CAME ⊤

Control panel for 24 V brushless gearmotors

FA02116-EN

CE

EAC

ZLB24SA   ZLB24SR

INSTALLATION MANUAL

EN | English

⚠ *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 has been designed to be assembled to partly completed machinery and/or equipment so as to build machinery as regulated by the Machinery Directive 2006/42/EC. • 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. • All the components (e.g. actuators, photocells and sensitive edges) needed for the final installation to comply with the Machinery Directive (2006/42/EC) and with the reference harmonised technical standards are specified in the general CAME product catalogue or on the website www.came.com. • Check that the temperature ranges given are suitable for the installation site. • 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. • 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. If you are automating a pedestrian gate that moves horizontally, this can be achieved if the corresponding distance is less than 8 mm. However, the distances indicated below are sufficient to avoid trapping the corresponding body parts:

- fingers, more than 25 mm;
- feet, more than 50 mm;
- head, more than 300 mm;
- for the entire body, more than 500 mm.

If you cannot achieve these distances, you will need to take suitable safety precautions. • All fixed controls must be clearly visible after installation, in a position that allows the guided part to be directly visible, but far away from moving parts. In the case of a hold-to-run control, this must be installed at a minimum height of 1.5 m from the ground and must not be accessible to the public. • Where operated with a hold-to-run control, install a STOP button to disconnect the main power supply to the operator, to block movement of the guided part. • If not already present, apply a permanent tag that describes how to use the manual release mechanism close to it. • Make sure that the operator has been properly adjusted and that the safety and protection devices and the manual release are working properly. • Before handing over to the final user, check that the system complies with the harmonised standards and the essential requirements of the Machinery Directive (2006/42/EC). • Any residual risks must be indicated clearly with proper signage affixed in visible areas, and explained to end users. • Put the machine's ID plate in a visible place when the installation is complete. • If the power supply cable is damaged, it must be immediately replaced by the manufacturer or by an authorised technical support service, or in any case, by qualified staff, to prevent any risk. • Keep this manual inside the technical folder along with the manuals of all the other devices used for your automation system. • Make sure to hand over to the end user all the operating manuals of the products that make up the final machinery. • The product, in its original packaging supplied by the manufacturer, must only be transported in a closed environment (railway carriage, containers, closed vehicles). • If the product malfunctions, stop using it and contact customer services at https://www.came.com/global/en/contact-us or via the telephone number on the website. • The manufacture date is provided in the production batch printed on the product label. If necessary, contact us at https://www.came.com/global/en/contact-us. • The general conditions of sale are given in the official CAME price lists.

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. Please 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.

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

801QA-0170

ZLB24SA - Multifunction control panel, with 230 VAC power supply, for FROG-X 24 V brushless gearmotors, with graphic programming display and signalling, safety device self-diagnostics, adaptive speed and torque technology, BUS CXN, 4 safety inputs and memory space for up to 1000 users.

The control panel has been specifically designed for FROG-X and should not be used on other swing motors.

801QA-0180

ZLB24SR - Multifunction control panel, with 120 VAC power supply, for FROG-X 24 V brushless gearmotors, with graphic programming display and signalling, safety device self-diagnostics, adaptive speed and torque technology, BUS CXN, 4 safety inputs and memory space for up to 1000 users.

The control panel has been specifically designed for FROG-X and should not be used on other swing motors.

Technical data

MODELS	ZLB24SA	ZLB24SR
Power supply (V - 50/60 Hz)	220-230 AC	110-120 AC
Motor power supply (V)	24 DC	24 DC
Board power supply (V)	24 DC	24 DC
Standby consumption (W)	6	6
Power (W)	310	310
Colour	RAL 7040	RAL 7040
Operating temperature (°C)	-20 ÷ +55	-20 ÷ +55
Storage temperature (°C)*	-20 ÷ +70	-20 ÷ +70
Protection rating (IP)	54	54
Insulation class	I	I
Average life (cycles)**	100.000	100.000

(*) Before installing the product, keep it at room temperature where it has previously been stored or transported at a very high or very low temperature.
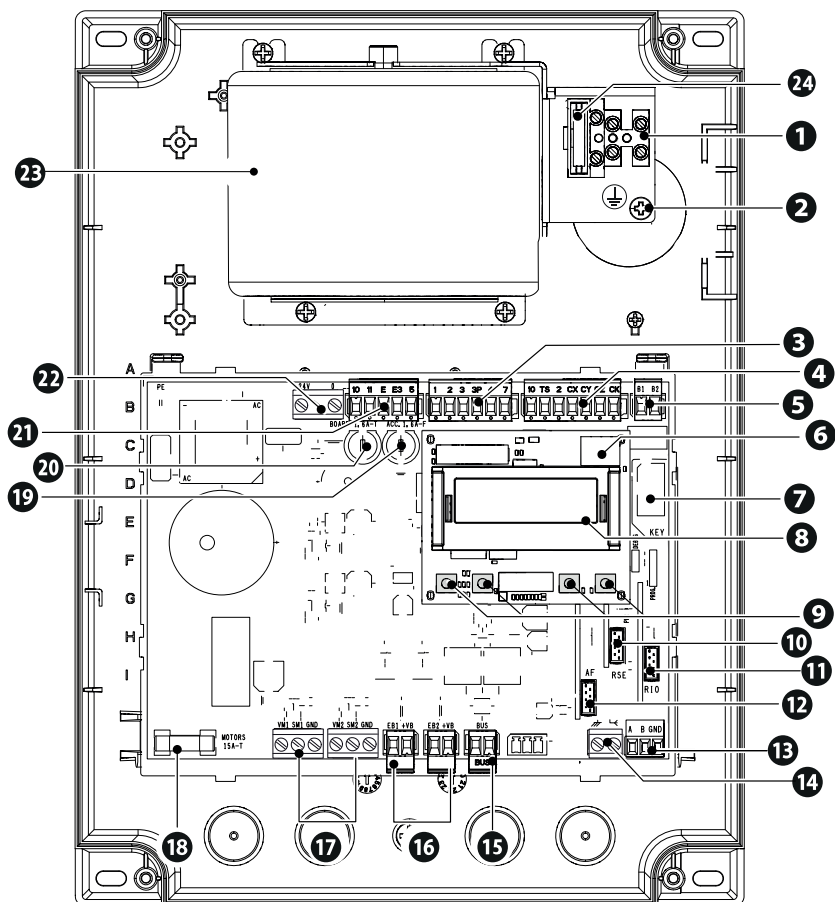
(**) The average product life is a purely indicative estimate. It applies to compliant usage, installation and maintenance conditions. It is also influenced by other factors, such as climatic and environmental conditions (where present, see the MCBF table).

Fuse table

MODELS	ZLB24SA	ZLB24SR
Line fuse	3.15 A F	6.3 A F
Control-board fuse	1.6 A T	1.6 A T
Accessory fuse	1.6 A F	1.6 A F
Motor fuse	15 A T	15 A T

Description of parts

❶ Power supply terminal board
❷ Earth connection
❸ Terminal board for connecting control devices
❹ Terminal board for connecting the safety devices
❺ Terminal board for B1-B2 output
❻ Memory Roll card connector
❼ Connector for CAME KEY
❽ Display
❾ Programming buttons
❿ RSE card connector
⓫ RIO CONN card connector
⓬ Connector for plug-in radio frequency card (AF)
⓭ Terminal board for CRP connection

⓮ Terminal board for connecting the antenna
⓯ Terminal board for CXN BUS accessories
⓰ Terminal block for connecting the electric lock
⓱ Terminal board for connecting the gearmotor
⓲ Motor fuse
⓳ Accessories fuse
⓴ Control board fuse
㉑ Terminal board for connecting the signalling devices
㉒ Terminal board for power supply to the control board
㉓ Transformer
㉔ Line fuse

Optional accessories

25 RGSM001 module (806SA-0010)　　　　　　　　**26** SMA module (009SMA)

📖 **Use two emergency 12V 7Ah batteries.**
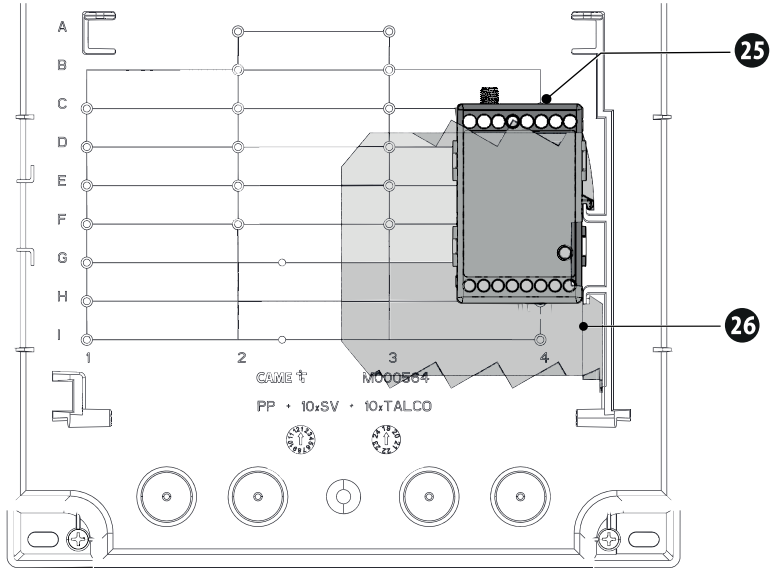
Size
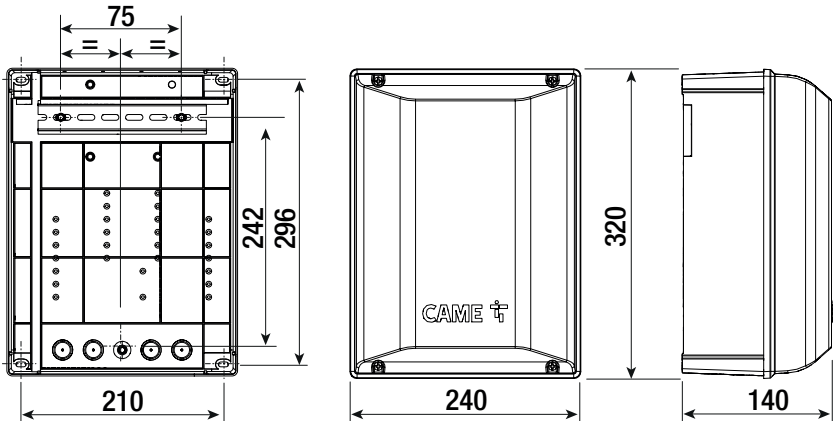
Cable types and minimum thicknesses

* no. = see product assembly instructions

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

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

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

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

📖 To connect to the CRP, use a UTP CAT5 cable (up to 1,000 m long).

📖 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.

📖 To connect the motor, use a H07RN-F cable (3x2.5 mm2).

BUS cable table

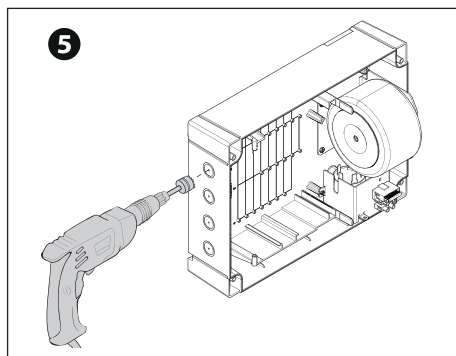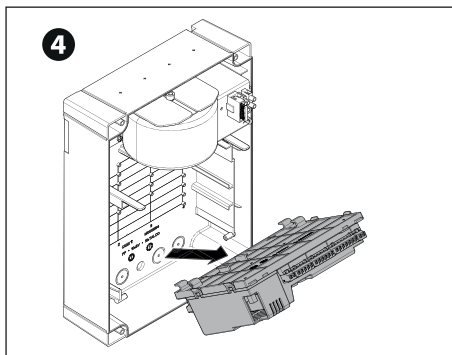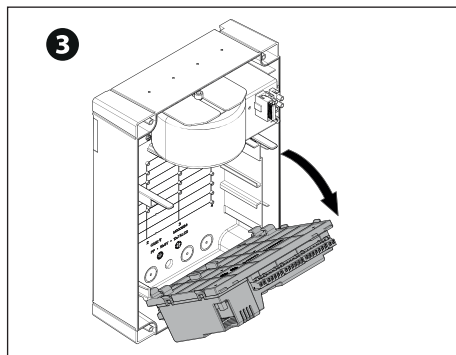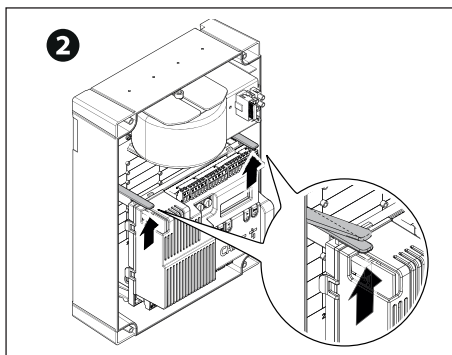📖 We recommend using a FROR 2x1mm^2 cable, maximum length from the control board: 50 m.

Single branch length (m)	max. 50 m
BUS cable	2 x 1 mm^2

📖 The total length of all branches can be a maximum of 150 m.
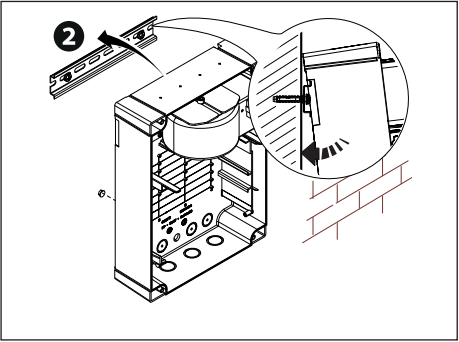
📖 The cable cannot be shielded.
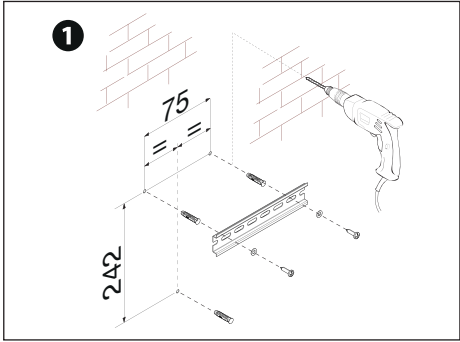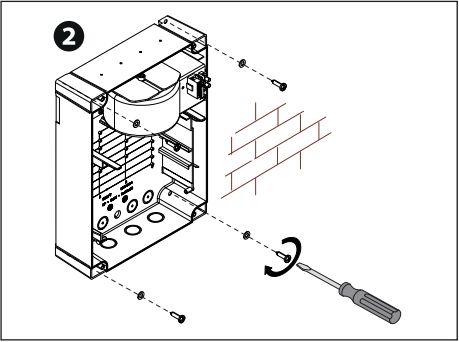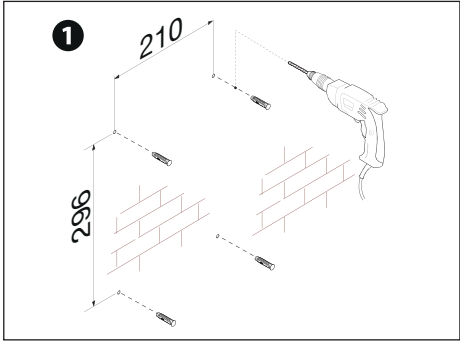
Preparing the control panel
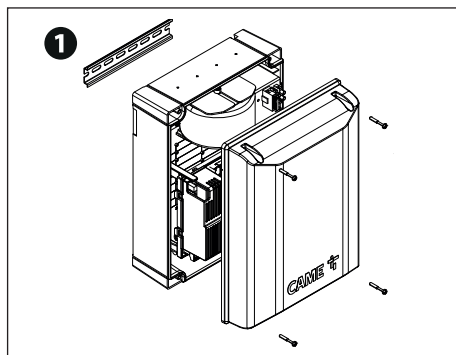
Fastening the control panel

DIN rail
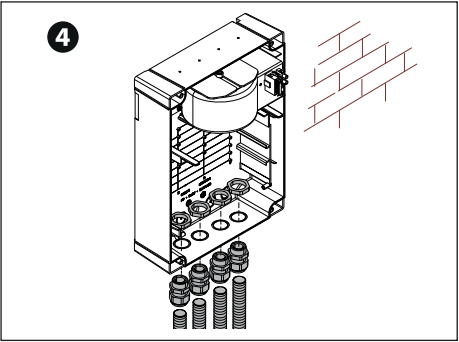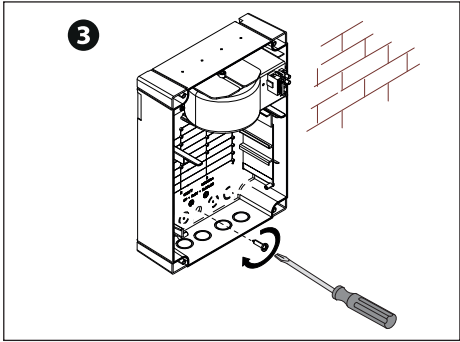
Standard

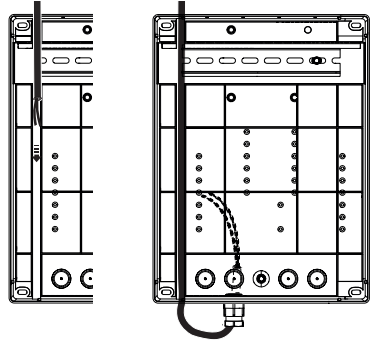### Preparing the electrical cables

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

📖 Use cable glands to connect the devices to the control panel. One of these must be used exclusively for the power supply cable.
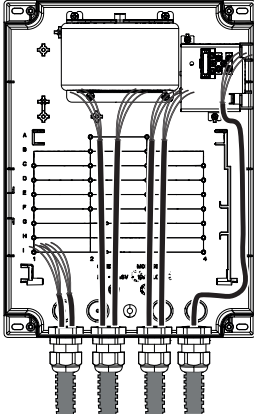
Power supply

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

F - Line fuse
L - Phase

N - Neutral
⏚ Earth

📖 The strap used to fix the cables is not supplied.

📖 For subsequent connections, reposition the control board and remove the board protection.

② Power supply output for accessories 24 V

③ Electric lock or electromagnets 12 V AC/DC - max 15 W.
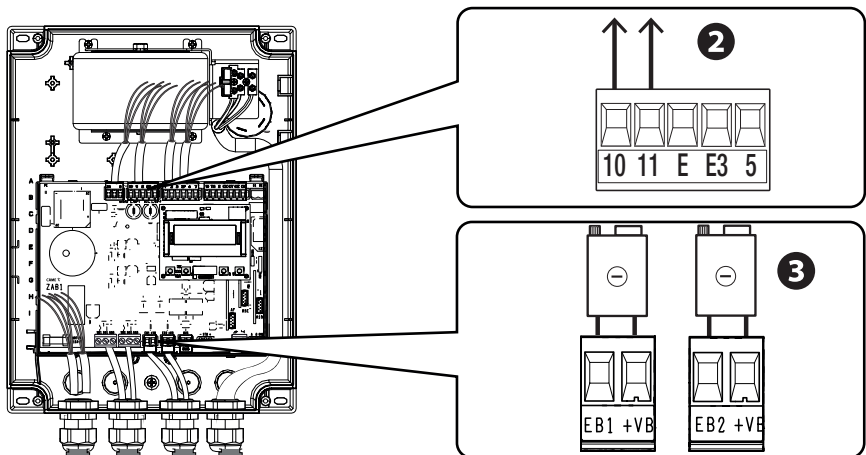
Maximum capacity of contacts

📖 The total power of the outputs listed below must not exceed the maximum output power [Accessories]
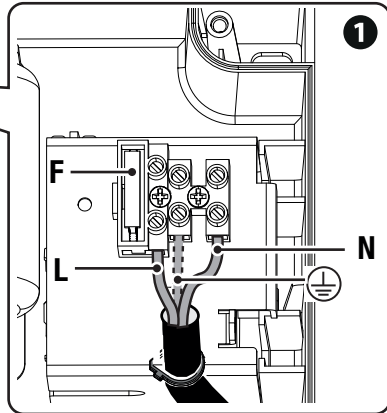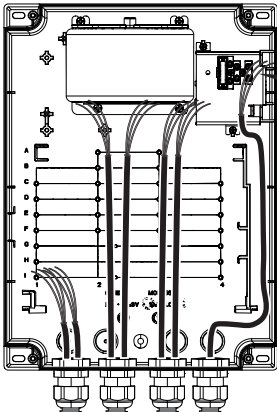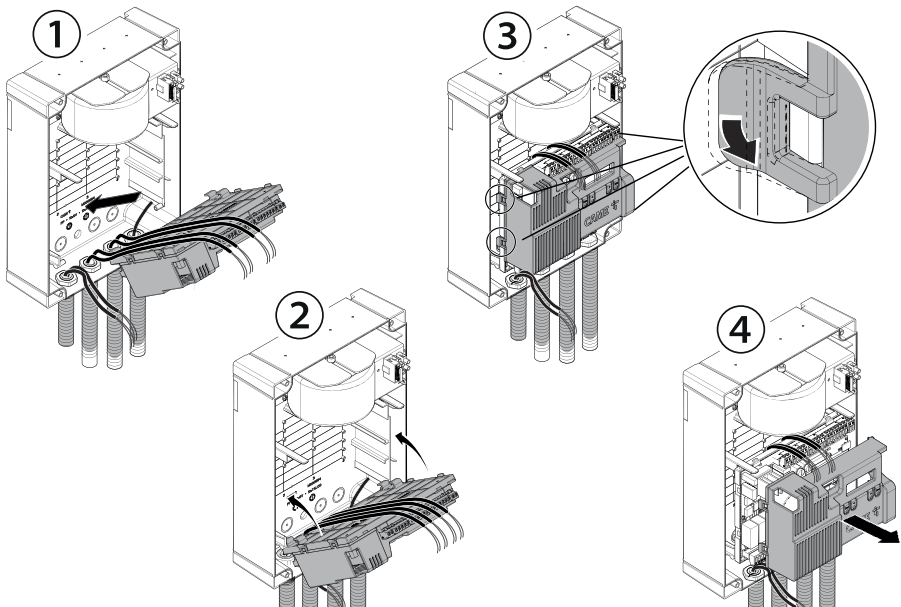
Device	Output	Power supply (V)	Maximum power (W)
Accessories	10 - 11	24 AC/DC	40
Additional light	10 - E3	24 AC/DC	20
Flashing beacon	10 - E	24 AC/DC	20
Operator status warning light	10 - 5	24 AC/DC	3

📖 The output delivers 24 V DC (10+, 11-) when the batteries start operating, if they are installed.

Device	Output	Power supply (V)	Power (W)
Auxiliary contact	B1 - B2	- -	-
BUS CXN	BUS	15 DC -	-

📖 Do not connect anything other than CAME BUS accessories.

FROG X gearmotors (801MI-0030)

Connecting gearmotor pair

M1 = Gearmotor delayed while opening   M2 = Gearmotor delayed while closing
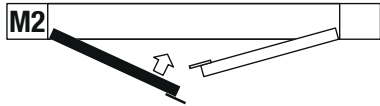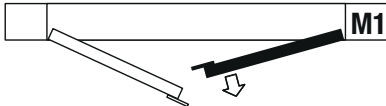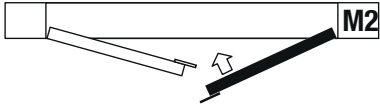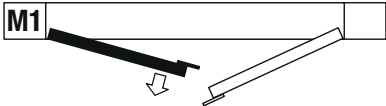
❶ Red wire   ❷ Grey wire   ❸ Black wire
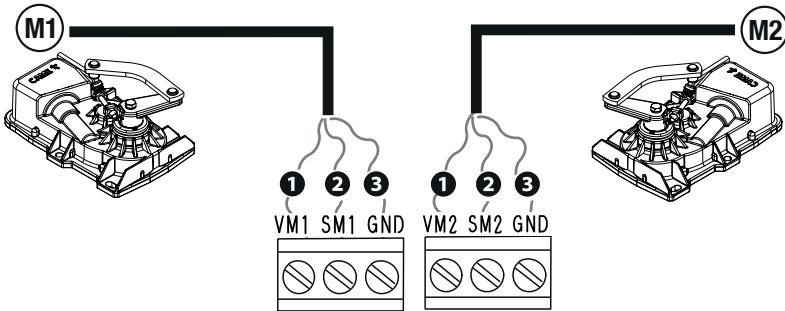
Connecting a single gearmotor

❶ Red wire   ❷ Grey wire   ❸ Black wire
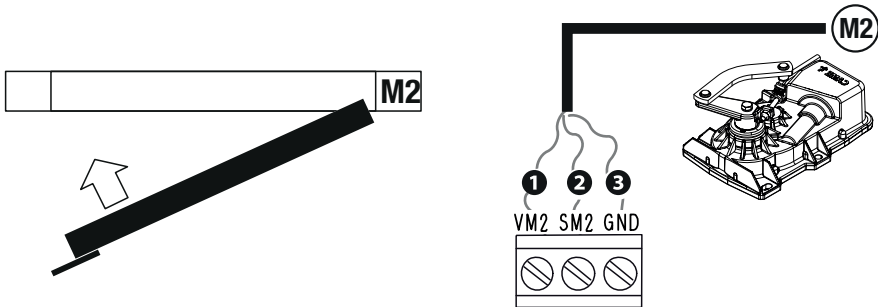
Devices with BUS CXN system

The CXN CAME system is a two-wire non-polarised communication BUS which allows you to connect up all compatible CAME devices. Connection to the BUS can be in a chain, star or mixed formation. Once the system has been wired, and after having set the address on each device, the function of each accessory can be configured on the control panel. This method allows you to configure the set-up immediately without having to work directly on the accessories and system wiring later. The CXN BUS can support control devices, interfaces, photocells, safety devices, beacons and gateways at the same time.

Cabling

❶ Chain connection
❷ Star connection
❸ Mixed connection
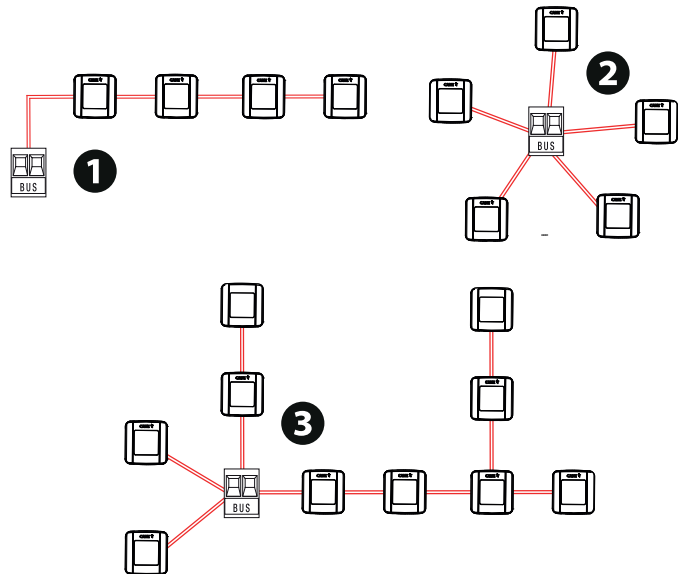
Cable length

Cable type	Single branch max. length (m)	Sum total of branches (m)
FROR 2 x 1 mm^2	50	150

📖 Do not use a shielded cable.

Maximum number of devices that can be connected, by type

Type of device	Maximum number of devices per type
Selectors	8
Photocell pairs	8
Interfaces	2
Flashing beacons	2

BUS CXN device consumption

📖 BUS CXN device consumption is calculated in CXN units.

Scan the QR code to access an interactive table showing consumption data, and calculate the maximum number of BUS devices you can connect to the control panel.

Command and control devices

❶ STOP button (NC contact)

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

📖 When the contact is being used, it must be activated during programming.

📖 See function [Total stop].

❷ Control device (NO contact)

Open command

📖 When the [Hold-to-run] function is active, a control device must be set to OPEN.

❸ Control device (NO contact)

Partial Opening or Pedestrian command

📖 See [Adjusting partial opening] function.

❹ Control device (NO contact)

Close command

📖 When the [Hold-to-run] function is active, a control device must be set to CLOSE.

❺ Control device (NO contact)

Step-by-step command

Sequential command

📖 See control [Function 2-7].

❻ Antenna with RG58 cable

📖 If the chosen signalling device can be fitted with an antenna, use the terminal shown to connect it.

Signalling devices

❶ Flashing beacon

It flashes when the operator opens and closes.

❷ Additional light

It increases the light in the manoeuvring area.

📖 See [Additional light] function.

❸ Operator status warning light

It notifies the user of the operator status.

📖 See function [Passage-open warning light].
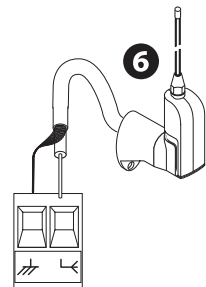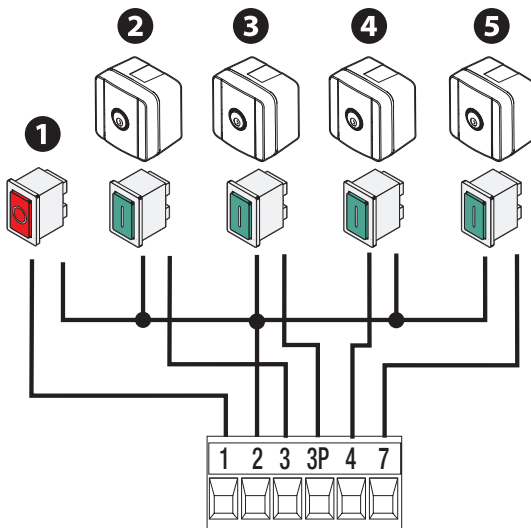
Safety devices

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

📖 If contacts CX, CY, CZ and CK are used, they must be configured during programming.

📖 For systems with multiple pairs of photocells, please see the manual for the relevant accessory.

DIR photocells
Standard connection
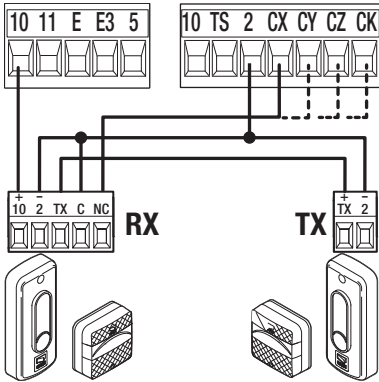
DIR photocells
Connection with safety test
📖 See [Safety devices test] function.
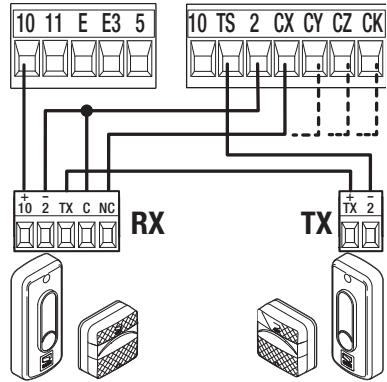
DXR/DLX photocells
Standard connection
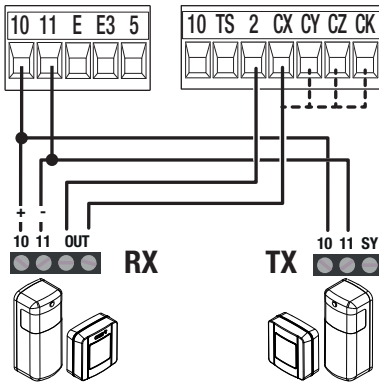
DXR/DLX photocells
Connection with safety test
📖 See [Safety devices test] function.
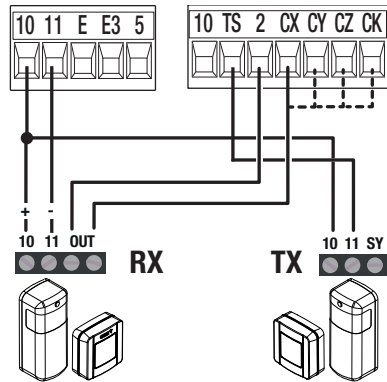
DFWN sensitive edge
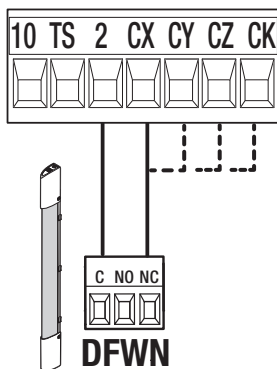
PROGRAMMING

Programming button functions
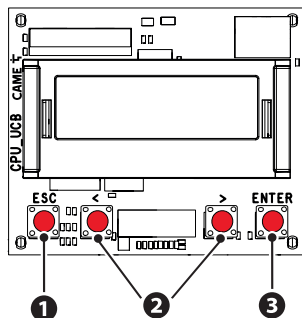
❶ ESC button

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

❸ ENTER button

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

📖 Outside the menu, the ESC key stops the gate and the < > keys open and close the gate.

📖 When executing a manoeuvre, press and hold the ENTER key to display the Opening, Partial Opening, Closing and Stop commands. You can select the desired command using the < > keys.

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.

Power up the device and follow the instructions on the display.

Start programming following the wizard.

📖 If this is not the first time the board is being switched on, go to the menu Configuration > Wizard. Follow the indications shown on the display.

⚠ Complete programming and check the warning, safety and protection devices, and the manual release, are working properly.

📖 After powering up the system, the first manoeuvre is always to open the gate Wait for the manoeuvre to be completed.

📖 Perform the first manoeuvre where you can see the gate in motion and with the photocells active, including where remotely controlled.

📖 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.

📖 If CALIBRATION REQUIRED appears on the display, you must calibrate the travel. The panel will not accept motion commands, except for the motor test.

Diagrams showing leaf speed, slowdown and approach points

❶ Closing limit-switch
❷ Opening limit-switch
❸ Opening slowdown point
❹ Closing slowdown point
❺ Opening approach point
❻ Closing approach point

Ⓐ Opening speed
Ⓑ Closing speed
Ⓒ Opening slowdown speed
Ⓓ Closing slowdown speed
Ⓔ Approach speed (fixed)
Ⓕ Invert-motion zone in case of obstructions
Ⓖ Stop-motion zone in case of obstructions
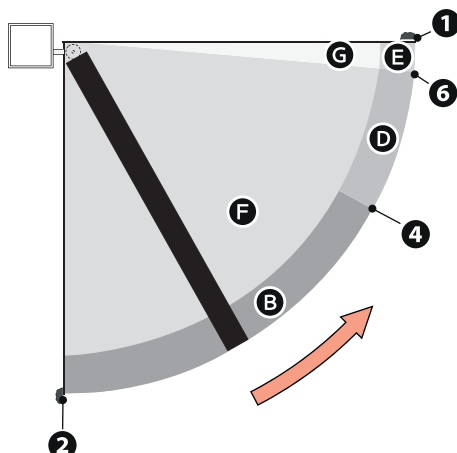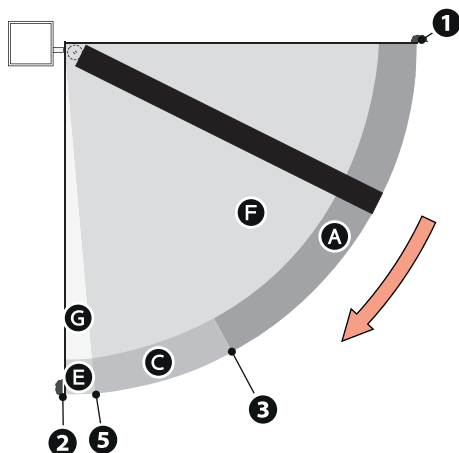
Graph showing speed curves during movement, slowdown and approach.

📖 Moving between the various speeds always involves a gentle acceleration/slowdown slope.

Using slowdown space (slowdown space > 0)

📖 With a slowdown space greater than 0, the obstruction detector, when near the approach points, is more sensitive, as per the impact testing.

Ⓐ Opening or closing speed
Ⓑ Opening or closing slowdown speed
Ⓒ Approach speed (fixed)
Ⓓ Obstruction travel sensitivity
Ⓔ Slowdown obstruction sensitivity
❶ Opening or closing limit-switch
❷ Opening or closing slowdown point
❸ Opening or closing approach point
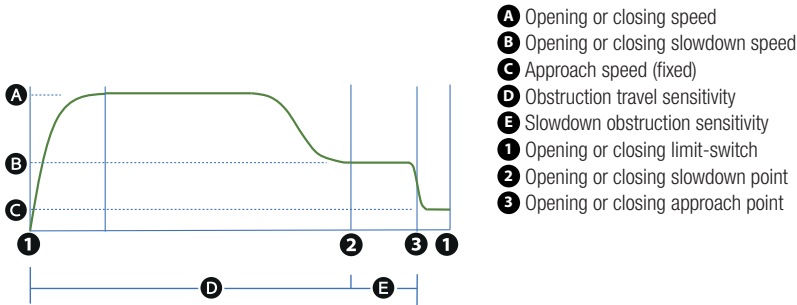
Without using slowdown space (slowdown space = 0)

Ⓐ Opening or closing speed
Ⓒ Approach speed (fixed)
Ⓓ Obstruction travel sensitivity
❶ Opening or closing limit-switch
❸ Opening or closing approach point
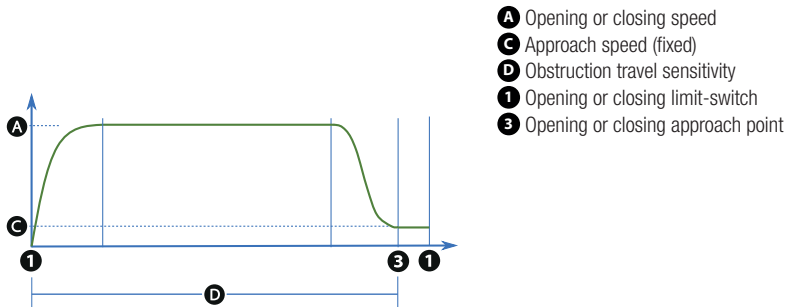
Menu layout

📖 Some options only show on the display if certain conditions are met. For more information, please see the information for the individual functions.

Level 1	Level 2	Level 3	Level 4
Configuration	Motor settings	Number of motors	
		Opening direction	
		Type of motor arm	
		Motor test	
		Travel calibration	
		Motor power	
		Gate-leaf length	
		Leaf weight	
		Configure M1	Opening direction
			Type of motor arm
			Motor power
			Gate-leaf length
			Leaf weight
		Configure M2	Opening direction
			Type of motor arm
			Motor power
			Gate-leaf length
			Leaf weight

Gate travel settings	Opening speed	
	Closing speed	
	Travel AST control	
	Part. open point	
	Op. approach point	
	Cl. approach point	
	Opening slowdown point	
	Closing slowdown point	
	Opening slowdown speed	
	Closing slowdown speed	
	Slowdown AST control	
	Impact test	
	Configure M1	Opening speed
		Closing speed
		Op. approach point
		Cl. approach point
		Opening slowdown point
		Closing slowdown point
		Opening slowdown speed
		Closing slowdown speed
	Configure M2	Opening speed
		Closing speed
		Op. approach point
		Cl. approach point
		Opening slowdown point
		Closing slowdown point
		Opening slowdown speed
		Closing slowdown speed

	Wired safety devices	Total stop	
		CX input	
		CY input	
		CZ input	
		CK input	
		Safety devices test	
	RIO safety devices	RIO ED T1	
		RIO ED T2	
		RIO PH T1	
		RIO PH T2	
	BUS Devices	BUS Photocell 1	
		Photocell BUS 2	
		Photocell BUS 3	
		Photocell BUS 4	
		Photocell BUS 5	
		Photocell BUS 6	
		Photocell BUS 7	
		Photocell BUS 8	
		BUS 1 key selector	Key to the right
			Key to the left
		BUS 2 key selector	Key to the right
			Key to the left
		BUS 3 key selector	Key to the right
			Key to the left
		BUS 4 key selector	Key to the right
			Key to the left
		BUS 5 key selector	Key to the right
			Key to the left

	BUS 6 key selector	Key to the right
		Key to the left
	BUS 7 key selector	Key to the right
		Key to the left
	BUS 8 key selector switch	Key to the right
		Key to the left
	I/O module BUS 1	input I1
		input I2
		Light output
		Relay output
	I/O module BUS 2	input I1
		input I2
		Light output
		Relay output
	BUS flashing beacon	Opening colour
		Closing colour
		Auto. cl. colour
		Pre-flashing colour
		Signal error
	BUS device lights	Signal maintenance
Command inputs	Command 2-7	
Functions	Electric lock	
	Closing thrust	
	Thrust	
	Removing obstacles	
	B1-B2 output	
	Hold-to-run	
	Obst. with motor stopped	

	Times	Automatic close	
		Automatic partial close	
		M1 open delay	
		M2 close delay	
	Manage lights	Passage-open warning light	
		Light E3	
		Courtesy time	
		Pre-flashing time	
	RSE communication	CRP address	
		RSE speed	
	External memory	Save data	
		Read data	
	Parameter reset		
	Guided procedure (Wizard)		

User management	New user		
	Remove user		
	Remove all		
	Radio decoding		
	Self-Learning Rolling		
	Change mode		

Information	FW version		
	BUS device status		
	Manoeuvre counter		
	Configure maintenance		
	Maintenance reset		
	Errors list		

Timer management	Show clock		
	Set the clock		
	Automatic DST		
	Time format		
	Create new timer	Open	Start time
			End time
			Days of the week
		Partial opening	Start time
			End time
			Days of the week
		B1-B2 output	Start time
			End time
			Days of the week
		BUS 1 module relay	Start time
			End time
			Days of the week
		BUS 2 module relay	Start time
			End time
			Days of the week
	Remove timer		
Language			
Password	Enable password		
	Remove password		
	Change password		

List of functions

Number of motors

Set the number of motors that control the gate.

Configuration> Motor settings	**Number of motors**	M1+M2 (Default) M2

Opening direction

Set the gate opening direction.

📖 **By selecting an opening direction for M2, M1 is automatically set to the opposite direction.**

Configuration> Motor settings	**M2 opening direction**	Anticlockwise (Default) Leaf M2 opens anticlockwise, leaf M1 opens clockwise. Clockwise Leaf M2 opens clockwise, leaf M1 opens anticlockwise.

Type of motor arm

Set the type of motor arm installed on M1 and M2.

Configuration> Motor settings	**Type of motor arm**	Standard (Default) 140° transmiss. kit (001A4370) 180° transmiss. kit (801XA-0040)

Motor test

Check the gate leaves open in the right direction.

With the function active, the > button opens/closes the gate leaf connected to M2, and the < button opens/closes the gate leaf connected to M1. The movement continues as long as the button is pressed or until the end-of-travel limit switch is reached. When the button is released, the movement stops.

📖 **The leaves will move at reduced speed.**

Configuration> Motor settings	**Motor test**	The > key opens and closes gate leaf M2 The < key opens and closes gate leaf M1

Travel calibration

Start the travel self-learning.

Configuration> Motor settings	**Travel calibration**	

Motor power

Increase or decrease the maximum thrust of motors connected on M1 and M2 during a manoeuvre.

📖 **Decreasing the thrust increases the obstacle-detection sensitivity.**

Configuration> Motor settings	**Motor power**	30% to 130% (Default 100%) 📖 **At 100%, the maximum thrust is the value pre-defined for the motor. Increasing or decreasing the percentage increases or decreases the maximum thrust.**

Gate-leaf length

Set the length of leaves M1 and M2.

Configuration> Motor settings	Gate-leaf length	Maximum (Default) 0.5 to 4 m (increments of 0.5 m)

Leaf weight

Set the weight of leaves M1 and M2.

Configuration> Motor settings	Leaf weight	Gate-leaf length 4 m Maximum = 400 kg (Default) 50 kg to 400 kg (increments of 50 kg) Gate-leaf length 3.5 m Maximum = 500 kg (Default) 50 kg to 500 kg (increments of 50 kg) Gate-leaf length 3 m Maximum = 700 kg (Default) 50 kg to 700 kg (increments of 50 kg) Gate-leaf length < 3 m Maximum = 800 kg (Default) 50 kg to 800 kg (increments of 50 kg)

Configure motor M1

Modify certain parameters previously described for motor M1 only (where different from M2).

📖 The function only appears with M1+M2 selected under [Number of motors].

Configuration> Motor settings> Configure M1	Opening direction Type of motor arm Motor power Gate-leaf length Leaf weight	📖 See the specific parameters for each function.

Configure motor M2

Modify certain parameters previously described for motor M2 only (where different from M1).

📖 The function only appears with M1+M2 selected under [Number of motors].

Configuration> Motor settings> Configure M2	Opening direction Type of motor arm Motor power Gate-leaf length Leaf weight	📖 See the specific parameters for each function.

Opening speed

Set the opening speed for both motors (percentage of maximum speed).

📖 If the value set for M1 is different to the value set for M2, only the value for M2 is shown here.

Configuration> Gate travel settings	Opening speed	40% to 100% (Default 70%)

Closing speed

Set the closing speed for both motors (percentage of maximum speed).

📖 If the value set for M1 is different to the value set for M2, only the value for M2 is shown here.

Configuration> Gate travel settings	**Closing speed**	40% to 100% (Default 70%)

Travel AST control

Adjust the obstruction detection sensitivity during the gate travel in percentage terms.

Configuration> Gate travel settings	**Travel AST control**	Deactivated (Default) 📖 **Maximum thrust and low obstruction sensitivity.** Minimum Average Maximum* **(*) 📖 Minimum thrust and high obstruction sensitivity.** Customised Customised closing Customised opening The personalised values to be used are expressed as a percentage: - from 10% (minimum thrust and high obstruction sensitivity) - to 100% (maximum thrust and low obstruction sensitivity)

Adjusting the partial opening

For single-leaf gates, it determines the partial opening percentage of the leaf with respect to the total travel.
For two-leaf gates, it determines the partial opening percentage of the M2 leaf with respect to the total travel.
📖 100% = Pedestrian opening

Configuration> Gate travel settings	**Part. open point**	10% to 100% (Default 100%)

Opening approach space

Set the percentage of the total travel to be used for the M1 and M2 opening approach.

📖 If the value set for M1 is different to the value set for M2, only the value for M2 is shown here.

Configuration Gate travel settings	**Op. approach point**	0.5% to 25.0% (Default 8.0%)

Closing approach space

Set the percentage of the total travel to be used for the M1 and M2 closing approach.

📖 If the value set for M1 is different to the value set for M2, only the value for M2 is shown here.

Configuration> Gate travel settings	**Cl. approach point**	0.5% to 25.0% (Default 8.0%)

Opening slowdown point

Set the percentage of the total travel to be used for the M1 and M2 opening slowdown.

📖 **If the value set for M1 is different to the value set for M2, only the value for M2 is shown here.**

Configuration> Gate travel settings	**Opening slowdown point**	Deactivated (Default) 1% to 50%

Closing slowdown point

Set the percentage of the total travel to be used for the M1 and M2 closing slowdown.

📖 **If the value set for M1 is different to the value set for M2, only the value for M2 is shown here.**

Configuration> Gate travel settings	**Closing slowdown point**	Deactivated (Default) 1% to 50%

Opening slowdown speed

Set the M1 and M2 slowdown speed during opening (as a percentage of the maximum speed).

📖 **If the value set for M1 is different to the value set for M2, only the value for M2 is shown here.**

📖 **The parameter is only used with the [Opening slowdown point] function active.**

Configuration> Gate travel settings	**Opening slowdown speed**	10% to 50% (Default 40%)

Closing slowdown speed

Set the M1 and M2 slowdown speed during closing (as a percentage of the maximum speed).

📖 **If the value set for M1 is different to the value set for M2, only the value for M2 is shown here.**

📖 **The parameter is only used with the [Closing slowdown point] function active.**

Configuration> Gate travel settings	**Closing slowdown speed**	10% to 50% (Default 40%)

Slowdown AST control

Adjust the obstruction detection sensitivity during slowdown in percentage terms.

📖 The parameter is only used if the opening or closing slowdown point is active.

| Configuration>
Gate travel settings | Slowdown AST control | Deactivated (Default)
📖 **Maximum thrust and low obstruction sensitivity.**

Minimum
Average
Maximum*
(*) 📖 **Minimum thrust and high obstruction sensitivity.**

Customised
Customised closing
Customised opening

The personalised values to be used are expressed as a percentage:
 - from 10% (minimum thrust and high obstruction sensitivity)
 - to 100% (maximum thrust and low obstruction sensitivity) |

Impact test

Activate/deactivate test mode for impact tests. With the function on, the operator does not signal errors connected to obstacle detection after more than one consecutive impact.

The function is also used to pre-set the travel parameters, according to the gate leaf weight and length, to use for impact tests.

📖 Test mode is deactivated automatically after 1 hour.

📖 With the function on, the display shows the ⚠️ icon.

| Configuration>
Gate travel settings | Impact test | Activate test mode
Deactivate test mode
Apply pre-set value - Configure the travel parameters according to the set leaf weight and length.
📖 **Configure the [Boom length] and [Leaf weight] functions to activate the preset parameters.**
📖 **The parameter is only displayed after travel has been calibrated. See the [Travel calibration] function.** |

Configure travel M1

Modify certain parameters previously described for motor M1 only (where different from M2).

📖 The function only appears with M1+M2 selected under [Number of motors].

Configuration> Gate travel settings> Configure M1	Opening speed Closing speed Opening approach space Closing approach space Opening slowdown point Closing slowdown point Opening slowdown speed Closing slowdown speed	📖 See the specific parameters for each function.

Configure travel M2

Modify certain parameters previously described for motor M2 only (where different from M1).

📖 The function only appears with M1+M2 selected under [Number of motors].

Configuration> Gate travel settings> Configure M2	Opening speed Closing speed Opening approach space Closing approach space Opening slowdown point Closing slowdown point Opening slowdown speed Closing slowdown speed	📖 See the specific parameters for each function.

Total stop

Activate or deactivate input 2-1. If it is activated, the input is used as a normally closed contact.

📖 With the input open, this function excludes all commands, including any automatic closing.

Configuration> Wired safety devices	Total stop	Deactivated (Default) On

CX input , CY input , CZ input , CK input
Associate a function with the input CX CY CZ CK

Configuration> Wired safety devices	CX input CY input CZ input CK input	Deactivated (Default) C1 = Reopen while closing (photocells) C2 = Reclose while opening (photocells) C3 = Partial stop Only with [Automatic close] activated. C4 = Obstacle standby (photocells) C7 = Reopen while closing (sensitive edges) C8 = Reclose while opening (sensitive edges) C13 = Reopen while closing, with immediate closure once the obstruction has been removed, even if the gate is not in motion r7 = Reopen while closing (sensitive edge with 8K2 resistor) r8 = Reclose while opening (sensitive edge with 8K2 resistor) r7 (two sensitive edges) = Reopen while closing (pair of sensitive edges with 8K2 resistor) r8 (two sensitive edges) = Reclose while opening (pair of sensitive edges with 8K2 resistor)

Safety devices test
Check that the photocells connected to the selected inputs are operating correctly, after each opening and closing command.
📖 **Run the test by connecting the photocells to the TS terminal [see paragraph on Safety devices].**

Configuration> Wired safety devices	Safety devices test	Deactivated (Default) CX _ _ _ _ CY _ _ CX CY _ _ _ _ CZ _ CX _ CZ _ _ CY CZ _ CX CY CZ _ _ _ _ CK CX _ _ CK _ CY _ CK CX CY _ CK _ _ CZ CK CX _ CZ CK _ CY CZ CK CX CY CZ CK

RIO ED T1 and RIO ED T2

Associate one of the available functions with a wireless safety device.

📖 The function only appears if the RIO CONN interface board is present.

Configuration> RIO safety devices	RIO ED T1 RIO ED T2	Deactivated (Default) P0 = It stops the gate and excludes automatic closing. Use a control device to resume movement. P7 = Reopen while closing. P8 = Reclose while opening.

RIO PH T1 and RIO PH T2

Associate one of the available functions with a wireless safety device.

📖 The function only appears if the RIO CONN interface board is present.

Configuration> RIO safety devices	RIO PH T1 RIO PH T2	Deactivated (Default) P1 = Reopen while closing. P2 = Reclose while opening. P3 = Partial stop. Only with [Automatic close] activated. P4 = Obstacle standby. P13 = Reopening during closure with immediate stop once the obstacle has been removed, even with the gate not in motion.

BUS photocell

Associate a function with the input for the BUS photocells.

📖 <n> is between 1 and 8 and corresponds to the address set on the photocell dip-switch

📖 The function only appears if there is a BUS photocell connected.

Configuration> BUS Devices	BUS Photocell 1 Photocell BUS 2 Photocell BUS 3 Photocell BUS 4 Photocell BUS 5 Photocell BUS 6 Photocell BUS 7 Photocell BUS 8	Deactivated (Default) C1 = Reopen while closing (photocells) C2 = Reclose while opening (photocells) C3 = Partial stop Only with [Automatic close] activated. C4 = Obstacle standby (photocells) C13 = Reopen while closing, with immediate closure once the obstruction has been removed, even if the gate is not in motion Open Close

BUS key selectors

Associate a function with the BUS key selector input. Different functions can be set according to the key turning direction.

📖 The function only appears if there is a BUS key selector connected.

Configuration> BUS Devices	BUS 1 key selector BUS 2 key selector BUS 3 key selector BUS 4 key selector BUS 5 key selector BUS 6 key selector BUS 7 key selector BUS 8 key selector switch	Key to the right Key to the left ——————————— Choose the command to associate with the key movement. Open Close Partial opening Stop B1-B2 output BUS 1 module relay - Activate output 2 (relay output) on BUS 1 I/O module BUS 2 module relay - Activate output 2 (relay output) on BUS 2 I/O module Step-by-step - The first command is to open and the second to close. Sequential - The first command is to open, the second to STOP, the third to close and the fourth to STOP.

I/O module <n> - Inputs

Associate a function to the I/O module <n> inputs.

📖 <n> is between 1 and 2 and corresponds to the address set on the module dip switch.

📖 The function only appears if there is a BUS I/O module connected.

Configuration> BUS Devices> I/O module 1 I/O module 2	input I1 input I2	Deactivated (Default) Stop = Stop the gate and exclude automatic closing. Use a control device to resume movement. 📖 If it is activated, the input is used as a normally closed contact. r7 = Reopen while closing (sensitive edge with 8K2 resistor) r8 = Reclose while opening (sensitive edge with 8K2 resistor) Partial opening Open Close Step-by-step - The first command is to open and the second to close. Sequential - The first command is to open, the second to STOP, the third to close and the fourth to STOP.

I/O BUS module - Light output

Associate a function with I/O module output 1.

📖 **<n> is between 1 and 2 and corresponds to the address set on the module dip switch.**

📖 **The function only appears if there is a BUS I/O module connected.**

Configuration> BUS Devices> I/O module 1 I/O module 2	Light output	Passage-open warning light - It notifies the user of the operator status. 📖 **See function [Passage-open warning light].** Cycle lamp - The lamp stays on during the manoeuvre. Courtesy light - The light switches on when a manoeuvre starts and remains on once the manoeuvre has finished, for the time set under the [Courtesy time] function.

I/O BUS module - Relay output

Associate a function with I/O module output 2.

📖 **<n> is between 1 and 2 and corresponds to the address set on the module dip switch.**

📖 **The function only appears if there is a BUS I/O module connected.**

Configuration> BUS Devices> I/O module 1 I/O module 2	Relay output	Bistable Monostable - on from 1 to 180 seconds (Default 1)

<Opening colour> BUS flashing beacon

Set the BUS flashing beacon colour during operator opening.

📖 **The function only appears if there is a BUS flashing beacon connected.**

Configuration> BUS Devices> BUS flashing beacon	Opening colour	Red (Default) Purple Blue Light blue Green White Yellow Orange

<Closing colour> BUS flashing beacon

Set the BUS flashing beacon colour during operator closing.

📖 **The function only appears if there is a BUS flashing beacon connected.**

Configuration> BUS Devices> BUS flashing beacon	Closing colour	White Yellow Orange Red (Default) Purple Blue Light blue Green

BUS flashing beacon <Automatic closing time colour>

Set the BUS flashing beacon colour during the automatic closing time.

📖 The function only appears if there is a BUS flashing beacon connected.

Configuration> BUS Devices> BUS flashing beacon	**Auto. cl. colour**	Off White Yellow Orange Red Purple Blue Light blue Green (Default)

<Pre-flashing colour> BUS flashing beacon

Set the flash colour for before opening and closing manoeuvres (pre-flash).

📖 The function only appears if there is a BUS flashing beacon connected.

Configuration> BUS Devices> BUS flashing beacon	**Pre-flashing colour**	White (Default) Yellow Orange Red Purple Blue Light blue Green

<Signal error> BUS flashing beacon

Set the colour of the BUS flashing beacon in the event of an error signal.

📖 The warning light is activated after sending a command for movement.

📖 The function only appears if there is a BUS flashing beacon connected.

Configuration> BUS Devices> BUS flashing beacon	**Signal error**	Deactivated (Default) White Yellow Orange Red Purple Blue Light blue Green

Signal maintenance

Set the colour of the flash on enabled BUS devices (flashing beacons and selectors) when maintenance is necessary. With the function activated, these devices will signal that maintenance needs to be carried out at the start of each manoeuvre.

📖 Configure maintenance and set the number of manoeuvres. See function [Configure maintenance].

📖 The function only appears if there is a BUS flashing beacon or a BUS selector connected.

Configuration> BUS Devices> BUS device lights	Signal maintenance	Deactivated (Default) White Yellow Orange Red Purple Blue Light blue Green

Command 2-7

Associate a command to the connected device on 2-7.

Configuration> Command inputs	Command 2-7	Step-by-step (Default) - The first command is to open and the second to close. Sequential - The first command is to open, the second to STOP, the third to close and the fourth to STOP.

Lock

Associate the electric lock/electromagnet release with a command.

Configuration> Functions	Lock	Deactivated (Default) From closed From open From open and closed Continue Electromagnet 24 V 📖 **The electromagnet activates when the motor is stationary and deactivates during a manoeuvre.**

Closing thrust

When the leaves reach the closing limit-switch, the operator thrusts them towards the strike plate for a second.

Configuration> Functions	Closing thrust	Deactivated (Default) Minimum Medium Maximum

Thrust

Before every opening or closing manoeuvre, the leaves thrust inwards to release the electric lock.

📖 The thrust motion is performed during opening or closing, depending on where the electric lock is active. See Function [Lock].

Configuration> Functions	Thrust	Deactivated (Default) On

Removing obstacles

If the function is active, when the operator detects an obstacle via the AST control on the control board or via the sensitive edge, the leaf movement inverts to create the space required to free the obstacle and then stops.

Configuration> Functions	Removing obstacles	Deactivated (Default) On

B1-B2 output

Configure the contact.

Configuration> Functions	B1-B2 output	Bistable Monostable: on from 1 to 180 seconds (Default 1)

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> Functions	Hold-to-run	Deactivated (Default) 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> Functions	Obst. with motor stopped	Deactivated (Default) On

Automatic closure

Set the time before automatic closure, once the opening travel end point has been reached or once the photocells have caused a partial stop [C3].

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

Configuration> Times	Automatic close	Deactivated (Default) From 1 to 180 seconds

Automatic closing after either partial or pedestrian opening

Set the time before automatic closure after a partial opening command has been performed or after the photocells have caused a partial stop [C3].

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

Configuration> Times	Automatic partial close	Off 1 to 180 seconds (Default 10)

M1 opening delay time

Adjust the delayed opening of the first leaf compared to the second.

Configuration> Times	M1 open delay	Off 1 to 10 seconds (Default 2)

M2 closing delay time

Adjust the delayed closing of the second leaf compared to the first.

Configuration> Times	M2 close delay	Off 1 to 25 seconds (Default 2)

Passage-open warning light

It notifies the user of the operator status.

Configuration> Manage lights	Passage-open warning light	Warning light on (Default) - The warning light stays on when the gate is moving or open. Warning light flashing - The warning light flashes every half second when the gate is opening and stays on when the gate is open. The light flashes every second when the gate is closing, and remains off when the gate is closed.

Additional light

Choose the operating mode for the lighting device connected to output E3.

Configuration> Manage lights	Light E3	Disabled (Default) Cycle lamp - The lamp stays on during the manoeuvre. 📖 **The light remains off if an automatic closing time is not set.** Courtesy light - The light switches on when a manoeuvre starts and remains on once the manoeuvre has finished, for the time set under the function [Courtesy time].

Courtesy time

Define how many seconds the additional light (set up as courtesy light) stays on after an opening or closing manoeuvre.

Configuration> Manage lights	Courtesy time	60 to 180 seconds (Default 60 seconds)

Pre-flashing time

Adjust the time for which the beacon is activated before each manoeuvre.

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

CRP address

Assign a unique identification code (CRP address) to the control board.

📖 The function is used where there are multiple operators connected to the same communication BUS using the CRP protocol.

Configuration> RSE communication	**CRP address**	1 to 254 (Default 1)

RSE speed

Set the communication speed of the remote connection system.

Configuration> RSE communication	**RSE speed**	4800 bps 9600 bps 14400 bps 19200 bps 38400 bps (Default) 57600 bps 115200 bps

Save data

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

📖 The function is displayed only when a memory roll card is inserted into the control board.

Configuration> External memory	**Save data**

Read data

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

📖 The function is displayed only when a memory roll card is inserted into the control board.

Configuration> External memory	**Read data**

Parameter reset

Restore the factory configurations except for: [users], [timers], [no. motors], [CRP address], [RSE speed], [password], [language], [time format] and the settings related to calibration.

Configuration	**Parameter reset**	Confirm? NO Confirm? YES

Guided procedure (Wizard)

You can use the system configuration wizard.

Configuration	**Guided procedure (Wizard)**

New user

Register up to a maximum of 1000 users and assign a function to each one.

📖 The operation can be carried out by using a transmitter or a BUS selector device (e.g. a keypad or transponder reader). The board that manages the control devices (AF) must be inserted into the connector.

User management	New user	Choose the function to be assigned to the user. Step-by-step - The first command is to open and the second to close. Sequential - The first command is to open, the second to STOP, the third to close and the fourth to STOP. Open Partial opening B1-B2 output BUS 1 module relay - Activate output 2 (relay output) on BUS 1 I/O module BUS 2 module relay - Activate output 2 (relay output) on BUS 2 I/O module Press ENTER to confirm. You will be asked to enter your user code. Send the code from the control device. Repeat the procedure to add other users.

Remove user

Remove one of the registered users.

User management	Remove user	Use the arrows to choose the number associated with the user you want to remove. 📖 Alternatively, you can select a user by sending a command from the associated device. Press ENTER to confirm Confirm? NO Confirm? YES

Remove all

Remove all registered users.

User management	Remove all	Confirm? NO 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 saved previously will be deleted.**

User management	Radio decoding	All decodings Rolling code TW Key block Confirm? NO Confirm? YES

Self-Learning Rolling

Save a new rolling code transmitter by activating acquisition from a rolling code transmitter that has already been saved. The saving and acquisition procedures are explained in the transmitter manual.

User management	Self-Learning Rolling	Deactivated (Default) On

Change mode

Change the function assigned to a specific user.

User management	Change mode	Use the arrows to choose the number associated with the user to be changed. 📖 **Alternatively, you can select a user by sending a command from the associated device.** Press ENTER to confirm. Choose the command to associate with the user. Step-by-step - The first command is to open and the second to close. Sequential - The first command is to open, the second to STOP, the third to close and the fourth to STOP. Open Partial opening B1-B2 output BUS 1 module relay - Activate output 2 (relay output) on BUS 1 I/O module BUS 2 module relay - Activate output 2 (relay output) on BUS 2 I/O module Press ENTER to confirm. Confirm? NO Confirm? YES

FW version

Display the firmware version number and the GUI installed.

Information	FW version	Use the < > arrows to show: FW MC.x.x.xx (control board firmware version) FW UI.x.x.xx (display board firmware version) GUI x.x (graphics) M2 x.x.xx (motor) M1 x.x.xx (motor)

BUS device status

Show the status of all devices that can be connected to the BUS and managed by the firmware in use.

Key

<n> is the device number.

Information	BUS device status	BUS photocells <n> **<n> from 1 to 8** The status shown may be: OK Not communicating Safety device active BUS address conflict BUS selector <n> **<n> from 1 to 8** The status shown may be: OK Not communicating BUS address conflict BUS flashing beacon <n> **<n> from 1 to 2** The status shown may be: OK Not communicating BUS address conflict I/O module BUS <n> **<n> from 1 to 2** The status shown may be: ok not communicating BUS address conflict

Manoeuvre counter

View the number of total or partial operator manoeuvres (after maintenance).

📖 **The number of manoeuvres is the number shown multiplied by 100.**

Information	Manoeuvre counter	Total manoeuvres - Manoeuvres performed since the operator was installed. Partial manoeuvres - Manoeuvres carried out after the last maintenance.

Configure maintenance

Set the number of manoeuvres the operator can perform before a maintenance warning signal is generated.

📖 · · The warning is displayed as a [Maintenance required] message and signalled by 3 + 3 flashes every hour on the device [Passage-open warning light].

Information	Configure maintenance	Deactivated (Default) 1X100 to 500X100

Maintenance reset

Reset the number of partial manoeuvres.

Information	Maintenance reset	Confirm? NO 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. To cancel the error list, select [Delete errors] Press ENTER to confirm. Confirm? NO 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.

📖 Valid in Central Europe only UTC+1.

Timer management	Automatic DST	Deactivated (Default) On Summer changeover: +1 hour on the last Sunday in March (change to daylight saving time). Winter changeover: -1 hour on the last Sunday in October (change to standard time).

Time format

Choose the clock display format.

Timer management	Time format	24-hour 12-hour

Create new timer

Time one or more types of activation chosen from those available.

📖 **You can set up to 8 timers and 16 special days.**

Timer management	Create new timer	Use the arrows to choose the desired command.
		Open
		Partial opening
		B1-B2 output
		BUS 1 module relay - Activate output 2 (relay output) on BUS 1 I/O module
		BUS 2 module relay - Activate output 2 (relay output) on BUS 2 I/O module
		Press ENTER to confirm.
		Start time
		Use the arrows to set the function activation start time. Press ENTER to confirm.
		End time
		Use the arrows to set the function activation end time. Press ENTER to confirm.
		Days of the week
		Use the arrows to set the function activation days.
		Select days
		All week
		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.
		0 = [Opening]
		P = [Partial opening]
		B = [Output B1-B2]
		R = [BUS module relay]
		Press ENTER to confirm.

Language

Set the display language.

Language	Italiano (IT)
	English (EN) (Default)
	Français (FR)
	Deutsch (DE)
	Español (ES)
	Português (PT)
	Русский (RU)
	Polski (PL)
	Românesc (RO)
	Magyar (HU)
	Hrvatski (HR)
	Український (UA)
	Nederlands (NL)

Enable password

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

📖 This option only shows if a password has NOT been enabled.

Password	Enable password	Use the arrows and the Enter button to dial the desired code.
		Enter the password again using the arrows and the Enter button to confirm.

Remove password

Remove the password that protects access to the main menu.

📖 This option only shows if a password has been enabled.

Password	Remove password	Confirm? NO
		Confirm? YES

Change password

Change the password protecting access to the main menu.

📖 This option only shows if a password has been enabled.

Password	Change password	Use the arrows and the Enter button to dial the desired code.
		Enter the password again using the arrows and the Enter button to confirm.

Forgotten password

If you lose the password, you will need to reset the board to its factory settings. See [Factory reset].

Factory reset

To restore the electronic board data to factory settings:

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, manoeuvre configurations and calibration operations are deleted.**

⚠ **When using a CAME KEY device, always update the board firmware to the latest version.**

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 of the same type to carry across the same configuration.

⚠ **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.

Configuration >   External memory >   **Save data**

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

Configuration >   External memory >   **Read data**

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

📖 **Once the data have been saved and loaded, the MEMORY ROLL can be removed.**

DISPLAY WARNINGS KEY

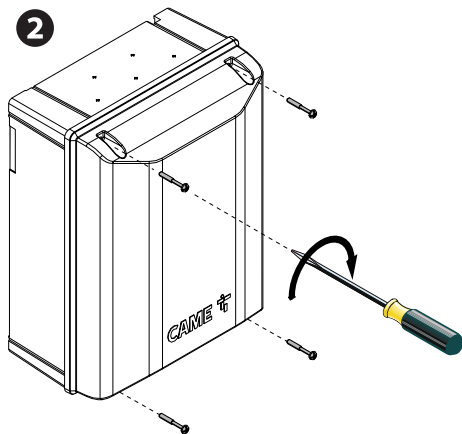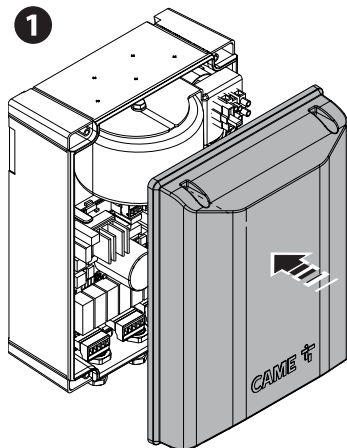|	
⚠	The [Impact test] function is on.
→│	The operator detected an obstacle during closing.
│←	The operator detected an obstacle during opening.
→│2	The operator detected two obstacles during closing. 📖 The number on the display varies according to the number of obstructions detected. 📖 When the maximum number of detected obstructions has been reached, the operator stops and an error message shows on the display.
2│←	The operator detected two obstacles during opening. 📖 The number on the display varies according to the number of obstructions detected. 📖 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.
C\<n\>	Wired safety device active 📖 The \<n\> value is associated with the selected parameter for the functions [CX input] [CY input] [CZ input] [CK input].
r7	R7 safety device (sensitive edge) active
r8	R8 safety device (sensitive edge) active
2r7	R7 safety device (pair of sensitive edges) active
2r8	R8 safety device (pair of sensitive edges) active
c\<n\>	BUS photocell safety device active 📖 The \<n\> value is associated with the selected parameter for the [BUS photocell] functions.
c23	Open command active for BUS photocells
c24	Close command active for BUS photocells
C0	Total stop active

P\<n\>	RIO safety device active 📖 The \<n\> value is associated with the selected parameter for the functions [RIO ED T1 - RIO ED T2] and [RIO PH T1 - RIO PH T2]
BUS address conflict	ID conflict detected on BUS devices.
Check BUS device	No BUS device with a safety function configured.
RIO not configured	The RIO Conn board is not configured or has no safety configuration.
Calibration needed	Travel calibration required.
wizard	Select a motor type.
Maintenance required	Maintenance required (manoeuvres exceeded for maintenance).
OP	Passage fully open
CL	Passage fully closed

ERROR MESSAGES

E1	Motor M1 calibration error
E2	Motor M2 calibration error
E3	Encoder signal not detected error
E4	Service test failure error
E7	Operating time error
E9	Consecutive obstacles detected during closing
E10	Consecutive obstacles detected during opening
E11	Maximum number of obstacles
E12	Motor supply voltage missing or insufficient
E15	Incompatible transmitter error
E17	Wireless system communication error
E18	Wireless system not configured error
E24	Error communicating with BUS safety devices
E25	Address settings error on BUS devices
E27	Communication error with motor

FINAL OPERATIONS

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

⚠

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

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