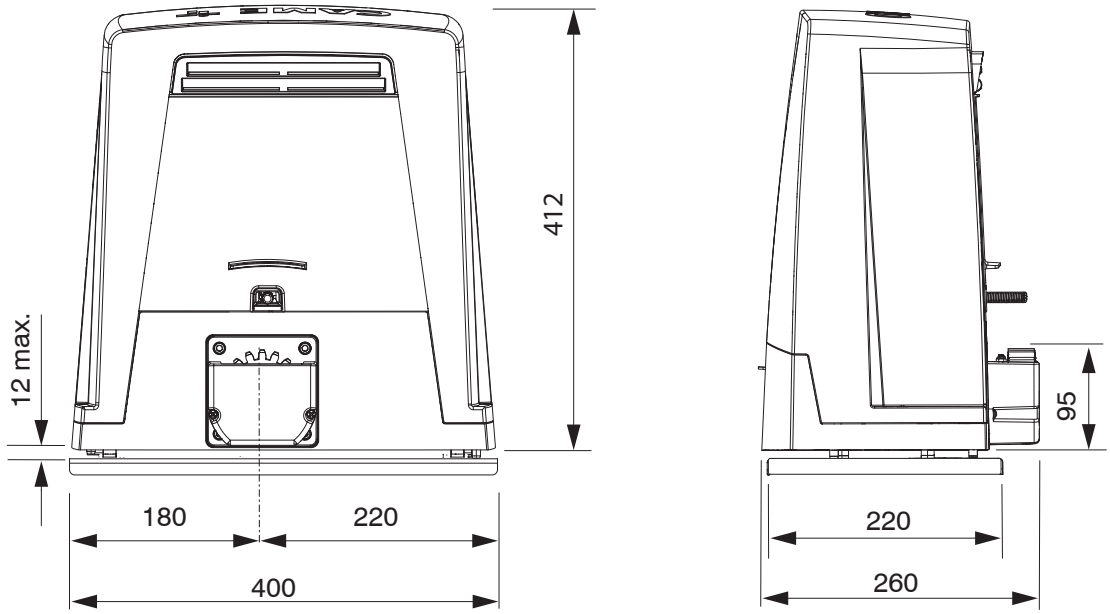



📖 Remove the card cover before inserting the cards into the connectors.





## Size




## Usage limitations

| MODELS | BKV15AGS | BKV20AGS | BKV25AGS | BKV15RGS | BKV20RGS |
|---|---|---|---|---|---|
| Pinion module | 4 | 4 | 6 | 4 | 4 |
| Maximum gate-leaf length (m) | 20 | 20 | 20 | 20 | 20 |
| Maximum gate-leaf weight (kg) | 1500 | 2000 | 2500 | 1500 | 2000 |

| MODELS | BKV15AGE | BKV20AGE | BKV25AGE | BKV15ALS | BKV20ALS | BKV25ALS |
|---|---|---|---|---|---|---|
| Pinion module | 4 | 4 | 6 | 4 | 4 | 6 |
| Maximum gate-leaf length (m) | 20 | 20 | 20 | 20 | 20 | 20 |
| Maximum gate-leaf weight (kg) | 1500 | 2000 | 2500 | 1500 | 2000 | 2500 |

## Technical data

| MODELS | BKV15AGS | BKV20AGS | BKV25AGS | BKV15RGS | BKV20RGS |
|---|---|---|---|---|---|
| Power supply (V - 50/60 Hz) | 230 AC | 230 AC | 230 AC | 120 AC | 120 AC |
| Motor power supply (V) | 36 DC | 36 DC | 36 DC | 36 DC | 36 DC |
| Board power supply (V) | 26 DC | 26 DC | 26 DC | 26 DC | 26 DC |
| Standby consumption (W) | 14 | 14 | 14 | 14 | 14 |
| Standby consumption with the RGP1 (W) module | 0,8 | 0,8 | 0,8 | 0,8 | 0,8 |
| Power (W) | 200 | 250 | 300 | 200 | 250 |
| Transformer thermal protection (°C) | 120 | 120 | 120 | 120 | 120 |
| Current draw (mA) | 8 | 9 | 10 | 8 | 9 |
| Maximum current draw (mA) | 20 | 20 | 20 | 20 | 20 |
| Colour | RAL 7024 | RAL 7024 | RAL 7024 | RAL 7024 | RAL 7024 |
| Operating temperature (°C) | -20 ÷ +55 | -20 ÷ +55 | -20 ÷ +55 | -20 ÷ +55 | -20 ÷ +55 |
| Thrust (N) | 800 | 900 | 1000 | 800 | 900 |
| Maximum thrust (N) | 1200 | 1350 | 1500 | 1200 | 1350 |
| Maximum operating speed (m/min) | 12 | 12 | 12 | 12 | 12 |
| Operating time (s) | 180 | 180 | 180 | 180 | 180 |
| Cycles/hour | CONTINUOUS OPERATION | CONTINUOUS OPERATION | CONTINUOUS OPERATION | CONTINUOUS OPERATION | CONTINUOUS OPERATION |
| Protection rating (IP) | 54 | 54 | 54 | 54 | 54 |
| Insulation class | I | I | I | I | I |
| Reduction ratio (i) | 40 | 40 | 40 | 40 | 40 |
| Weight (kg) | 20 | 21 | 21 | 20 | 21 |

| MODELS | BKV15AGE | BKV20AGE | BKV25AGE | BKV15ALS | BKV20ALS | BKV25ALS |
|---|---|---|---|---|---|---|
| Power supply (V - 50/60 Hz) | 230 AC | 230 AC | 230 AC | 230 AC | 230 AC | 230 AC |
| Motor power supply (V) | 36 DC | 36 DC | 36 DC | 36 DC | 36 DC | 36 DC |
| Board power supply (V) | 26 DC | 26 DC | 26 DC | 26 DC | 26 DC | 26 DC |
| Standby consumption (W) | 14 | 14 | 14 | 14 | 14 | 14 |
| Standby consumption with the RGP1 (W) module | 0,8 | 0,8 | 0,8 | 0,8 | 0,8 | 0,8 |
| Power (W) | 200 | 250 | 300 | 200 | 250 | 300 |
| Transformer thermal protection (°C) | 120 | 120 | 120 | 120 | 120 | 120 |
| Current draw (mA) | 8 | 9 | 10 | 8 | 9 | 10 |
| Maximum current draw (mA) | 20 | 20 | 20 | 20 | 20 | 20 |
| Colour | RAL 7024 | RAL 7024 | RAL 7024 | RAL 7040 | RAL 7040 | RAL 7040 |
| Operating temperature (°C) | -20 ÷ +55 | -20 ÷ +55 | -20 ÷ +55 | -20 ÷ +55 | -20 ÷ +55 | -20 ÷ +55 |
| Thrust (N) | 800 | 900 | 1000 | 800 | 900 | 1000 |
| Maximum thrust (N) | 1200 | 1350 | 1500 | 1200 | 1350 | 1500 |
| Maximum operating speed (m/min) | 12 | 12 | 12 | 12 | 12 | 12 |
| Operating time (s) | 180 | 180 | 180 | 180 | 180 | 180 |
| Cycles/hour | CONTINUOUS OPERATION | CONTINUOUS OPERATION | CONTINUOUS OPERATION | CONTINUOUS OPERATION | CONTINUOUS OPERATION | CONTINUOUS OPERATION |
| Protection rating (IP) | 54 | 54 | 54 | 54 | 54 | 54 |
| Insulation class | I | I | I | I | I | I |
| Reduction ratio (i) | 40 | 40 | 40 | 40 | 40 | 40 |
| Weight (kg) | 20 | 21 | 21 | 20 | 21 | 21 |

## Fuse table

| MODELS | BKV15AGS | BKV20AGS | BKV25AGS | BKV15RGS | BKV20RGS |
|---|---|---|---|---|---|
| Line fuse | 2 A F | 2 A F | 2 A F | 4 A F | 4 A F |
| Control-board fuse | 630 mA F | 630 mA F | 630 mA F | 630 mA F | 630 mA F |
| Accessories fuse | 1.6 A F | 1.6 A F | 1.6 A F | 1.6 A F | 1.6 A F |

| MODELS | BKV15AGE | BKV20AGE | BKV25AGE | BKV15ALS | BKV20ALS | BKV25ALS |
|---|---|---|---|---|---|---|
| Line fuse | 2 A F | 2 A F | 2 A F | 2 A F | 2 A F | 2 A F |
| Control-board fuse | 630 mA F | 630 mA F | 630 mA F | 630 mA F | 630 mA F | 630 mA F |
| Accessories fuse | 1.6 A F | 1.6 A F | 1.6 A F | 1.6 A F | 1.6 A F | 1.6 A F |

## Cable types and minimum thicknesses

| Cable length (m) | up to 20 | from 20 to 30 |
|---|---|---|
| Power supply 230 V AC | 3G x 1.5 mm2 | 3G x 2.5 mm2 |
| 24 V AC/DC flashing beacon | 2 x 1 mm2 | 2 x 1 mm2 |
| TX Photocells | 2 x 0.5 mm2 | 2 x 0.5 mm2 |
| RX photocells | 4 x 0.5 mm2 | 4 x 0.5 mm2 |
| Command and control devices | * no. x 0.5 mm2 | * no. x 0.5 mm2 |

* no. = see product assembly instructions.

Warning: the cable cross-section is indicative and varies according to the motor power and cable length.

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

📖 To connect the antenna, use RG58 cable (up to 5 m).

📖 For paired connection and CRP, use UTP CAT5 cable (up to 1,000 m).

📖 If the cable lengths differ from those specified in the table, define the cable cross-sections according to the actual power draw of the connected devices and in line with regulation CEI EN 60204-1.

📖 For multiple, sequential loads along the same line, recalculate the values in the table according to the actual power draw and distances. For information on connecting products not covered in this manual, please see the documentation accompanying the products themselves.

## INSTALLATION

📖 The following illustrations are examples only. The space available for fitting the operator and accessories varies depending on the area where it is installed. It is up to the installer to find the most suitable solution.

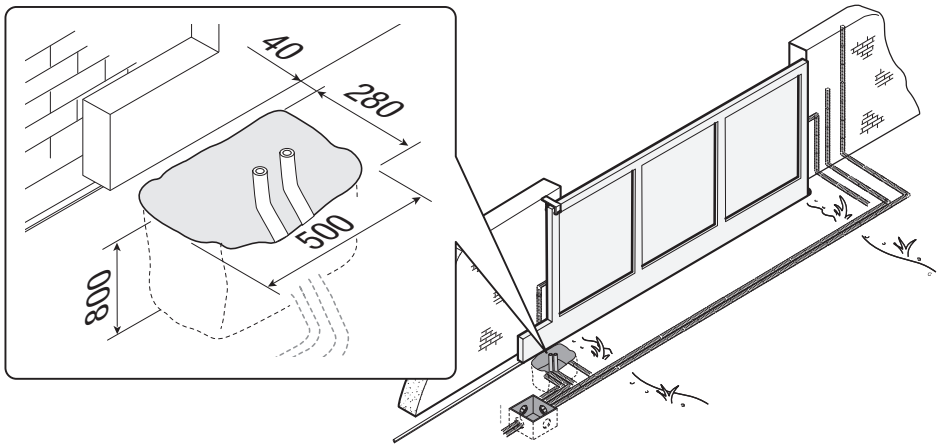
📖 The drawings show an operator fitted on the left.

### Preliminary operations

Dig a hole for the foundation frame.
Set up the corrugated tubes needed for the wiring coming out of the junction pit.

📖 Use Ø 40 mm corrugated tubes to connect the gearmotor to the accessories.

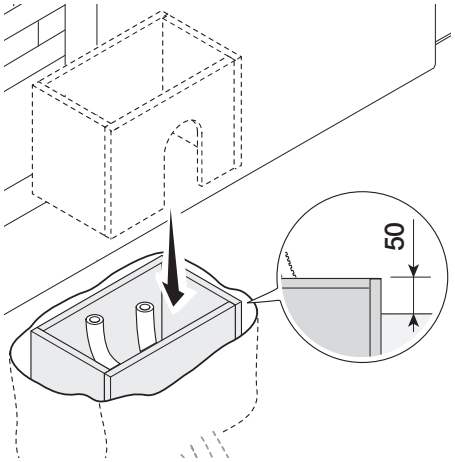
📖 The number of tubes depends on the type of system and the accessories that are going to be fitted.

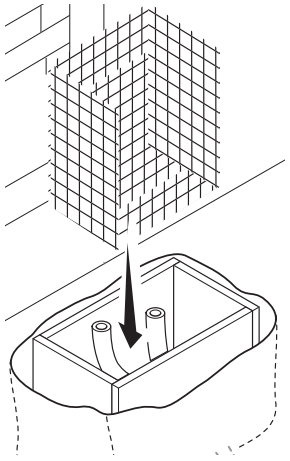



### Laying the anchoring plate

Set up a foundation frame that is larger than the anchoring plate.
Insert the foundation frame into the dug hole.

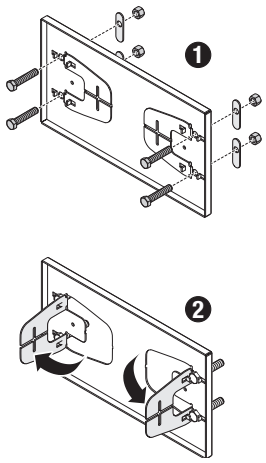
📖 The foundation frame must protrude by 50 mm, above ground level.
Fit an iron cage in the foundation frame to reinforce the concrete.

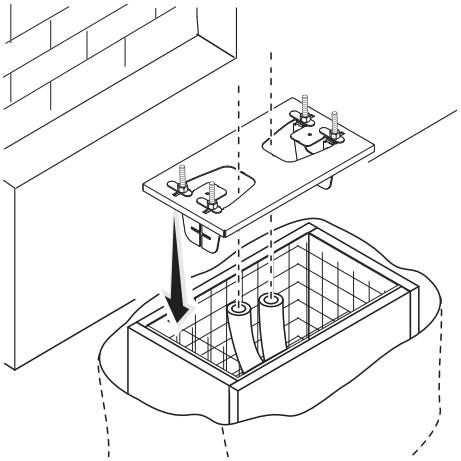


Insert the screws supplied in the anchoring plate.
Lock the screws in place with the nuts supplied.
Remove the pre-shaped clamps using a screwdriver.
Fit the anchoring plate in the iron cage.

📖 The tubes must pass through the existing holes.



Position the anchoring plate, taking note of the measurements shown in the drawing.

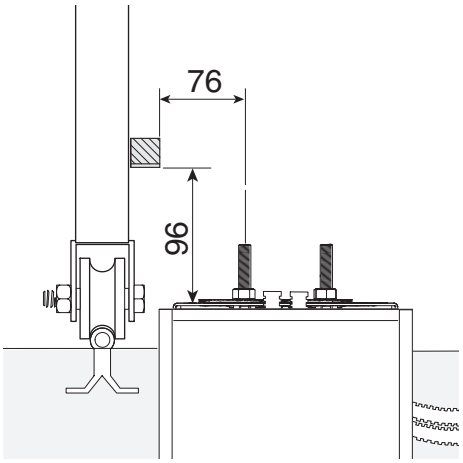
📖 If the gate does not have a rack, proceed with the installation.

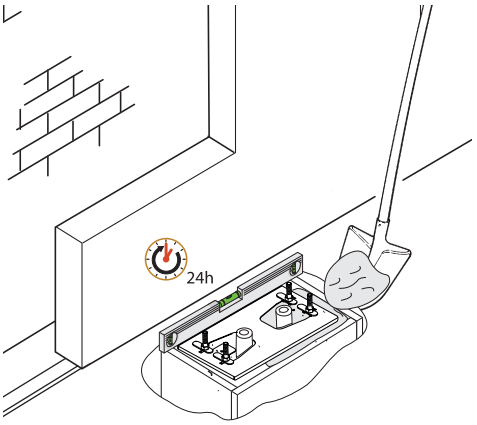
📖 See the section “FASTENING THE RACK”.

Cast cement into the foundation frame.

📖 The plate must be perfectly level and the screw threads completely above surface.

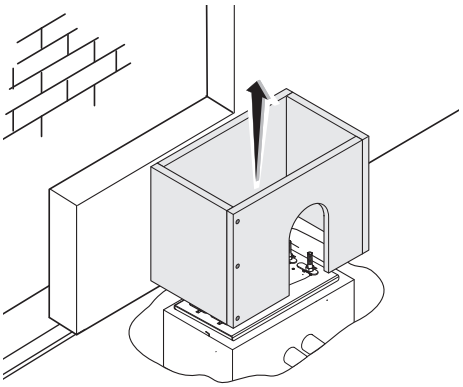
Wait at least 24 hours for the cement to dry.

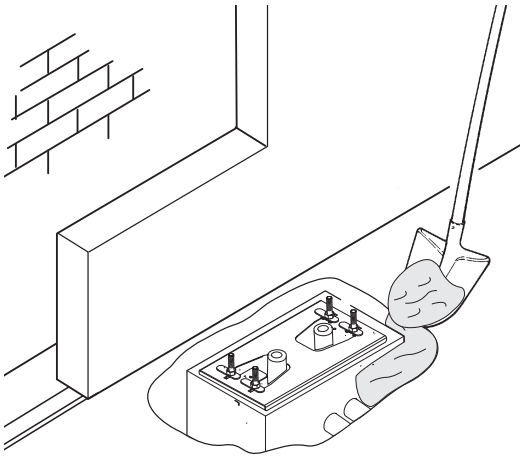


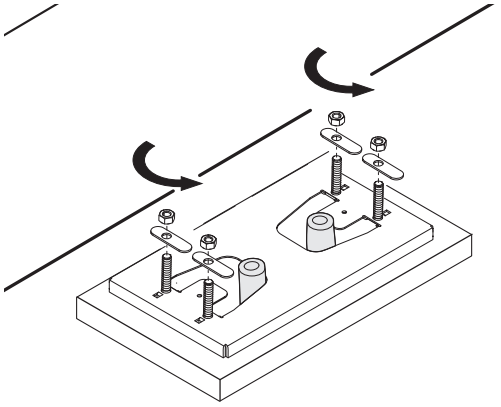

Remove the foundation frame.

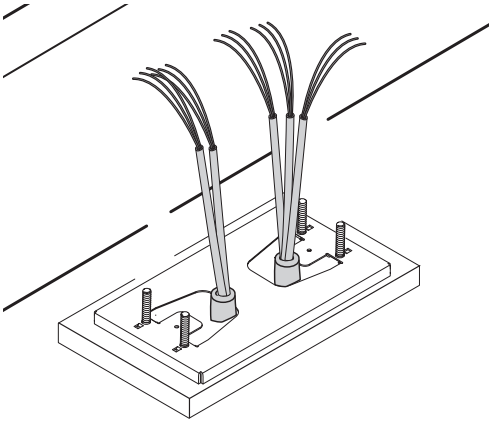
Fill the hole with soil around the concrete block.





Remove the nuts from the screws.
Insert the electrical cables into the tubes until they protrude by about 600 mm.

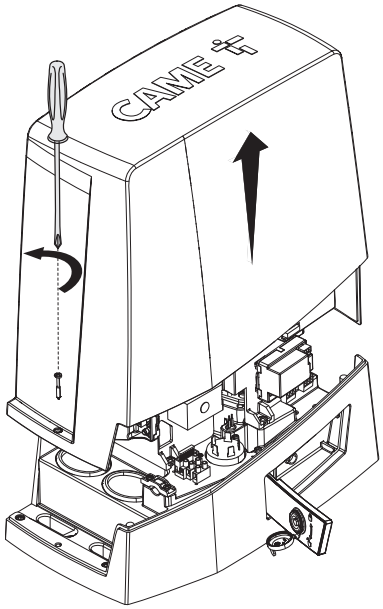


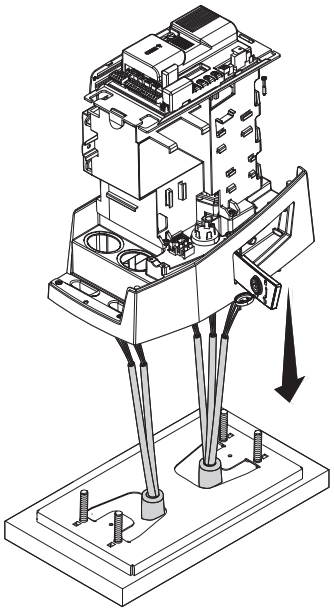


## Setting up the operator

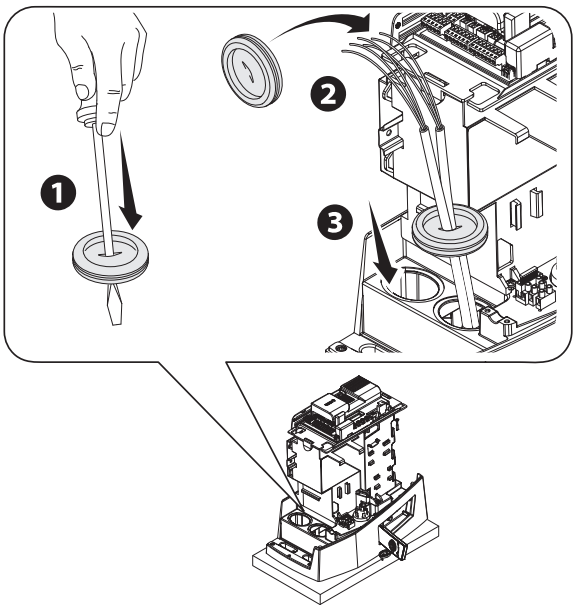
Remove the operator cover.
Place the operator on top of the anchoring plate.

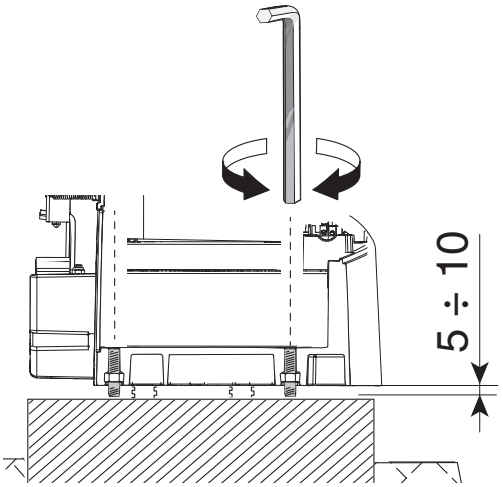
📖 The electrical cables must pass under the operator foundation frame



Male a hole in the cable gland.
Thread the cables through the cable gland.
Lift the operator by 5-10 mm from the plate by adjusting the threaded feet, to allow for any adjustments that may need to be made between the rack and pinion.

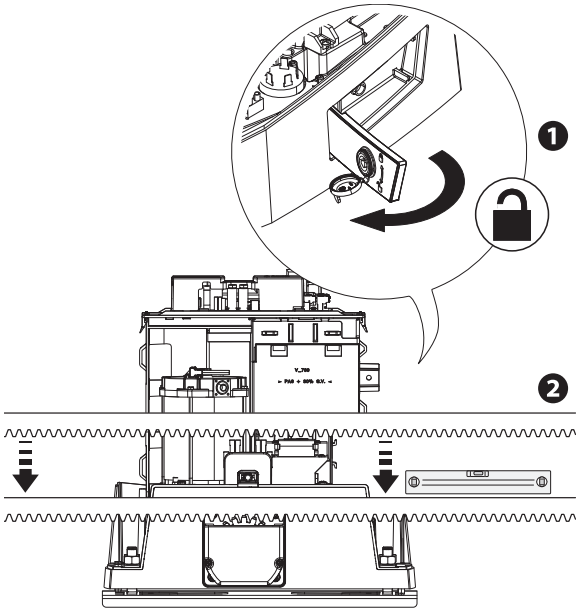


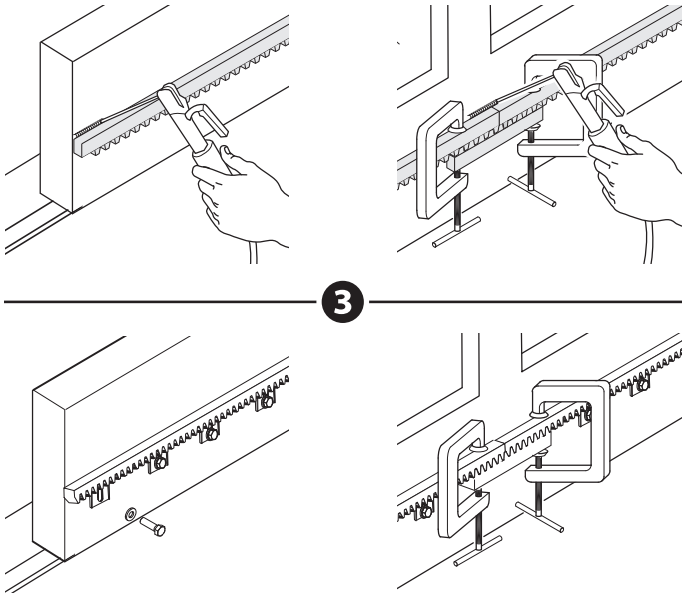




## Fastening the rack

❶ Release the operator.
❷ Rest the rack on the pinion.
❸ 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 in place using two clamps.

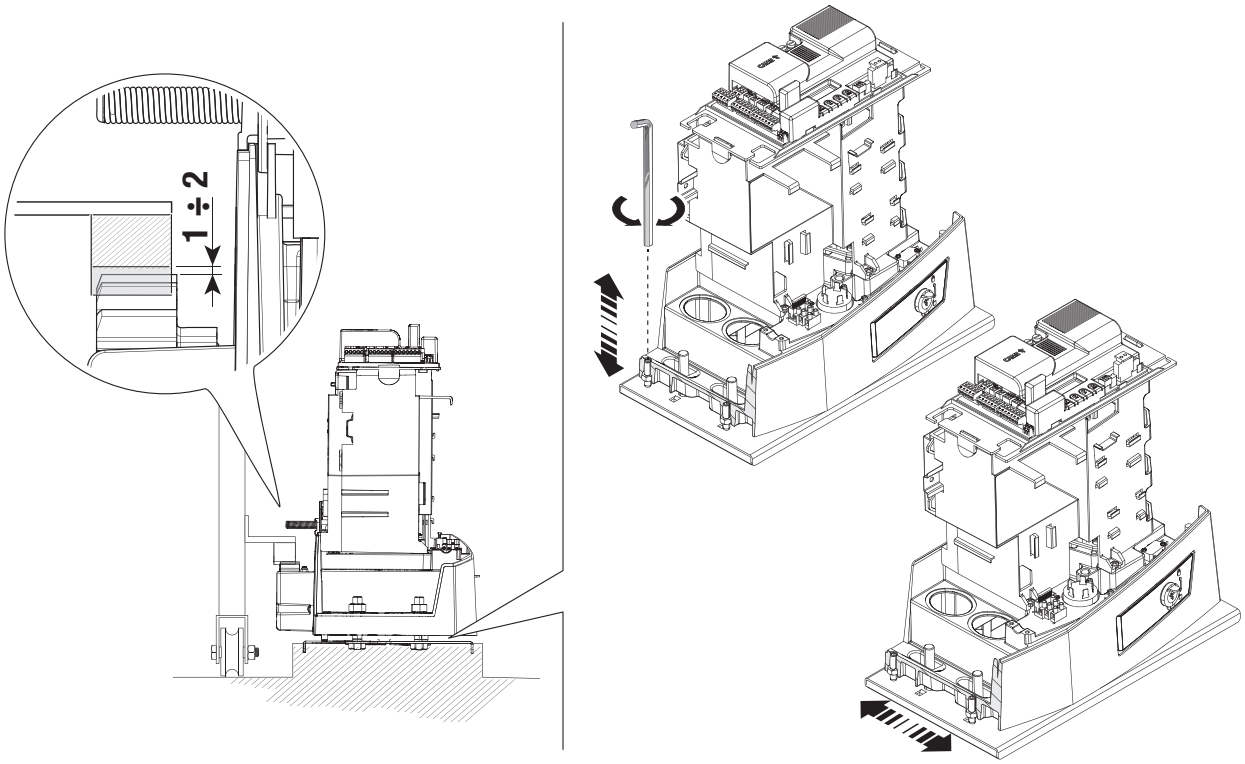


## Adjusting the pinion-rack coupling

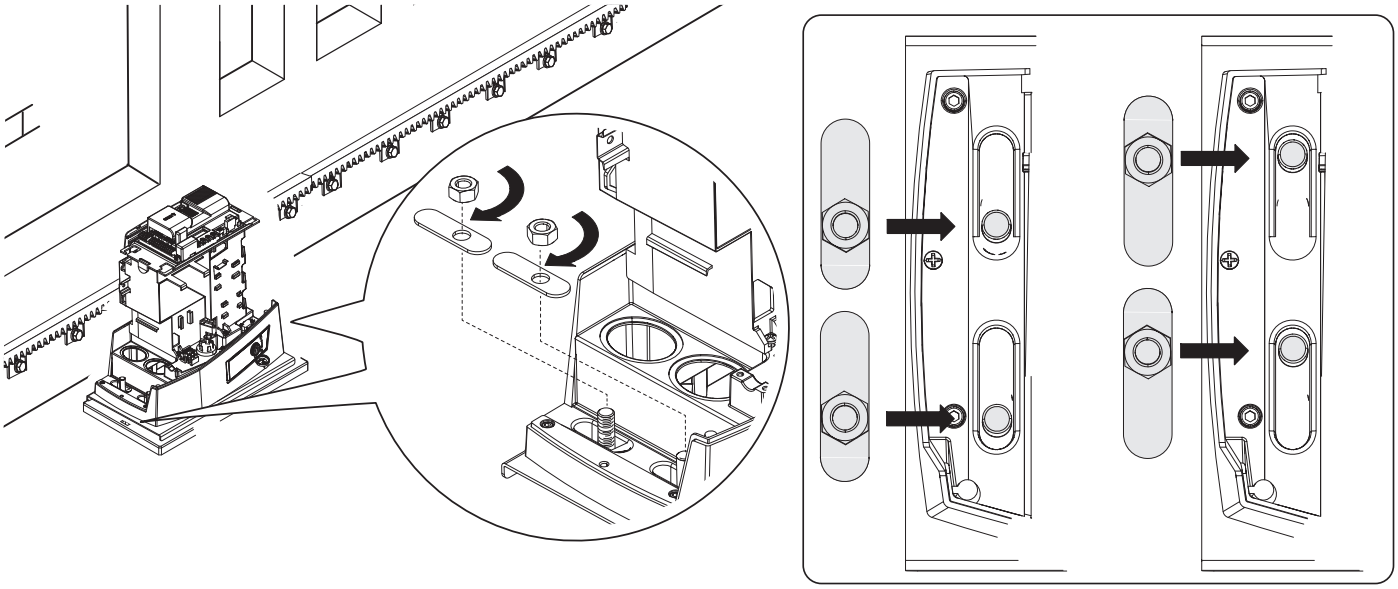
Open and close the gate manually.
Adjust the pinion-rack coupling distance using the threaded feet (vertical adjustment) and the holes (horizontal adjustment).

📖 The weight of the gate must not bear down upon the operator.



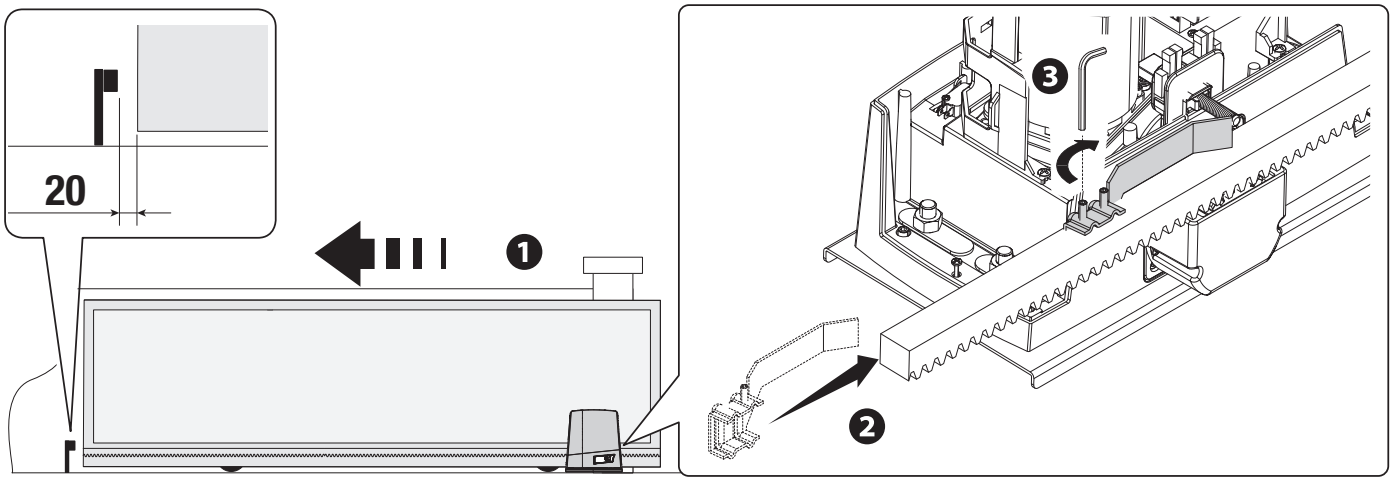

## Fastening the operator in place

📖 Only fasten the operator after adjusting the pinion-rack coupling.
Fasten the operator to the anchoring plate using stoppers and nuts.

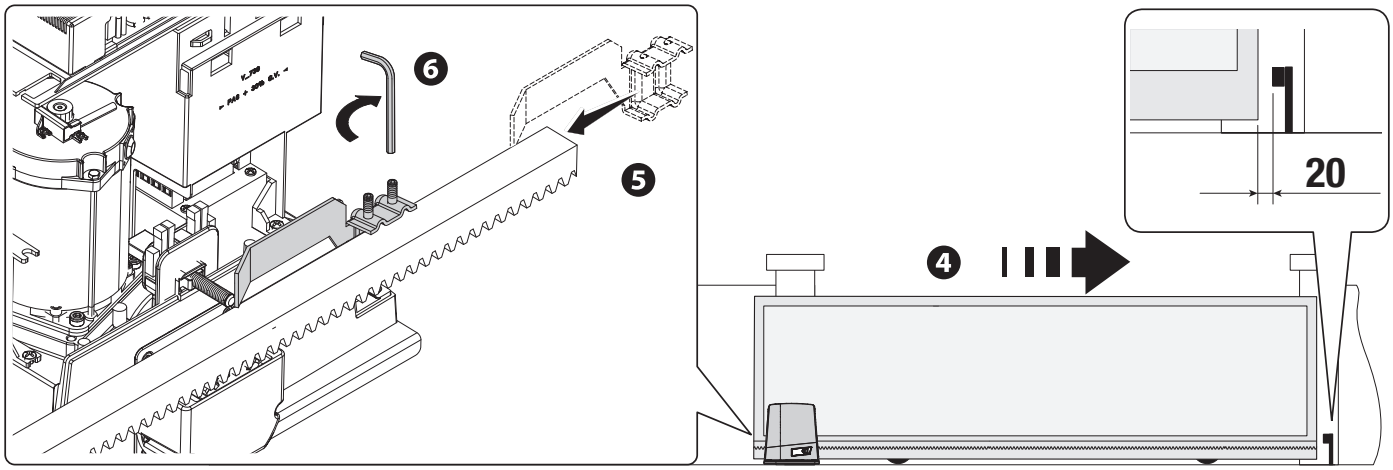


## Determining the travel end points with mechanical limit switches

❶ Open the gate.
❷ Insert the opening limit-switch tab in the rack.
The spring must trigger the microswitch.
❸ Fasten the opening limit-switch tab using the grub screws supplied.




❹ Close the gate.
❺ Insert the closing limit-switch tab in the rack.
The spring must trigger the microswitch.
❻ Fasten the closing limit-switch tab using the grub screws supplied.

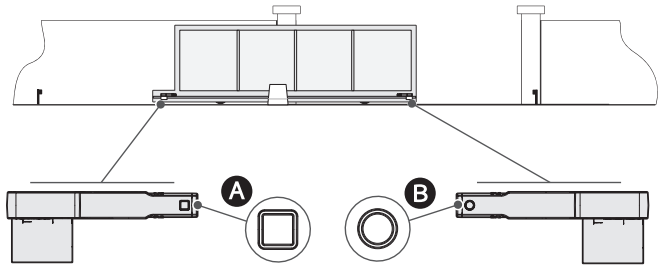


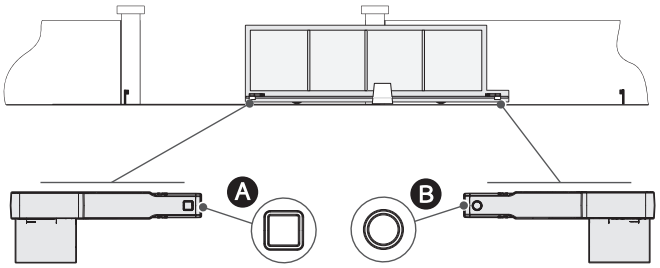
## Establishing the travel end points with magnetic limit switches

* Only for BKV15AGE, BKV20AGE and BKV25AGE

**A** Magnetic limit-switch tabs during closing

**B** Magnetic limit-switch tabs during opening




To the left (Default)

To the right

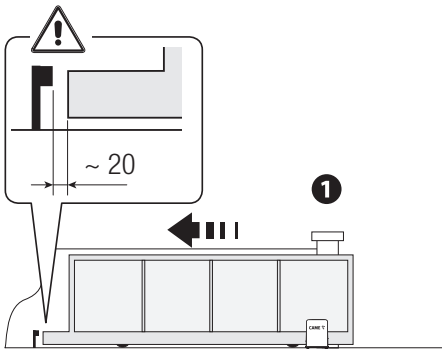
📖 Edit the parameter for the function [Opening direction].

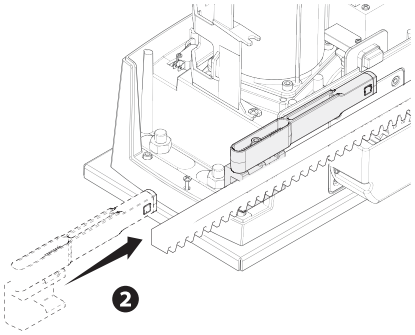
📖 The figures below show the limit switch installed with the operator on the left.

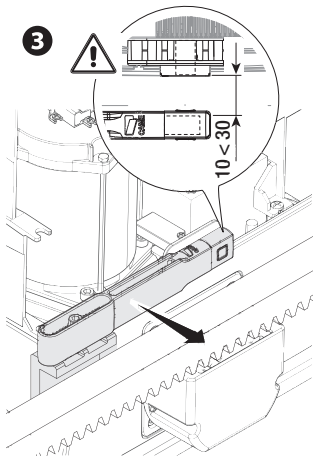
Open the gate.

Insert the magnetic opening limit-switch tab on the rack.

📖 The tab magnet must be between 10 and 30 mm from the magnetic sensor.



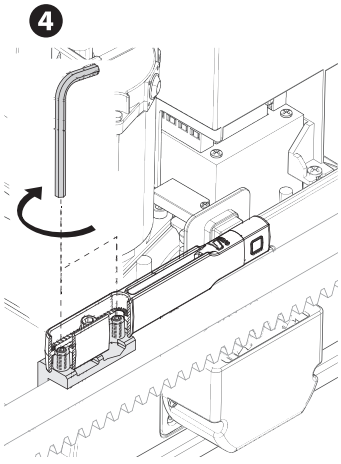



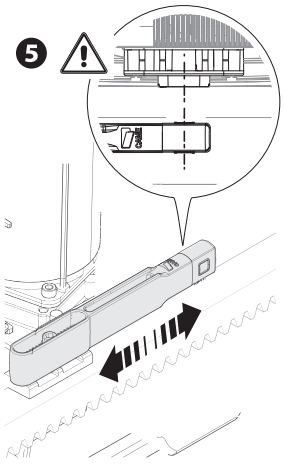



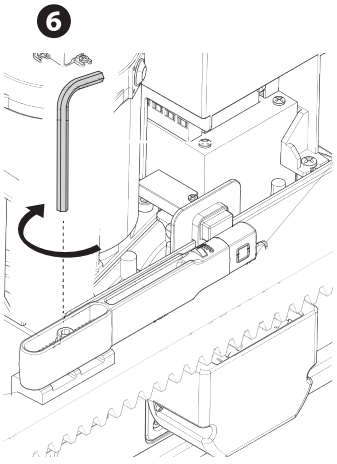

Fasten the support to the rack using the grub screws supplied.

📖 The limit-switch tab magnet must be perpendicular to the magnetic sensor.

Fasten the limit-switch tab using the screw (supplied).

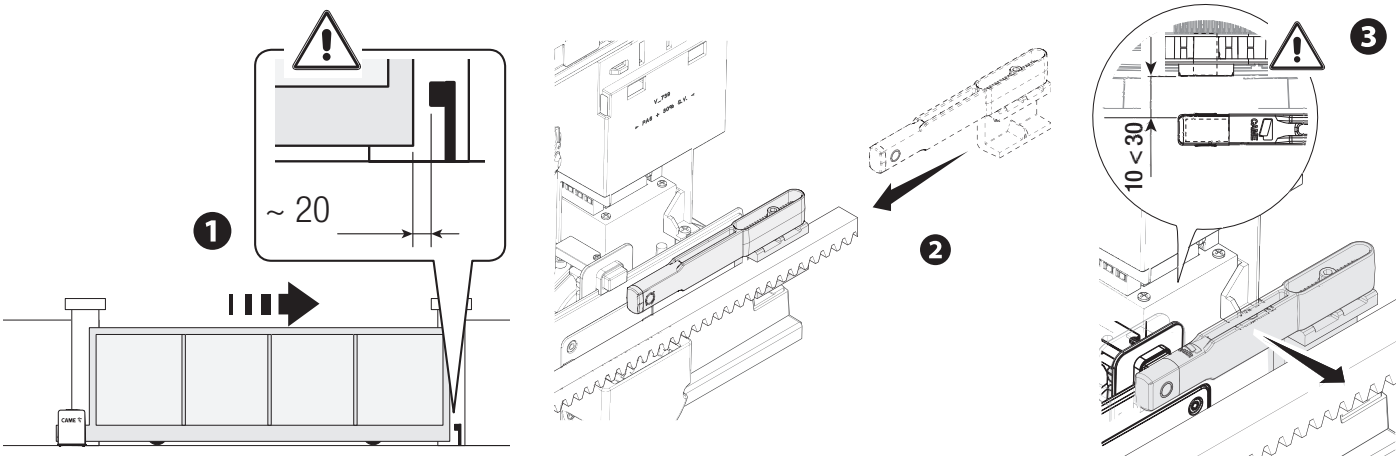


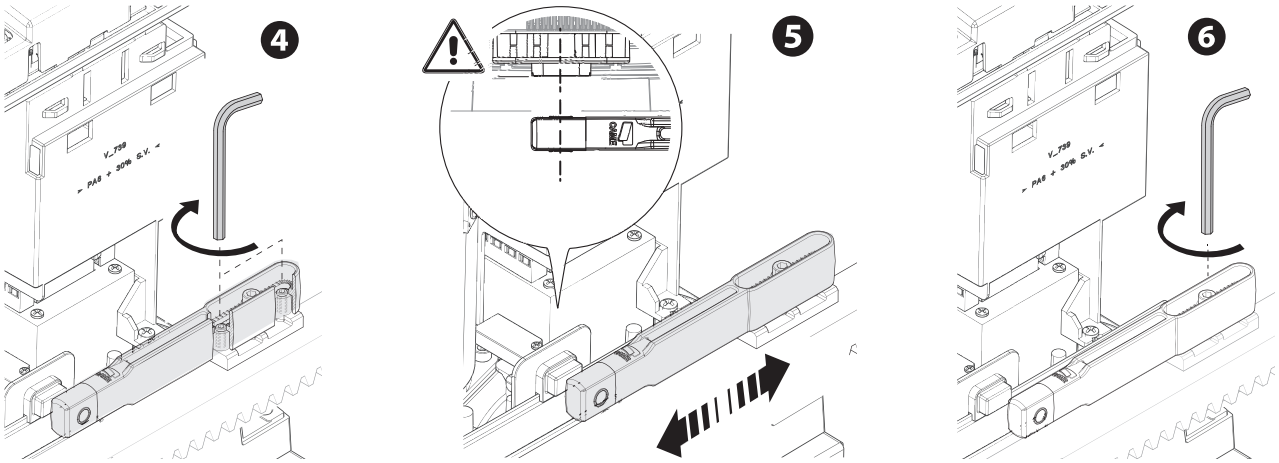
Close the gate.
Insert the magnetic closing limit-switch tab on the rack.

📖 The tab magnet must be between 10 and 30 mm from the magnetic sensor.




Fasten the support to the rack using the grub screws supplied.

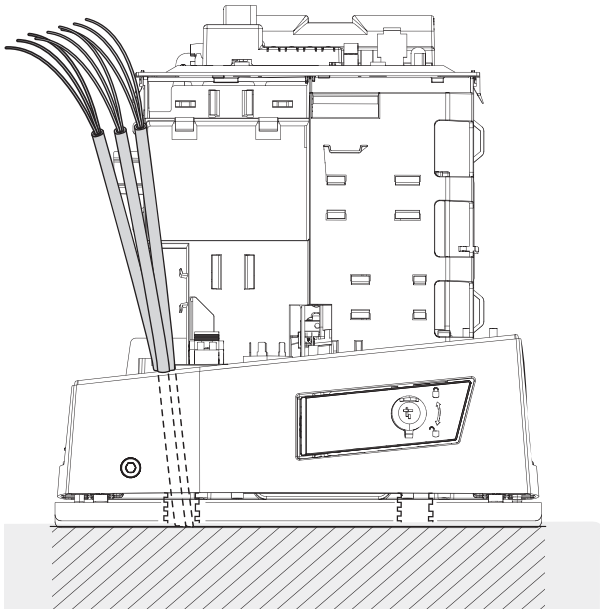
📖 The limit-switch tab magnet must be perpendicular to the magnetic sensor.
Fasten the limit-switch tab using the screw (supplied).

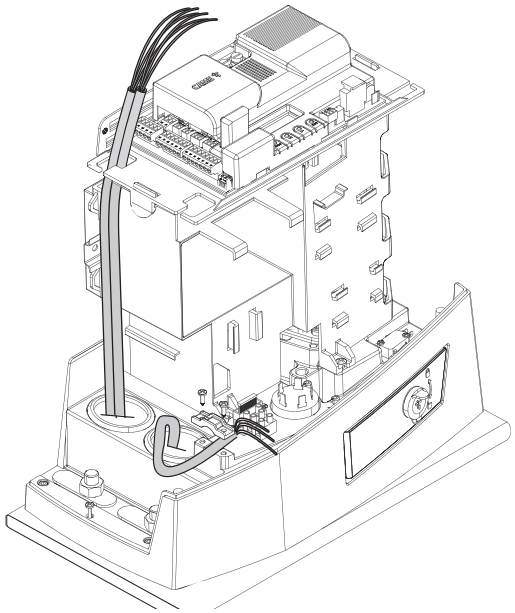


## Passing the electrical cables

📖 Connect all wires and cables in compliance with the law.

The electrical cables must not touch any parts that may overheat during use (such as the motor and transformer).





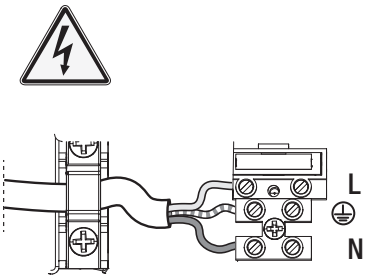
## Power supply

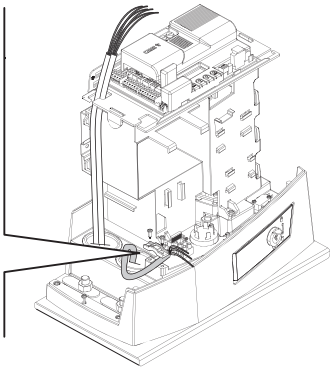
Make sure the mains power supply is disconnected during all installation procedures.

⚠ Before working on the control panel, disconnect the mains power supply and remove the batteries, if any.

### Connecting to the mains (120/230 V AC - 50/60 Hz)

- L Phase
- N Neutral
- ⏚ Earth

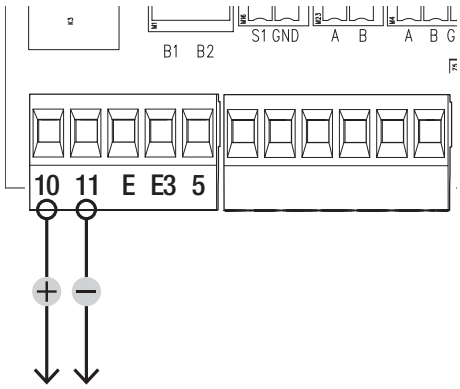


### Power supply output for accessories

The output normally delivers 24 V AC.

📖 The sum of the power draw for the connected accessories must not exceed 20 W.




### Maximum capacity of contacts

| Device | Output | Power supply (V) | Power (W) |
|---|---|---|---|
| Accessories | 10 - 11 | 24 AC/DC | 20 |
| Additional light | 10 - E3 | 24 AC/DC | 12 |
| Flashing beacon | 10 - E | 24 AC/DC | 3 |
| Operator status warning light | 10 - 5 | 24 AC/DC | 3 |

## Signalling devices

### ❶ Flashing beacon

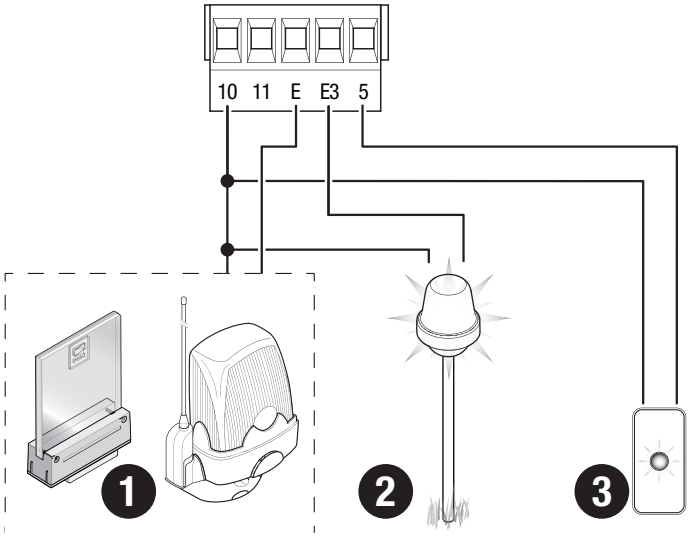
It flashes when the operator opens and closes.

### ❷ Additional light

It increases the light in the manoeuvring area.

### ❸ Operator status warning light

It notifies the user of the operator status.



## Command and control devices

❶ **Card reader**

❷ **Transponder selector switch**

❸ **Keypad selector**

❹ **STOP button (NC contact)**

Stop the gate and exclude automatic closing. Use a control device to resume movement.

📖 If the contact is not used, it must be deactivated during programming.

❺ **Control device (NO contact)**

OPEN ONLY function

❻ **Control device (NO contact)**

PARTIAL OPENING function

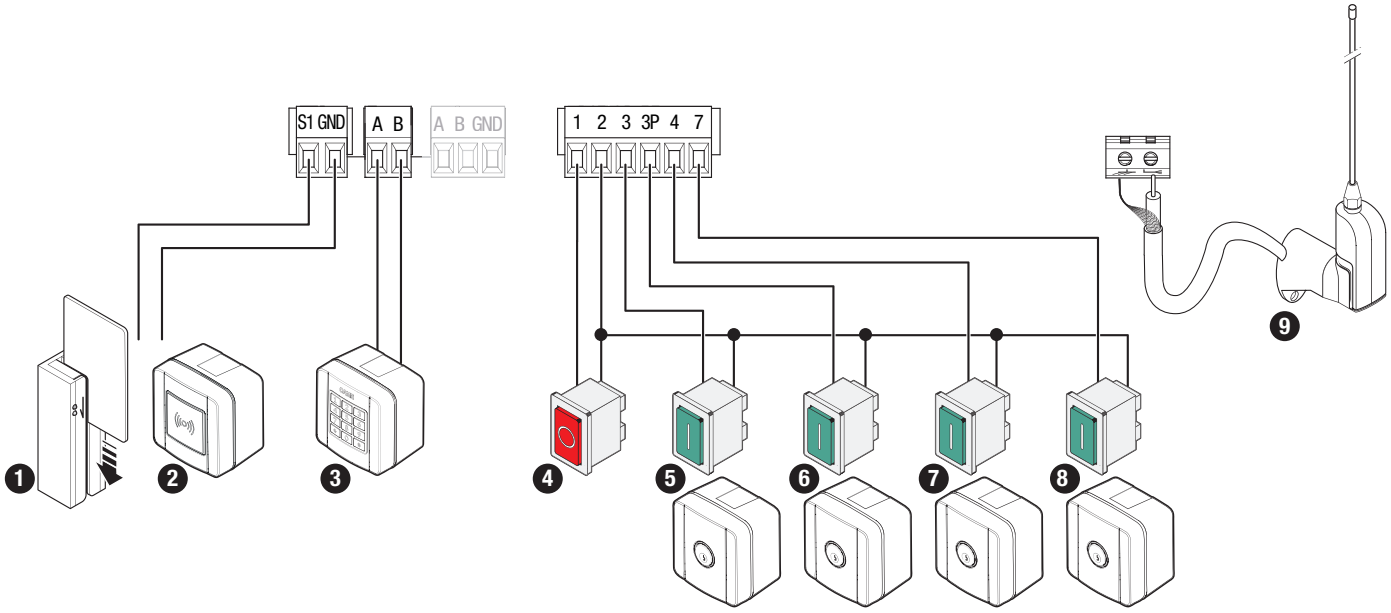
❼ **Control device (NO contact)**

CLOSE ONLY function

❽ **Control device (NO contact)**

OPEN-CLOSE (step-by-step) or OPEN-STOP-CLOSE-STOP (sequential) function

❾ **Antenna with RG58 cable**



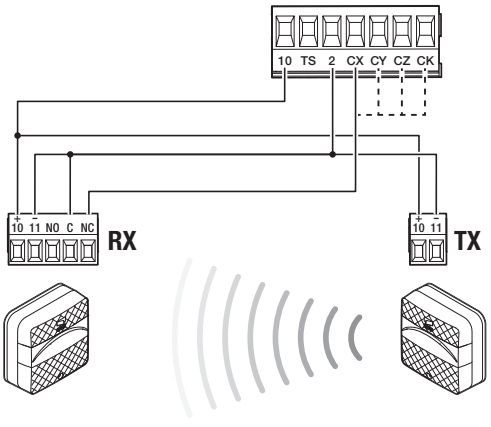
## Safety devices

Connect the safety devices to the CX, CY CZ and/or CK inputs (NC contacts).
During programming, configure the type of action that must be performed by the device connected to the input.

📖 If contacts CX, CY, CZ and/or CK are not used, they must be deactivated during programming.

### DELTA and DXR photocells

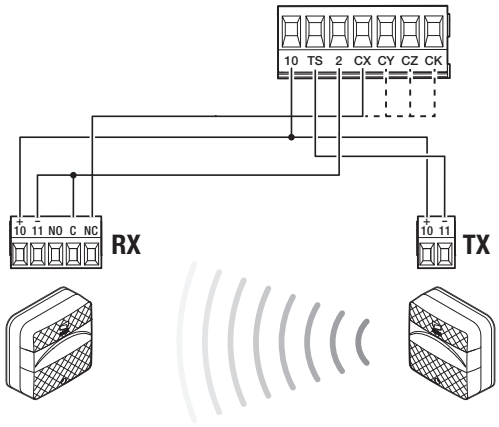
Standard connection




### DELTA and DXR photocells

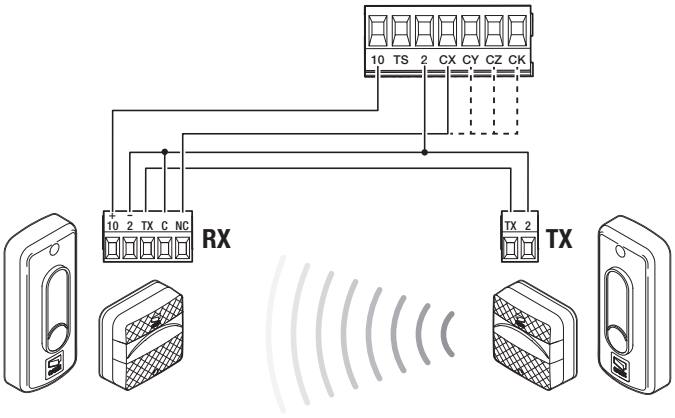
Connection with safety test

📖 See function F5, safety devices test.




### DIR / DELTA-S photocells

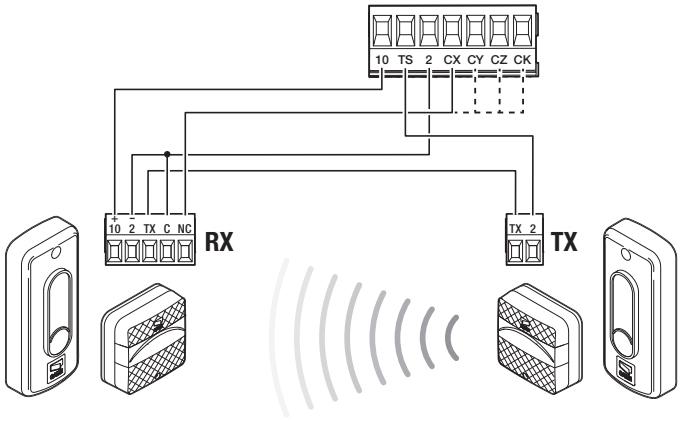
Standard connection




### DIR / DELTA-S photocells

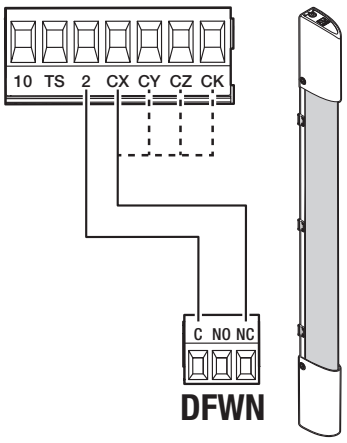
Connection with safety test

📖 See function F5, safety devices test.



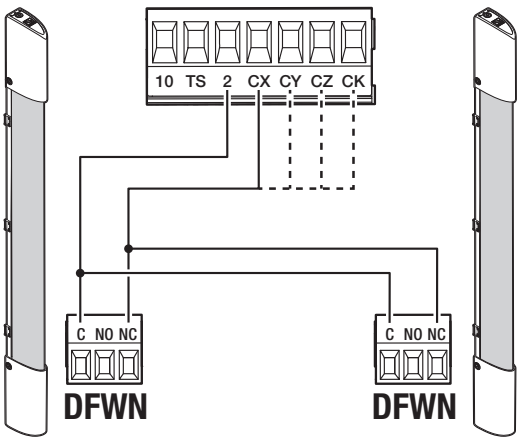

### DFWN sensitive edge

Connection with resistive or NC contact



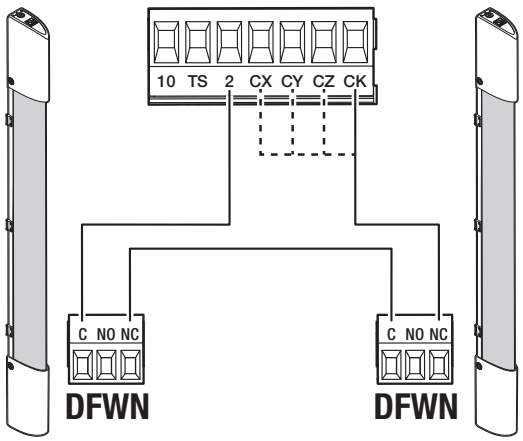
### Pair of sensitive edges DFWN

Connected in parallel with resistive contact (recommended)

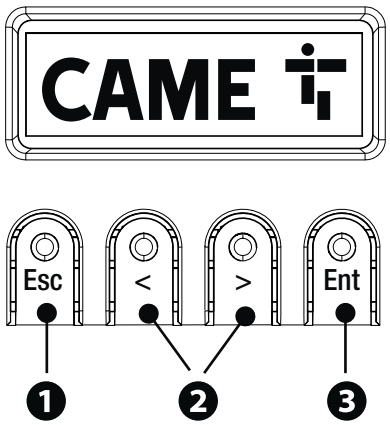



### Pair of sensitive edges DFWN

Connected in series with resistive or NC contact



## Programming button functions




### ❶ ESC button

The ESC button is used to perform the operations described below.
Exit the menu
Delete the changes
Go back to the previous screen
Stop the operator

### ❷ < > buttons

The <> buttons are used to perform the operations described below.
Navigate the menu
Increase or decrease values
Open or close the operator

### ❸ ENTER button

The ENTER button is used to perform the operations described below.
Access menus
Confirm a choice

## Icon key

The operator is in self-learning mode.
📖 When the operator is in self-learning mode, AST Control is disabled.
📖 To prevent the AST Control from being disabled, calibrate travel manually.

The operator detected an obstruction when the gate was moving to the right.

The operator detected an obstruction when the gate was moving to the left.

The operator detected two obstructions when the gate was moving to the right.
📖 When the maximum number of detected obstructions has been reached, the operator stops and an error message shows on the display.

The operator detected two obstructions when the gate was moving to the left.
📖 When the maximum number of detected obstructions has been reached, the operator stops and an error message shows on the display.

There is at least one programmed timer.

A programmed timer is running.
📖 With the timer programmed for opening or partial opening, any given radio command will always allow opening. The wired commands continue to operate normally.

## Getting started

📖 Once the electrical connections have been made, proceed with commissioning. Only skilled and qualified staff may perform this operation.
Make sure that there are no obstacles in the way.
Connect the device to the power supply and follow the wizard that appears on the display.
📖 After powering up the system, the first manoeuvre is always to open the gate; Wait for the manoeuvre to be completed.
📖 Press the ESC button or STOP button immediately in the event of any faults, malfunctions, strange noises or vibrations, or unexpected behaviour in the system.

## Functions menu

### Opening direction
Set the gate opening direction.

| | | |
|---|---|---|
| Configuration<br>Motor settings | **Opening direction** | To the left (Default)<br>To the right |

### Motor test
Check the gate opens in the right direction.

🕮 If the buttons do not execute the commands correctly, invert the gate opening direction.

| | | |
|---|---|---|
| Configuration<br>Motor settings | **Motor test** | The > button closes the gate<br>The < button opens the gate |

### Travel calibration
Start the travel self-learning.

| | | |
|---|---|---|
| Configuration<br>Motor settings | **Travel calibration** | Confirm? NO<br>Confirm? YES |

### Motor type
Set the type of gearmotor installed.

| | | |
|---|---|---|
| Configuration<br>Motor settings | **Motor type** | BKV1500<br>BKV2000<br>BKV2500 |

### Opening speed
Set the opening speed (percentage of maximum speed).

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Opening speed** | 40% to 100% (Default 100%) |

### Closing speed
Sets the closing speed (percentage of maximum speed).

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Closing speed** | 40% to 100% (Default 100%) |

### Opening slowdown speed
Set the slowdown speed during opening (as a percentage of the maximum speed).

🕮 If the slowdown speed is incorrectly set to a value higher than the opening speed by mistake, the parameter is automatically corrected.

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Opening slowdown speed** | 15% to 60% (Default 50%) |

### Closing slowdown speed
Set the slowdown speed during closing (as a percentage of the maximum speed).

🕮 If the slowdown speed is incorrectly set to a value higher than the opening speed by mistake, the parameter is automatically corrected.

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Closing slowdown speed** | 15% to 60% (Default 50%) |

### Travel sensitivity
Adjust the obstruction detection sensitivity during boom travel.

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Travel AST control** | Deactivated (Default)<br>Minimum<br>Average<br>Maximum<br>Customised |

### Slowdown sensitivity
Adjust the obstruction detection sensitivity during slowdown.

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Slowdown AST control** | Deactivated (Default)<br>Minimum<br>Average<br>Maximum<br>Customised |

### Soft start
Set a slowdown of a few seconds after each opening and closing command.

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Soft start** | Deactivated (Default)<br>On |

### Partial opening point
Determine the gate partial opening point, as a percentage of total travel.

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Part. open point** | 10% to 100% (20% Default) |

### Opening slowdown point
Set the opening slowdown start point, as a percentage of total travel.

📖 During travel calibration, the opening slowdown point is automatically set to allow for a slowing space of 60 cm.

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Opening slowdown point** | 2% to 60% (Default 25%) |

### Closing slowdown point
Set the closing slowdown start point, as a percentage of total travel.

📖 During travel calibration, the closing slowdown point is automatically set to allow for a slowing space of 60 cm.

| | | |
|---|---|---|
| Configuration<br>Gate travel settings | **Closing slowdown point** | 2% to 60% (Default 25%) |

### Total stop
Stop the gate and exclude automatic closing. Use a control device to resume movement.

| | | |
|---|---|---|
| Configuration<br>Wired safety devices | **Total stop** | Deactivated (Default)<br>On |

**CX input**
Associate a function with the CX input.

| | | |
|---|---|---|
| Configuration<br>Wired safety devices | **CX input** | Deactivated (Default)<br>C1 = Reopen while closing (photocells)<br>C2 = Reclose while opening (photocells)<br>C3 = Partial stop<br>C4 = Obstacle standby (photocells)<br>C7 = Reopen while closing (sensitive edges)<br>C8 = Reclose while opening (sensitive edges)<br>C13 = Reopen while closing, with immediate stop once the obstruction has been removed, even if the gate is not in motion<br>r7 = Reopen while closing (sensitive edges with 8K2 resistor)<br>r8 = Reclose while opening (sensitive edges with 8K2 resistor)<br>r7 (two sensitive edges) = Reopen while closing (pair of sensitive edges with 8K2 resistor)<br>r8 (two sensitive edges) = Reclose while opening (pair of sensitive edges with 8K2 resistor) |

**CY input**
Associate a function with the CY input.

| | | |
|---|---|---|
| Configuration<br>Wired safety devices | **CY input** | Deactivated (Default)<br>C1 = Reopen while closing (photocells)<br>C2 = Reclose while opening (photocells)<br>C3 = Partial stop<br>C4 = Obstacle standby (photocells)<br>C7 = Reopen while closing (sensitive edges)<br>C8 = Reclose while opening (sensitive edges)<br>C13 = Reopen while closing, with immediate stop once the obstruction has been removed, even if the gate is not in motion<br>r7 = Reopen while closing (sensitive edges with 8K2 resistor)<br>r8 = Reclose while opening (sensitive edges with 8K2 resistor)<br>r7 (two sensitive edges) = Reopen while closing (pair of sensitive edges with 8K2 resistor)<br>r8 (two sensitive edges) = Reclose while opening (pair of sensitive edges with 8K2 resistor) |

**CZ input**
Associate a function with the CZ input.

| | | |
|---|---|---|
| Configuration<br>Wired safety devices | **CZ input** | Deactivated (Default)<br>C1 = Reopen while closing (photocells)<br>C2 = Reclose while opening (photocells)<br>C3 = Partial stop<br>C4 = Obstacle standby (photocells)<br>C7 = Reopen while closing (sensitive edges)<br>C8 = Reclose while opening (sensitive edges)<br>C13 = Reopen while closing, with immediate stop once the obstruction has been removed, even if the gate is not in motion<br>r7 = Reopen while closing (sensitive edges with 8K2 resistor)<br>r8 = Reclose while opening (sensitive edges with 8K2 resistor)<br>r7 (two sensitive edges) = Reopen while closing (pair of sensitive edges with 8K2 resistor)<br>r8 (two sensitive edges) = Reclose while opening (pair of sensitive edges with 8K2 resistor) |

### CK input
Associate a function with the CK input.

| | | |
|---|---|---|
| Configuration<br>Wired safety devices | **CK input** | Deactivated (Default)<br>C1 = Reopen while closing (photocells)<br>C2 = Reclose while opening (photocells)<br>C3 = Partial stop<br>C4 = Obstacle standby (photocells)<br>C7 = Reopen while closing (sensitive edges)<br>C8 = Reclose while opening (sensitive edges)<br>C13 = Reopen while closing, with immediate stop once the obstruction has been removed, even if the gate is not in motion<br>r7 = Reopen while closing (sensitive edges with 8K2 resistor)<br>r8 = Reclose while opening (sensitive edges with 8K2 resistor)<br>r7 (two sensitive edges) = Reopen while closing (pair of sensitive edges with 8K2 resistor)<br>r8 (two sensitive edges) = Reclose while opening (pair of sensitive edges with 8K2 resistor) |

### Safety devices test
Check that the photocells connected to the inputs are operating correctly, after each opening and closing command.

| | | |
|---|---|---|
| Configuration<br>Wired safety devices | **Safety devices test** | Deactivated (Default)<br>On |

### Obstacle with motor stopped
With the function active, the gate remains idle if the safety devices detect an obstacle. The function is active when the gate is closed, open or after a complete stop.

| | | |
|---|---|---|
| Configuration<br>Wired safety devices | **Obst. with motor stopped** | Deactivated (Default)<br>On |

### RIO ED T1
Associate one of the available functions with a wireless safety device.

| | | |
|---|---|---|
| Configuration<br>RIO safety devices | **RIO ED T1** | Disabled (Default)<br>P0 = It stops the gate and excludes automatic closing. Use a control device to resume movement.<br>P7 = Reopen while closing.<br>P8 = Reclose while opening. |

### RIO ED T2
Associate one of the available functions with a wireless safety device.

| | | |
|---|---|---|
| Configuration<br>RIO safety devices | **RIO ED T2** | Disabled (Default)<br>P0 = It stops the gate and excludes automatic closing. Use a control device to resume movement.<br>P7 = Reopen while closing.<br>P8 = Reclose while opening. |

### RIO PH T1
Associate one of the available functions with a wireless safety device.

| | | |
|---|---|---|
| Configuration<br>RIO safety devices | **RIO PH T1** | Disabled (Default)<br>P1 = Reopen while closing.<br>P2 = Reclose while opening.<br>P3 = Partial stop.<br>P4 = Obstacle standby.<br>P13 = Reopening during closure with immediate stop once the obstacle has been removed, even with the gate not in motion. |

### RIO PH T2
Associate one of the available functions with a wireless safety device.

| | | |
|---|---|---|
| Configuration<br>RIO safety devices | **RIO PH T2** | Disabled (Default)<br>P1 = Reopen while closing.<br>P2 = Reclose while opening.<br>P3 = Partial stop.<br>P4 = Obstacle standby.<br>P13 = Reopening during closure with immediate stop once the obstacle has been removed, even with the gate not in motion. |

### Command 2-7
Associate a command with the device connected to 2-7.

| | | |
|---|---|---|
| Configuration<br>Command inputs | **Command 2-7** | Step-by-step (Default)<br>Sequential |

### Hold-to-run
With the function active, the operator stops moving (opening or closing) when the control device is released.

📖 When the function is active, it excludes all other control devices.

| | | |
|---|---|---|
| Configuration<br>Functions | **Hold-to-run** | Deactivated (Default)<br>On |

### B1-B2 output
Configure the contact.

| | | |
|---|---|---|
| Configuration<br>Functions | **B1-B2 output** | Bistable<br>Monostable (Default)<br>The contact remains closed for 1 to 180 seconds. |

### Removing obstacles
If an obstacle is detected by the sensitive edge or by the amperometric sensor on the electronic board, movement is inverted to create a space sufficient to clear the obstacle.

If this function is deactivated, the motion is inverted until the limit-switch is reached.

| | | |
|---|---|---|
| Configuration<br>Functions | **Removing obstacles** | Deactivated (Default)<br>On |

### Automatic closure
Set the time before automatic closure is activated, once the opening travel end point has been reached.

📖 The function does not work if any of the safety devices are triggered when an obstacle is detected, or after a complete stop, or during a power outage.

| | | |
|---|---|---|
| Configuration<br>Times | **Automatic close** | Deactivated (Default)<br>From 1 to 180 seconds |

### Automatic closing after partial opening
Set the time before automatic closure is activated, after a partial opening command has been performed.

📖 The function does not work if any of the safety devices are triggered when an obstacle is detected, or after a complete stop, or during a power outage.

📖 Do not deactivate the function [Automatic close].

| | | |
|---|---|---|
| Configuration<br>Times | **Automatic partial close** | Off<br>1 to 180 seconds (Default 10 seconds) |

### Gate-open warning light
It signals the gate status.

| | | |
|---|---|---|
| Configuration<br>Manage lights | **Gate-open warning light** | Warning light on (Default) - The warning light stays on when the gate is moving or open.<br>Warning light flashing - The warning light flashes when the gate is moving and it stays on when the gate is open.<br>Rhythmic flashing - Every hour, 3 + 3 flashes signal that the number of operations for maintenance has been reached. |

### Light E3
Choose the operating mode of the lighting device connected to the output.

| | | |
|---|---|---|
| Configuration<br>Manage lights | **Light E3** | Deactivated (Default)<br>Cycle lamp<br>📖 The light remains off if an automatic closing time is not set.<br>Courtesy light<br>📖 The light remains on for the time set under the function [Courtesy time]. |

### Courtesy time
Set the lighting device operation time.

| | | |
|---|---|---|
| Configuration<br>Manage lights | **Courtesy time** | 60 to 180 seconds (Default 60 seconds) |

### Pre-flashing time
Set the time for which the beacon is activated before each manoeuvre.

| | | |
|---|---|---|
| Configuration<br>Manage lights | **Pre-flashing time** | Deactivated (Default)<br>From 1 to 10 seconds |

### RSE1
Configure the function to be performed by the card inserted in the RSE1 connector.

📖 If an RSE card – configured for paired connections – is plugged into the RSE_1 connector, use the RSE_2 connector for remote connection (CRP). In this case, a CAME KEY cannot be connected.

| | | |
|---|---|---|
| Configuration<br>RSE communication | **RSE1** | CRP (Default)<br>Paired<br>Off |

### CRP address
Assign a unique identification code (CRP address) to the control board. It is used where there are multiple operators connected via CRP.

| | | |
|---|---|---|
| Configuration<br>RSE communication | **CRP address** | 1 to 254 |

**RSE1 speed**
Set the remote connection system communication speed on the RSE1 port.

| | | |
|---|---|---|
| Configuration<br>RSE communication | **RSE1 speed** | 1200 bps<br>2400 bps<br>4800 bps<br>9600 bps<br>14400 bps<br>19200 bps<br>38400 bps (Default)<br>57600 bps<br>115200 bps |

**RSE2 speed**
Set the remote connection system communication speed on the RSE2 port.

| | | |
|---|---|---|
| Configuration<br>RSE communication | **RSE2 speed** | 1200 bps<br>2400 bps<br>4800 bps<br>9600 bps<br>14400 bps<br>19200 bps<br>38400 bps (Default)<br>57600 bps<br>115200 bps |

**Save data**
Save user data, timings and configurations to the memory device (memory roll).

| | | |
|---|---|---|
| Configuration<br>External memory | **Save data** | |

**Read data**
Upload user data, timings and configurations to the memory device (memory roll).

| | | |
|---|---|---|
| Configuration<br>External memory | **Read data** | |

**Guided procedure (Wizard)**
You can use the system configuration wizard.

| | | |
|---|---|---|
| Configuration | **Guided procedure (Wizard)** | Type of system<br>Opening direction<br>CX input<br>CY input<br>CZ input<br>CK input<br>Travel AST Control<br>Slowdown AST Control<br>Add users<br>Travel calibration |

**New user**
Register up to a maximum of 250 users and assign a function to each one.

🕮 The operation can be carried out by using a transmitter or another control device. The boards that manage the control devices (AF - R700 - R800) must be inserted into the connectors.

| | | |
|---|---|---|
| Manage users | **New user** | Step-by-step<br>Sequential<br>Open<br>Partial opening<br>B1-B2 output<br><br>Choose the function to be assigned to the user.<br>Press ENTER to confirm.<br>Send the code from the control device.<br>Repeat the procedure to add other users. |

**Remove user**
Remove one of the registered users.

| | | |
|---|---|---|
| Manage users | **Remove user** | Use the arrows to choose the number associated with the user you want to remove.<br>No.: 1 > 250<br>Alternatively, the control device associated with the user you want to remove can be activated.<br>Press ENTER to confirm.<br>“CLr” will appear to confirm deletion.<br><br>Confirm? NO<br>Confirm? YES |

**Remove all**
Remove all registered users.

| | | |
|---|---|---|
| Manage users | **Remove all** | Confirm? NO<br>Confirm? YES |

**Radio decoding**
Choose the type of radio coding for the transmitters enabled to control the operator.

🕮 If you choose the type of radio coding for the transmitters [Rolling code] or [TW key block], any transmitters with a different type of radio coding saved previously will be deleted.

| | | |
|---|---|---|
| Manage users | **Radio decoding** | All decodings<br>Rolling code<br>TW Key block<br><br>Confirm? NO<br>Confirm? YES |

**Sensor type**
Set the type of control device.

| | | |
|---|---|---|
| Manage users | **Sensor type** | Keypad<br>Transponder |

**Self-Learning Rolling**
Save a new transmitter using an existing one without following the add new user procedure [New User].

| | | |
|---|---|---|
| Manage users | **Self-Learning Rolling** | Deactivated (Default)<br>On |

### Change mode
Change the function assigned to a specific user.

| | | |
|---|---|---|
| Manage users | **Change mode** | Select the user for whom you want to change the command.<br>📖 You can select a user without using the arrows, by sending a command from the device associated with the user.<br>Press ENTER to confirm.<br>Choose the command to associate with the user.<br>Press ENTER to confirm.<br>Confirm? No<br>Confirm? Yes |

### FW version
Display the firmware version number and the GUI installed.

| | | |
|---|---|---|
| Information | **FW version** | FW x.x.xx (firmware)<br>GUI x.x (graphics) |

### Manoeuvre counter
View the number of operator manoeuvres.

Total manoeuvres = Manoeuvres carried out since installation.

Partial manoeuvres = Manoeuvres carried out after the last one [Maintenance reset].

| | | |
|---|---|---|
| Information | **Manoeuvre counter** | Total manoeuvres<br>Partial manoeuvres |

### Set up maintenance
Set the number of manoeuvres the operator can perform before a maintenance warning signal is generated. During a maintenance warning signal, the warning light flashes rhythmically 3 + 3 times [Open].

| | | |
|---|---|---|
| Information | **Set up maintenance** | Deactivated (Default)<br>1X100 to 250X100 |

### Maintenance reset
Reset the number of partial manoeuvres.

| | | |
|---|---|---|
| Information | **Maintenance reset** | Confirm? NO<br>Confirm? YES |

### Parameter reset
Restore factory settings except for the functions: [Radio decoding], [Motor type] and the settings related to travel calibration.

| | | |
|---|---|---|
| Information | **Parameter reset** | Confirm? NO<br>Confirm? YES |

### Errors list
View the last 8 errors detected. The error list can be deleted.

| | | |
|---|---|---|
| Information | **Errors list** | Use the arrows to scroll through the list.<br>To cancel the error list, select [Delete errors]<br>Press ENTER to confirm.<br>Confirm? NO<br>Confirm? YES |

**Show clock**
Enable the clock on the display.

| | | |
|---|---|---|
| Timer management | **Show clock** | |

**Set the clock**
Set the date and time.

| | | |
|---|---|---|
| Timer management | **Set the clock** | Use the arrows and the Enter button to enter the desired values. |

**Automatic DST**
Enable automatic daylight saving time setting.

| | | |
|---|---|---|
| Timer management | **Automatic DST** | Deactivated (Default)<br>On |

**Time format**
Choose the clock display format.

| | | |
|---|---|---|
| Timer management | **Time format** | 24-hour<br>12-hour |

**Create new timer**
Time one or more types of activation chosen from those available.

| | | |
|---|---|---|
| Timer management | **Create new timer** | Use the arrows to choose the desired function.<br>Open / Partial opening / Output B1-B2<br>Press ENTER to confirm.<br><br>Use the arrows to set the start and end time of the function activation.<br>Start time / end time<br>Press ENTER to confirm.<br><br>Use the arrows to set the function activation days<br>Select days / Whole week<br>Press ENTER to confirm. |

**Remove timer**
Removes one of the saved timings.

| | | |
|---|---|---|
| Timer management | **Remove timer** | Use the arrows to choose the timing to be removed.<br>0 = [Opening]<br>P = [Partial opening]<br>B = [Output B1-B2]<br>Press ENTER to confirm. |

**Commands**
Run certain gate commands without the control devices.

| | | |
|---|---|---|
| **Commands** | | Open<br>Partial opening<br>Close<br>Stop<br><br>Use the arrows to select the command to be executed.<br>Press ENTER to confirm. |

**Language**
Set the display language.

| | | |
|---|---|---|
| **Language** | | Italiano (IT)<br>English (EN)<br>Français (FR)<br>Deutsch (DE)<br>Español (ES)<br>Português (PT)<br>Русский (RU)<br>Polski (PL) |

**Enable password**
Set a 4-digit password. The password will be requested to anyone who wants to access the main menu.

| | | |
|---|---|---|
| Password | **Enable password** | Use the arrows and the Enter button to dial the desired code.<br>Enter the password again using the arrows and the Enter button to confirm. |

## Forgotten password

If you forget your password, follow the procedure below.
Disconnect the control board from the power supply.
Press and hold the < and > buttons, then reconnect the control board to the power supply.
Continue to press and hold the < > buttons until [Factory reset] is displayed.
Select [Confirm YES].
Press ENTER to confirm.

📖 When you reset the control board, all saved users, set times and calibration operations are deleted.

**Remove password**
Remove the password that protects access to the main menu.

| | | |
|---|---|---|
| Password | **Remove password** | Confirm? NO<br>Confirm? YES |

**Change password**
Change the 4-digit password that protects access to the main menu.

| | | |
|---|---|---|
| Password | **Change password** | Use the arrows and the Enter button to dial the desired code.<br>Enter the password again using the arrows and the Enter button to confirm. |

**F Menu**
Enable the F functions menu view.

## Import/export data

Save user data and system configuration data on a MEMORY ROLL card.
The stored data can be reused for another control board to configure another system in the same way.

⚠ Before inserting and removing the MEMORY ROLL card, DISCONNECT THE MAINS POWER SUPPLY TO THE LINE.

❶ Insert the MEMORY ROLL card into the corresponding connector on the control board.

❷ Press the "Enter" button to access programming.

❸ Use the arrows to choose the desired function.

🕮 The functions are displayed only when a MEMORY ROLL card is inserted.

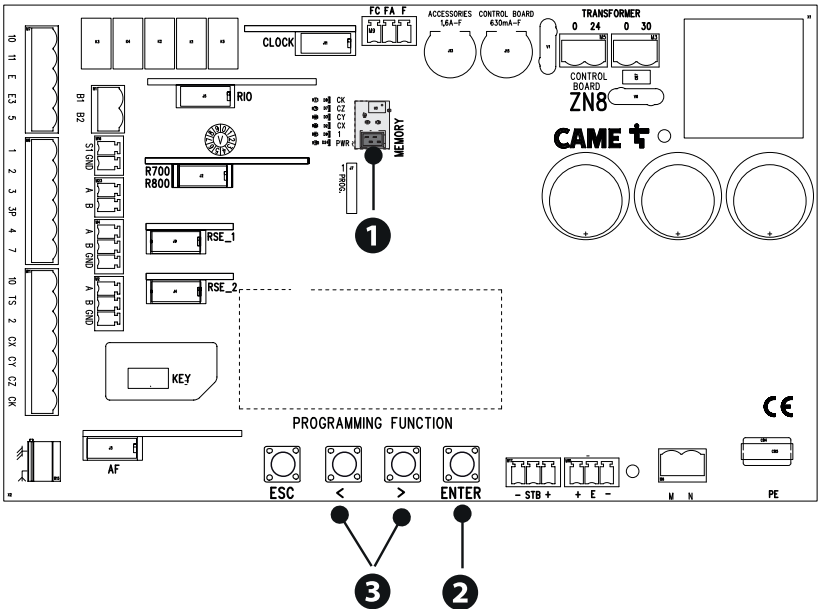
**- Save data**

Save user data, timings and configurations to the memory device (memory roll).

**- Read data**

Upload user data, timings and configurations to the memory device (memory roll).

🕮 Once the data have been saved and loaded, remove the MEMORY ROLL card.

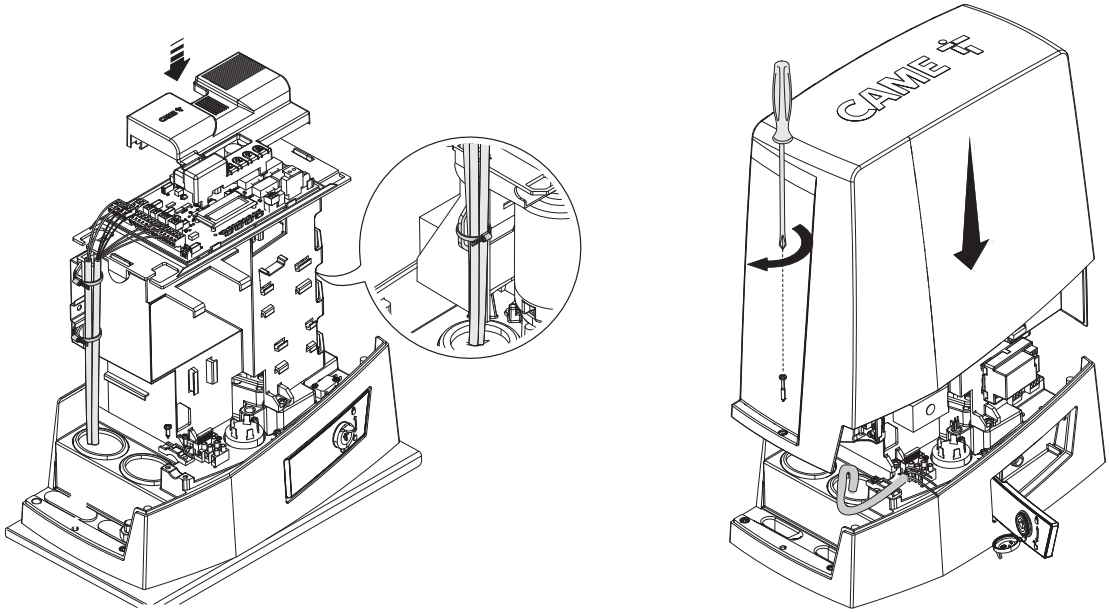


## ERROR MESSAGES

| | | |
|---|---|---|
| E1 | Calibration error | Interruption of the boom travel calibration due to the presence of an obstruction. |
| E3 | The Encoder does not work | The Encoder is disconnected.<br>The Encoder is broken. |
| E4 | Service test failure error | Presence of an obstruction within the range of the photocells.<br>The photocells are not correctly connected or configured.<br>The photocells are faulty. |
| E7 | Work time expired | Finished the maximum work time set. |
| E8 | Door lock open | The operator is released. |
| E9 | Maximum number of closing obstacles | The maximum number of obstacles detected consecutively has been exceeded |
| E10 | Maximum number of opening obstacles | The maximum number of obstacles detected consecutively has been exceeded |
| E11 | Maximum number of obstacles | The maximum number of obstacles detected consecutively has been exceeded |
| E12 | Main power supply missing | |
| E14 | Communication error | Configured on the wrong RSE port. |
| E15 | Incompatible remote control | The transmitter used is not CAME.<br>The coding set is different from that of the transmitter.<br>The transmitters are TWIN and have different KEY BLOCK. |
| E16 | Slave door open | The SLAVE operator is released. |
| E17 | No communication from the RIO system | The wireless module is not plugged into the connector on the control board.<br>The wireless module is broken. |
| E18 | RIO system not configured | The wireless system has not been configured.<br>The wireless devices have not been configured. |

## FINAL OPERATIONS

Before closing up the casing, check that the cable inlets are sealed to stop insects getting in and to prevent damp.




## PAIRED OPERATION

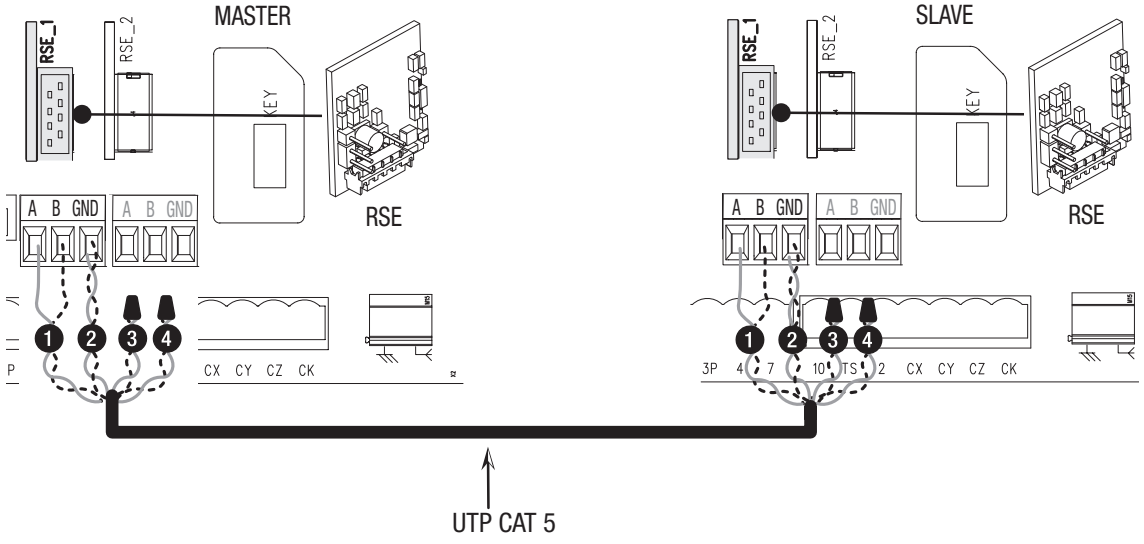
Two connected operators are controlled with one command.

### Electrical connections

Connect the two electronic boards with a UTP CAT 5 cable.
Fit an RSE card on both control boards, using the RSE_1 connector.
Connect up the electrics for the devices and accessories.

The devices and accessories must be connected to the control board which will be set as the MASTER.

For information on connecting the electrics for the devices and accessories, please see the “ELECTRICAL CONNECTIONS” section.




### Programming

All programming operations described below must be performed only on the control board set as the MASTER.
Select the [Paired] system type when following the guided procedure, or configure the RSE_1 port to [Paired] mode.

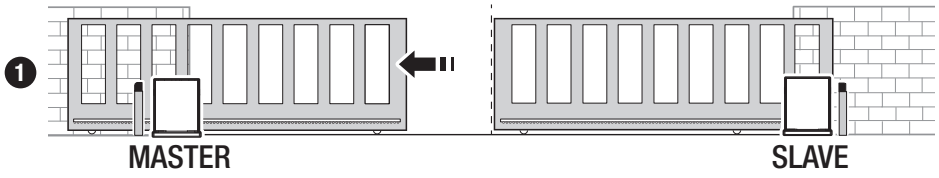
After programming the MASTER operator in [Paired], the second operator automatically becomes SLAVE.

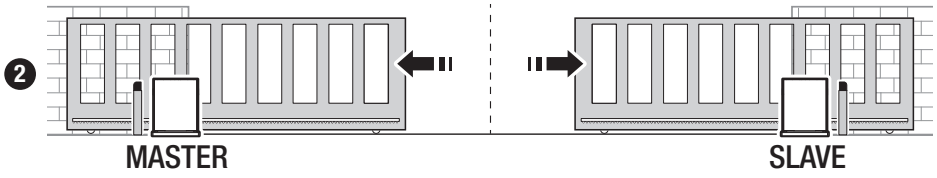
### Saving users

All save user operations must be performed only on the control board set as the MASTER.

## Operating modes

❶ PARTIAL OPENING command
❷ STEP-BY-STEP or OPEN ONLY command




## MCBF

| Models | BKV15 | BKV20 | BKV25 |
|---|---|---|---|
| 20 m - 1500 kg | 250000 | - | - |
| 20 m - 2000 kg | - | 250000 | - |
| 20 m - 2500 kg | - | - | 250000 |
| Installation in windy area | -15% | -15% | -15% |

📖 The percentages indicate how much the number of cycles should be reduced in relation to the type and number of accessories installed.

⚠ Before carrying out any cleaning or maintenance, or replacing any parts, disconnect the device from the power supply.

⚠ This document informs the installer of the checks that must be carried out during maintenance.

⚠ If the system is not used for long periods of time, e.g. for installations at sites with seasonal closures, disconnect the power supply. When the power supply is reconnected, check the system is working correctly.

📖 For information on correct installation and adjustments, please see the product installation manual.

📖 For information on choosing products and accessories, please see our product catalogue.

📖 Every 10,000 cycles and, in any case, every 6 months of operation, you must perform the maintenance work indicated below.

Perform a general and complete check of the tightness of the nuts and bolts.
Grease all of the moving mechanical parts.
Check the warning and safety devices are working properly.
Check for any wear on the moving mechanical parts and check that they are working properly.
Check the release mechanism is working efficiently by performing a manoeuvre with the leaf free. The gate leaf must not be obstructed.
Check the cables are intact and connected correctly.
Check and clean the slide guide and rack.

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BKV15AGS ; BKV20AGS ; BKV25AGS
BKV15ALS ; BKV20ALS ; BKV25ALS
BKV15RGS ; BKV20RGS ; BKV15AGE
BKV20AGE ; BKV25AGE

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- COMPATIBILITA' ELETTROMAGNETICA / ELECTROMAGNETIC COMPATIBILITY / ELEKTROMAGNETISCHE VERTRÄGLICHKEIT / COMPATIBILITÉ ÉLECTROMAGNÉTIQUE / COMPATIBILIDAD ELECTROMAGNÉTICA / COMPATIBILIDADE ELETROMAGNÉTICA / KOMPATYBILNOŚCI ELEKTROMAGNETYCZNEJ / ELEKTROMAGNETISCHE COMPATIBILITEIT : 2014/30/UE.

Riferimento norme armonizzate ed altre norme tecniche / Refer to European regulations and other technical regulations / Harmonisierte Bezugsnormen und andere technische Vorgaben / Référence aux normes harmonisées et aux autres normes techniques / Referencia normas armonizadas y otras normas técnicas / Referência de normas harmonizadas e outras normas técnicas / Odnosne normy ujednolicone i inne normy techniczne / Geharmoniseerde en andere technische normen waarnaar is verwezen

EN 61000-6-2:2005
EN 61000-6-3:2007+A1:2011
EN 62233:2008
EN 60335-1:2012+A11:2014
EN 60335-2-103:2015

RISPETTANO I REQUISITI ESSENZIALI APPLICATI: / MEET THE APPLICABLE ESSENTIAL REQUIREMENTS: / DEN WESENTLICHEN ANGEWANDTEN ANFORDERUNGEN ENTSPRECHEN: / RESPECTENT LES CONDITIONS REQUISES NECESSAIRES APPLIQUEES: / CUMPLEN CON LOS REQUISITOS ESENCIALES APLICADOS: / RESPEITAM O REQUISITOS ESSENCIAIS APLICADOS: / SPEŁNIAJĄ PODSTAWOWE WYMAGANE WYRUNKI: / VOLDOEN AAN DE TOEPASBARE MINIMUM EISEN:

**1.1.3; 1.1.5; 1.2.1; 1.2.2; 1.3.2; 1.3.7; 1.3.8.1; 1.4.1; 1.4.2; 1.5.1; 1.5.6; 1.5.8; 1.5.9; 1.5.9; 1.5.13; 1.6.1; 1.6.3; 1.6.4; 1.7.1; 1.7.2; 1.7.4**

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**CAME S.p.a.**

La documentazione tecnica pertinente è stata compilata in conformità all'allegato VIIB. / The pertinent technical documentation has been drawn up in compliance with attached document VIIB. / Die relevante technische Dokumentation wurde entsprechend der Anlage VIIB ausgestellt. / La documentation technique spécifique a été remplie conformément à l'annexe IIB / La documentación técnica pertinente ha sido rellenada en cumplimiento con el anexo VIIB. / A documentação técnica pertinente foi preenchida de acordo com o anexo VIIB. / Odnosna dokumentacja techniczna została zredagowana zgodnie z załącznikiem VIIB. / De technische documentatie terzake is opgesteld in overeenstemming met de bijlage VIIB.

CAME S.p.a. si impegna a trasmettere, in risposta a una richiesta adeguatamente motivata delle autorità nazionali, informazioni pertinenti sulle quasi macchine, e / Came S.p.A., following a duly motivated request from the national authorities, undertakes to provide information related to the quasi machines, and / Die Firma Came S.p.A. verpflichtet sich auf eine angemessen motivierte Anfrage der staatlichen Behörden Informationen über die unvollständigen Maschinen, zu übermitteln, und / Came S.p.A. s'engage à transmettre, en réponse à une demande bien fondée de la part des autorités nationales, les renseignements relatifs aux quasi machines / Came S.p.A. se compromete a transmitir, como respuesta a una solicitud adecuadamente fundada por parte de las autoridades nacionales, informaciones relacionadas con las cuasimáquinas / Came S.p.A. compromete-se em transmitir, em resposta a uma solicitação motivada apropriadamente pelas autoridades nacionais, informações pertinentes às partes que componham máquinas / Came S.p.A. zobowiązuje się do udzielenia informacji dotyczących maszyn nieukończonych na odpowiednio umotywowaną prośbę, złożoną przez kompetentne organy państwowe / Came S.p.A. verbindt zich ertoe om op met redenen omkleed verzoek van de nationale autoriteiten de relevante informatie voor de niet voltooide machine te verstrekken,

**VIETA / FORBIDS / VERBIETET / INTERDIT / PROHIBE / PROIBE / ZABRANIA SIE / VERBIEDT**

la messa in servizio finchè la macchina finale in cui deve essere incorporata non è stata dichiarata conforme, se del caso alla 2006/42/CE. / commissioning of the above mentioned until such moment when the final machine into which they must be incorporated, has been declared compliant, if pertinent, to 2006/42/CE / die Inbetriebnahme bevor die „Endmaschine" in die die unvollständige Maschine eingebaut wird, als konform erklärt wurde, gegebenenfalls gemäß der Richtlinie 2006/42/EU. / la mise en service tant que la machine finale dans laquelle elle doit être incorporée n'a pas été déclarée conforme, le cas échéant, à la norme 2006/42/CE. / la puesta en servicio hasta que la máquina final en la que será incorporada no haya sido declarada de conformidad de acuerdo a la 2006/42/CE / a colocação em funcionamento, até que a máquina final, onde devem ser incorporadas, não for declarada em conformidade, se de acordo com a 2006/42/CE. / Uruchomienia urządzenia do czasu, kiedy maszyna, do której ma być wbudowany, nie zostanie oceniona jako zgodna z wymogami dyrektywy 2006/42/WE, jeśli taka procedura była konieczna. / deze in werking te stellen zolang de eindmachine waarin de niet voltooide machine moet worden ingebouwd in overeenstemming is verklaard, indien toepasselijk met de richtlijn 2006/42/EG.

Dosson di Casier (TV)
9 Novembre / November / November / Novembre / Noviembre / Novembro / Listopad / November 2018

Amministratore Delegato / Managing Director / General Direktor / Directeur Général / Director General / Administrador Delegado / Dyrektor Zarzadzajacy / Algemeen Directeur

Andrea Menuzzo

Fascicolo tecnico a supporto / Supporting technical dossier / Unterstützung technische Dossier / soutenir dossier technique / apoyo expediente técnico / apoiar dossier técnico / wspieranie dokumentacji technicznej / ondersteunende technische dossier: 801MS-0320

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