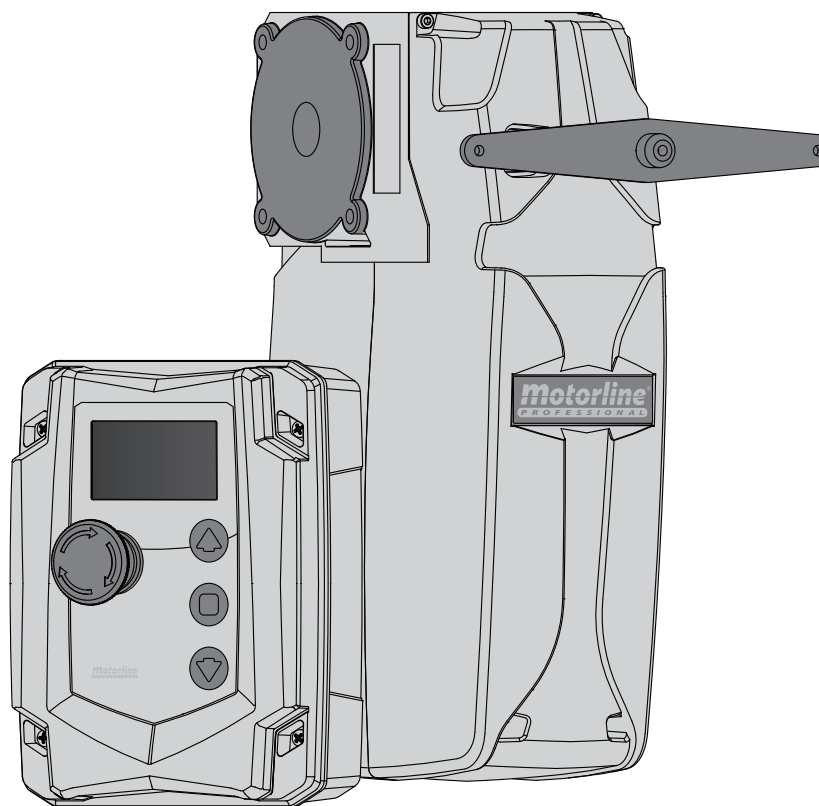




KVM305|KVM310+MC94-300
KVM315+MC95-300
MC93-300

USER / INSTALLER'S MANUAL



motorline®
PROFESSIONAL

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TROUBLESHOOTING	59

01. SAFETY INSTRUCTIONS

CE	This product is certified in accordance with European Community (EC) safety standards.
RoHS	This product complies with Directive 2011/65/EU of the European Parliament and of the Council, of 8 June 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment and with Delegated Directive (EU) 2015/863 from Commission.
	(Applicable in countries with recycling systems). This marking on the product or literature indicates that the product and electronic accessories (eg. Charger, USB cable, electronic material, controls, etc.) should not be disposed of as other household waste at the end of its useful life. To avoid possible harm to the environment or human health resulting from the uncontrolled disposal of waste, separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources. Home users should contact the dealer where they purchased this product or the National Environment Agency for details on where and how they can take these items for environmentally safe recycling. Business users should contact their vendor and check the terms and conditions of the purchase agreement. This product and its electronic accessories should not be mixed with other commercial waste.
	This marking indicates that batteries should not be discarded like other household waste at the end of their useful life. Batteries must be delivered to selective collection points for recycling.
	The different types of packaging (cardboard, plastic, etc.) must be subject to selective collection for recycling. Separate packaging and recycle it responsibly.
	This marking indicates that the product and electronic accessories (eg. charger, USB cable, electronic material, controls, etc.) are susceptible to electric shock by direct or indirect contact with electricity. Be cautious when handling the product and observe all safety procedures in this manual.

01. SAFETY INSTRUCTIONS

GENERAL WARNINGS

- This manual contains very important safety and usage information. Read all instructions carefully before beginning the installation/usage procedures and keep this manual in a safe place that it can be consulted whenever necessary.
- This product is intended for use only as described in this manual. Any other enforcement or operation that is not mentioned is expressly prohibited, as it may damage the product and put people at risk causing serious injuries.
- This manual is intended firstly for specialized technicians, and does not invalidate the user's responsibility to read the "User Norms" section in order to ensure the correct functioning of the product.
- The installation and repair of this product may be done by qualified and specialized technicians, to assure every procedure are carried out in accordance with applicable rules and norms. Nonprofessional and inexperienced users are expressly prohibited of taking any action, unless explicitly requested by specialized technicians to do so.
- Installations must be frequently inspected for unbalance and the wear signals of the cables, springs, hinges, wheels, supports and other mechanical assembly parts.
- Do not use the product if it is necessary repair or adjustment is required.
- When performing maintenance, cleaning and replacement of parts, the product must be disconnected from power supply. Also including any operation that requires opening the product cover.
- The use, cleaning and maintenance of this product may be carried out by any persons aged eight years old and over and persons whose physical, sensorial or mental capacities are lower, or by persons without any knowledge of the product, provided that these are supervision and instructions given by persons with experienced in terms of usage of the product in a safe manner and who understands the risks and dangers involved.

01. SAFETY INSTRUCTIONS

- Children shouldn't play with the product or opening devices to avoid the motorized door or gate from being triggered involuntarily.
- If the power cable is damaged, it must be replaced by the manufacturer, after-sales service or similarly qualified personnel to avoid danger.
- The device must be disconnected from the electrical network when removing the battery.
- Ensure that blocking is avoided between the actuated part and its fixed parts due to the opening movement of the actuated part.

WARNINGS FOR TECHNICIANS

- Before beginning the installation procedures, make sure that you have all the devices and materials necessary to complete the installation of the product.
- You should note your Protection Index (IP) and operating temperature to ensure that is suitable for the installation site.
- Provide the manual of the product to the user and let them know how to handle it in an emergency.
- If the automatism is installed on a gate with a pedestrian door, a door locking mechanism must be installed while the gate is in motion.
- Do not install the product "upside down" or supported by elements do not support its weight. If necessary, add brackets at strategic points to ensure the safety of the automatism.
- Do not install the product in explosive site.
- Safety devices must protect the possible crushing, cutting, transport and danger areas of the motorized door or gate.
- Verify that the elements to be automated (gates, door, windows, blinds, etc.) are in perfect function, aligned and level. Also verify if the necessary mechanical stops are in the appropriate places.
- The control board must be installed on a safe place of any fluid (rain, moisture, etc.), dust and pests.
- You must route the various electrical cables through protective tubes, to protect them against mechanical exertions, essentially on

01. SAFETY INSTRUCTIONS

the power supply cable. Please note that all the cables must enter the control board from the bottom.

- If the automatism is to be installed at a height of more than 2,5m from the ground or other level of access, the minimum safety and health requirements for the use of work equipment workers at the work of Directive 2009/104/CE of European Parliament and of the Council of 16 September 2009.
- Attach the permanent label for the manual release as close as possible to the release mechanism.
- Disconnect means, such as a switch or circuit breaker on the electrical panel, must be provided on the product's fixed power supply leads in accordance with the installation rules.
- If the product to be installed requires power supply of 230Vac or 110Vac, ensure that connection is to an electrical panel with ground connection.
- The product is only powered by low voltage safety with control board (only at 24V motors).
- Parts/products weighing more than 20 kg must be handled with special care due to the risk of injury. It is recommended to use suitable auxiliary systems for moving or lifting heavy objects.
- Pay special attention to the danger of falling objects or uncontrolled movement of doors/gates during the installation or operation of this product.

WARNINGS FOR USERS

- Keep this manual in a safe place to be consulted whenever necessary.
- If the product has contact with fluids without being prepared, it must immediately disconnect from the power supply to avoid short circuits, and consult a specialized technician.
- Ensure that technician has provided you the product manual and informed you how to handle the product in an emergency.
- If the system requires any repair or modification, unlock the automatism, turn off the power and do not use it until all safety

01. SAFETY INSTRUCTIONS

conditions have been met.

- In the event of tripping of circuits breakers or fuse failure, locate the malfunction and solve it before resetting the circuit breaker or replacing the fuse. If the malfunction is not repairable by consult this manual, contact a technician.
- Keep the operation area of the motorized gate free while the gate in in motion, and do not create strength to the gate movement.
- Do not perform any operation on mechanical elements or hinges if the product is in motion.

RESPONSABILITY

- Supplier disclaims any liability if:
 - Product failure or deformation result from improper installation use or maintenance!
 - Safety norms are not followed in the installation, use and maintenance of the product.
 - Instructions in this manual are not followed.
 - Damaged is caused by unauthorized modifications
 - In these cases, the warranty is voided.

MOTORLINE ELECTROCELOS SA.

Travessa do Sobreiro, nº29
4755-474 Rio Côvo (Santa Eugénia)
Barcelos, Portugal

SYMBOLS LEGEND:



• Important safety notices



• Useful information



• Programming information



• Potentiometer information



• Connectors information



• Buttons information

02. THE AUTOMATION

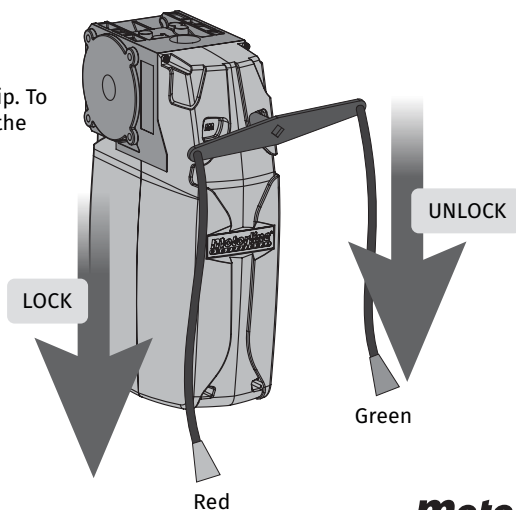
TECHNICAL CHARACTERISTICS

The **KVM305**, **KVM310** and **KVM315** are shaft-driven operators for automating industrial sectional doors up to 20m², 28m², or 40m², with horizontal or vertical mounting options. Easy installation, configuration, and maintenance make it the ideal solution for all types of sectional doors.

	KVM305	KVM310	KVM315
•Power	430W	600W	900W
•Starting torque	40Nm	60Nm	130Nm
•Duty cycle	30%	30%	20%
•For doors up to	20m ²	28m ²	40m ²
•Control board	MC93-300 + MC94-300		MC93-300 + MC95-300 (with integrated inverter)
•Motor voltage	36Vdc 200W		310Vdc 900W
•Battery compatible	MBAT26V2000		-
•Fuse F1	2A 230V		6,3A 230V
•Power supply	230Vac 50 Hz		
•Noise	<55dB		
•Output Shaft hole diameter	Ø25,4mm		
•Limit switches maximum limit	20 turns - use of the total encoder value		
•Operating temperature	-25° C to +55° C		
•Motor rotational speed	12-32 RPM / 50Hz		

MANUAL UNLOCK

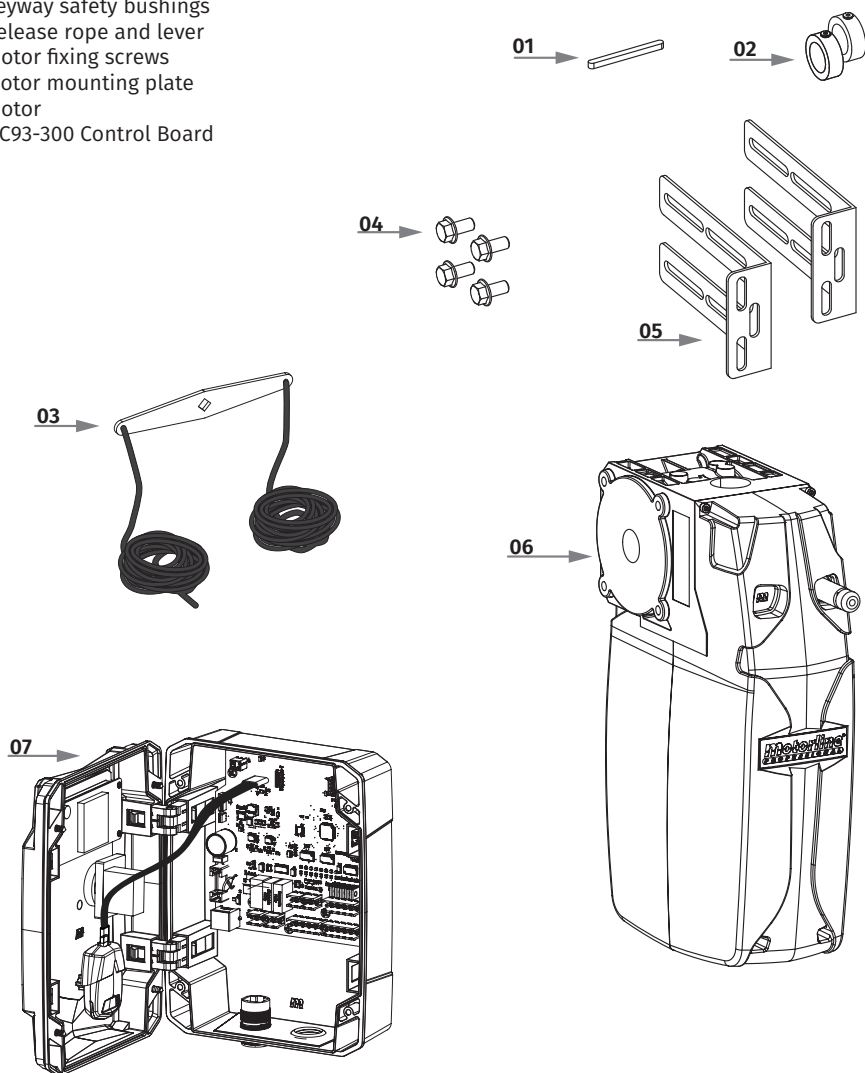
When the motor needs to be operated manually, pull the cord with the green tip. To return to normal motor operation, pull the cord with the red tip.



02. THE AUTOMATION

PACKAGING

- 01• Motor key
- 02• Keyway safety bushings
- 03• Release rope and lever
- 04• Motor fixing screws
- 05• Motor mounting plate
- 06• Motor
- 07• MC93-300 Control Board

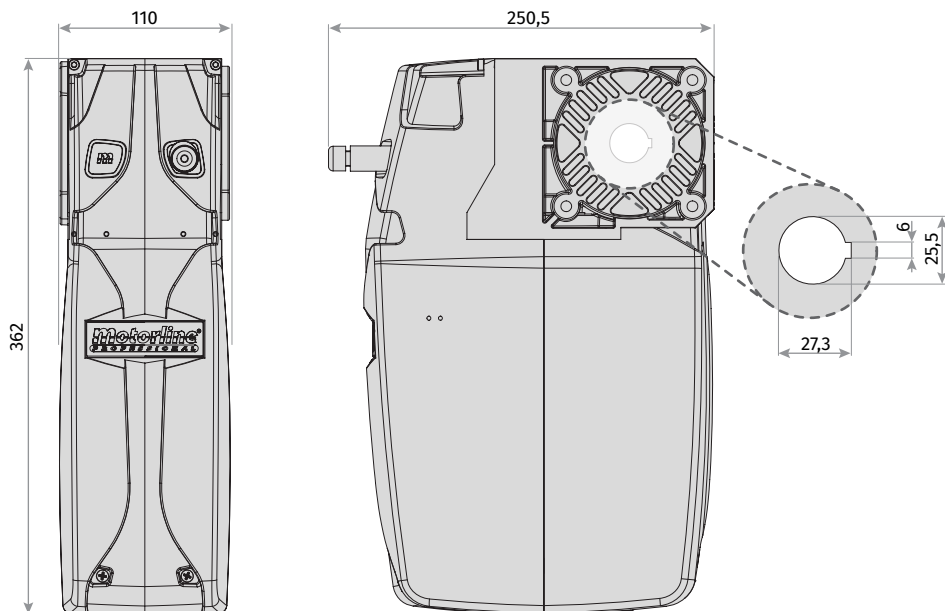


02. THE AUTOMATION

DIMENSIONS

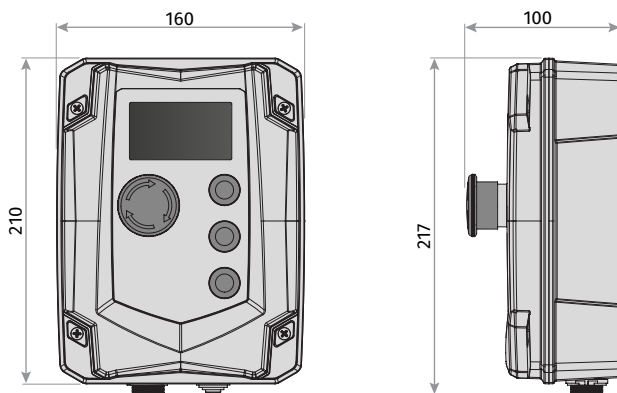
KVM305 | KVM310 → MC94-300
KVM315 → MC95-300

Dimensions in mm



MC93-300

Dimensions in mm



02. THE AUTOMATION

AUTOMATION INSTALLATION



- The motoreducer must be installed in a protected area, without risk of damage.
- The mounting surface must be solid.
- Suitable accessories must be used to fix the motor to the mounting surface.
- Install suitable pipes for the passage of electrical cables to ensure protection against mechanical damage.
- The door structure must be strong enough, with efficient hinges.
- There must be no friction between fixed and moving parts.

1 MOUNT THE SHAFT

Leave 350mm of shaft beyond the spring supports. Insert the keyway safety bushing.

2 FIT THE MOTOR

Place the motor on the shaft, leaving about 30 to 100mm on both sides of the motor (detail A).

3 MARK THE HOLES

Place the brackets on the motor without tightening completely (one on each side). Lean the brackets against the wall and mark the drilling points.

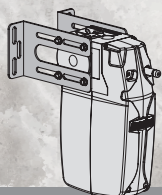
4 DRILL THE HOLES

Remove the brackets from the motor and drill holes to fix the motor.

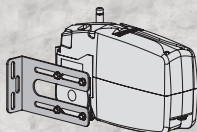
5 FIX THE MOTOR

Tighten the brackets to the wall and then to the motor. Insert the key and then place the keyway bushing, push the motor and tighten.

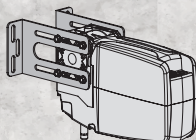
30~100
(mm)



STANDARD APPLICATION



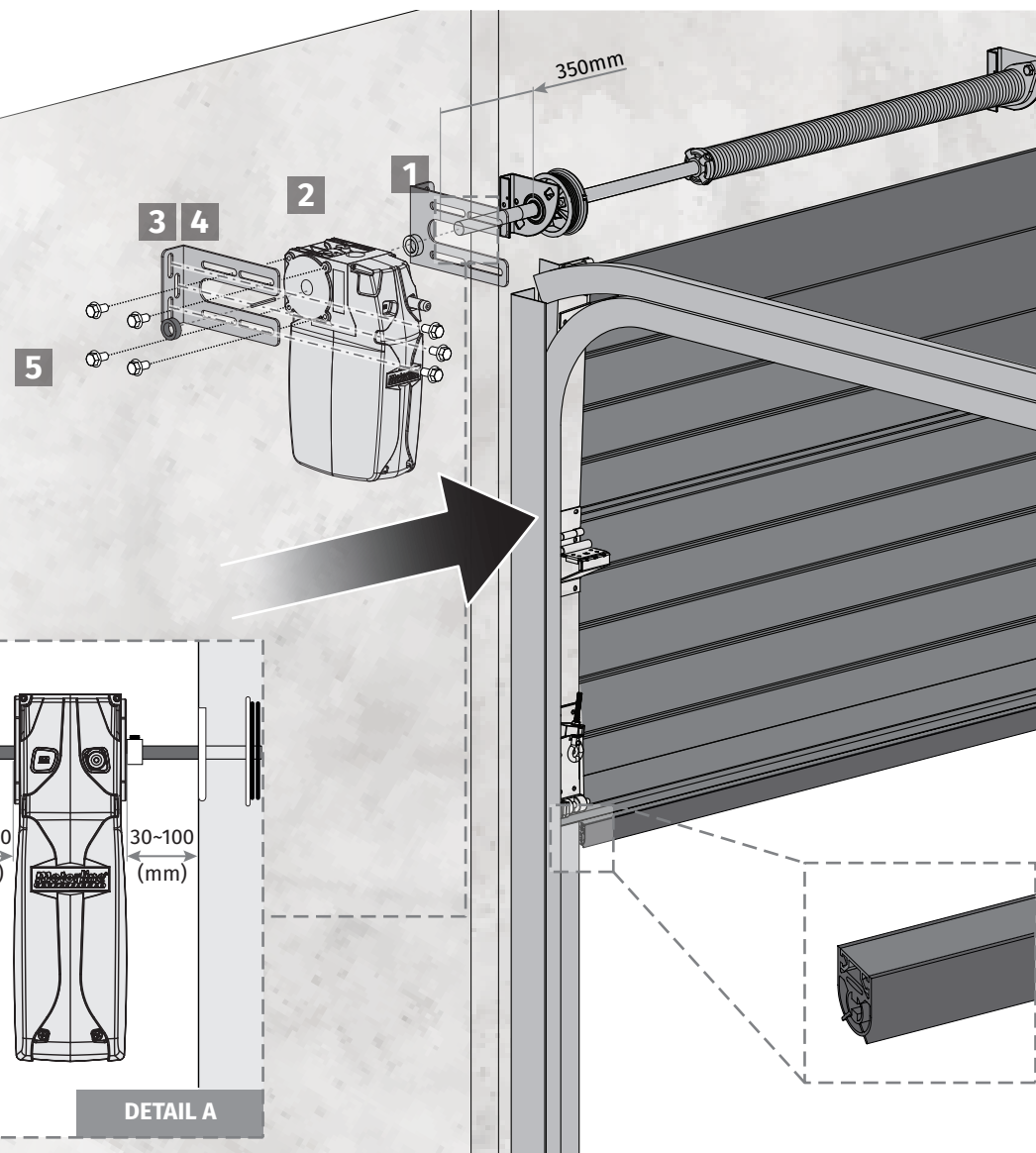
ALTERNATIVE APPLICATION (HORIZONTAL)*



*The motor can be installed horizontally, but you should be aware that you need to create a system that allows you to pull the release cords vertically.

02. THE AUTOMATION

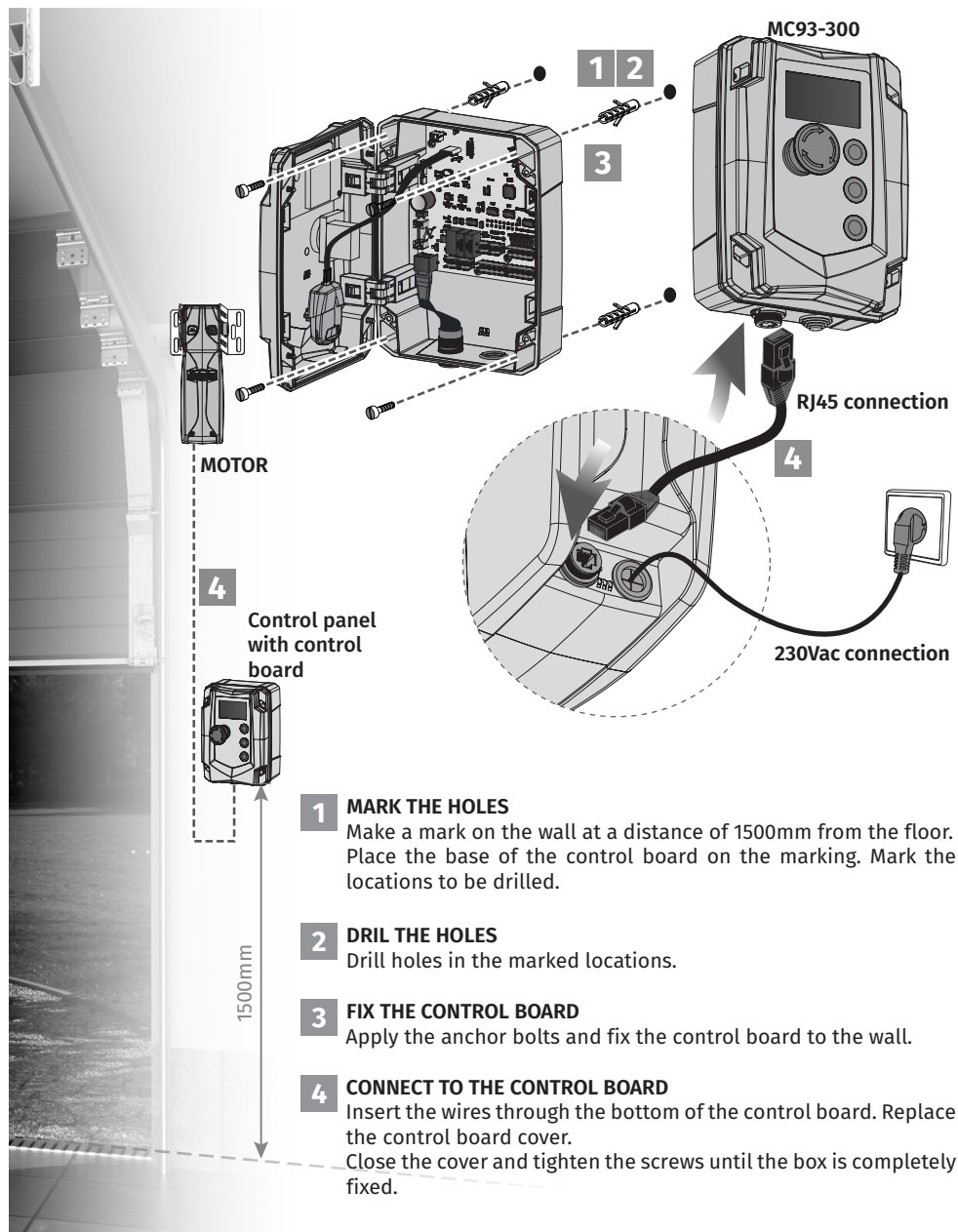
AUTOMATION INSTALLATION



These operators require the use of additional safety devices (e.g. MF2020, MR14 with MX14, etc.), according to standard EN12453, to detect obstacles and avoid injuries or material damage.

02. THE AUTOMATION

INSTALLATION GUIDE



03. CONTROL BOARD MC93-300

DESCRIPTION OF THE CONTROL BOARD

Electronic control board for sectional doors, equipped with an interactive touchscreen display for configurations, diagnostics, and system monitoring.

The control board communicates with the motor via an RJ45 cable that supplies 12Vdc and integrates two RS485 connections for motor management.

This setup allows the control board to be installed in an accessible location, making it easy to program, adjust, and connect peripherals.

It operates at a safe 12Vdc voltage, preventing short circuits and electric shock.

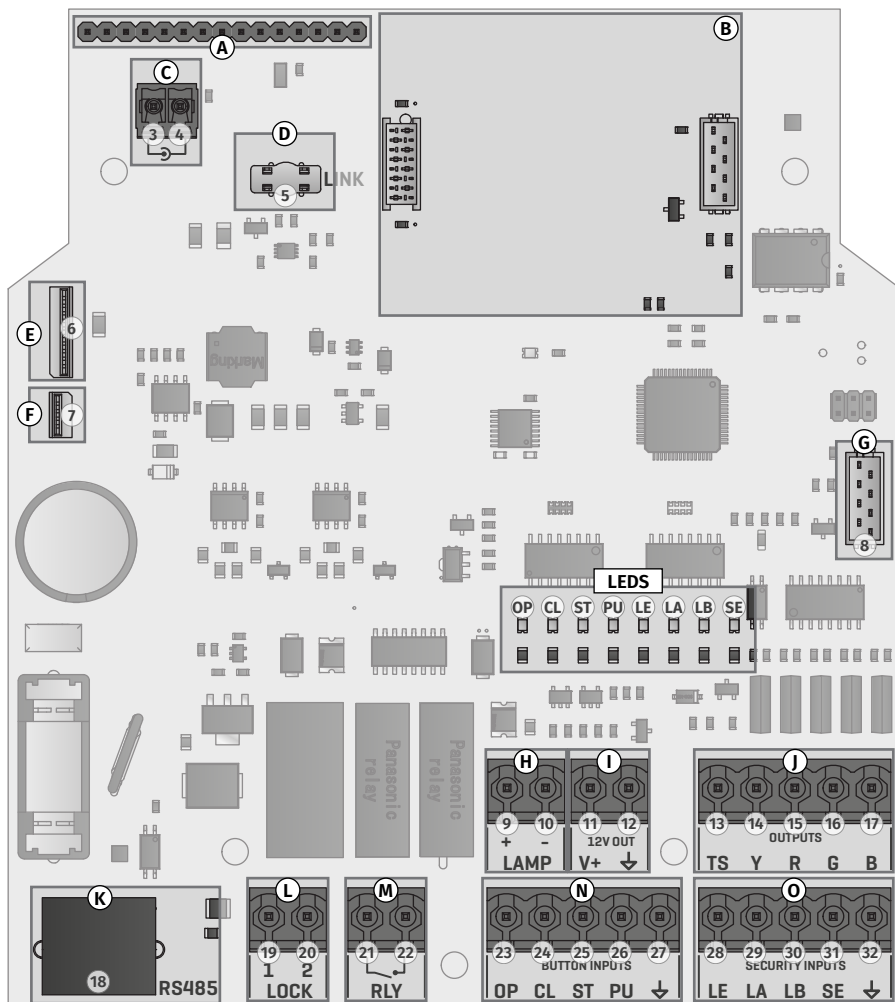
The control board is capable of managing the **MC94-300** and **MC95-300** power units.

TECHNICAL CHARACTERISTICS

•Power supply of the control board	12Vdc
•Output for Flashing light	12Vdc 4,8W Max.
•Output for auxiliary accessories	12Vdc 4,8W Máx.
•Output for Safety Device and push button	12Vdc
•Output for Electric Lock	12Vdc 1,2A
•Operating Temperature	-25°C to + 55°C
•Built-in Radio Receiver	433,92 Mhz
•Compatible transmitters	Rolling Code
•Maximum Memory Capacity	100 (total opening) - 100 (walk opening)
•Fuse F1	2A 12V
•Touch screen	For door programming and status display
•Error log	Stores error history with date and time, allowing diagnostics
•Date and time adjustment	Synchronization via smartphone
•Remote connection	Control board setup and firmware update via MCONNECT LINK (Wi-Fi)
•Compatibility with MMR15	Integrates wireless safety systems via radio, e.g., with MX14 emitter
•Security inputs	Compatible with photocells, 8k2 and OSE systems
•Various outputs	For door status, programmable relay and accessories (12Vdc 8W)
•Absolute Encoder	Precision in position control

03. CONTROL BOARD MC93-300

CONNECTOR DESCRIPTION



03. CONTROL BOARD MC93-300

CONNECTOR DESCRIPTION

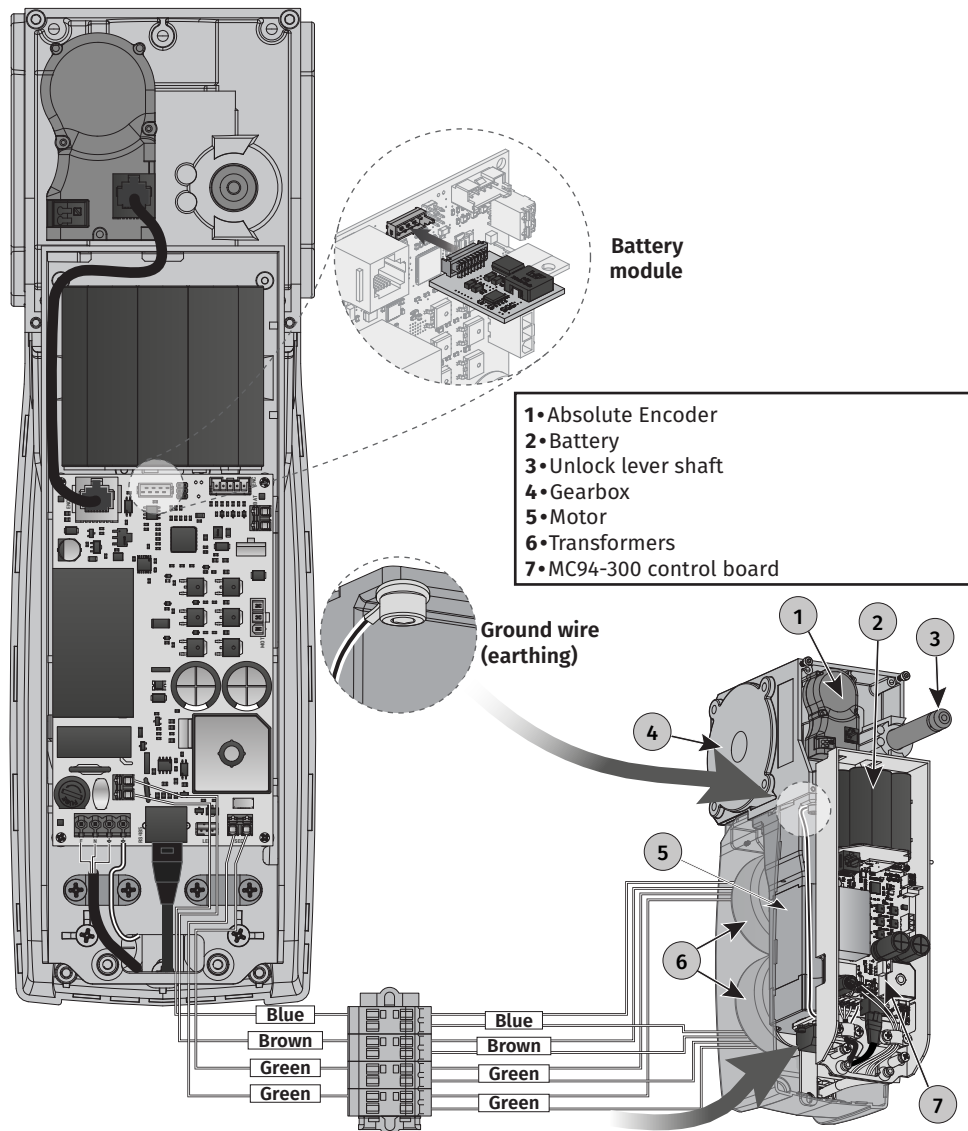
A	FREQUENCY MODULE		01• Connector for frequency inverter module	
B	MMR15		02• Connector for MMR15 receiver module	
C	ANTENA		03• Connector for antenna (Hot pole) 04• Connector for antenna (GND)	
D	MCONNECT LINK		05• Type-C port for MCONNECT LINK connection	
E	LCD		06• Connector for connecting the touchscreen	
F	PAINEL DE CONTROLO		07• Connector for connecting a panel with the buttons from the product's box	
G	RESERVADO		08• Reserved connector for potential future functionalities.	
H	LAMP	+ -	09• Positive for flashing light (12VDC) 10• Negative for flashing light	Max 4.8W
I	+12V OUT	V+ ↓	11• 12VDC output for accessories (max 4.8W) 12• 0V output for accessory power supply	Max 4.8W (shared with multi-function outputs)
J	OUTPUTS	TS	13• Output for photocell testing	Max 50 mA
		Y	14• Multifunctional output Y	Max 4.8W (shared with auxiliary power output)
		R	15• Multifunctional output R	
		G	16• Multifunctional output G	
		B	17• Multifunctional output B	
K	RS485		18• Connector for RJ45 plug between the door control board and the motor control board. Provides power to the door control board and carries the absolute encoder signal, as well as communication between the boards.	
L	LOCK	1 2	19• Output for the lock 20• Common for the lock	Max 1.2A (12Vdc)
M	RLY	NO COM	21• Normally open contact of the multifunction relay 22• Common contact of the multifunction relay	Max 5A (230Vac or 30Vdc)
N	BUTTON INPUTS	OP CL ST PU ↓	23• NO input for external OPEN button 24• NO input for external OPEN button 25• NO input for external STOP/Partial button 26• NO input for external PUSH button 27• GND	
O	SECURITY INPUTS	LE LA LB SE ↓	28• NC input for photocell 29• Input for resistive safety edge (8.2 kΩ) 30• NC input for external Emergency button 31• Input for Optical Safety Edge (OSE) 32• GND	
LEDS		OP	LED ON when the external "OP" button is active	
		CL	LED ON when the external "CL" button is active	
		ST	LED ON when the external "ST" button is active	
		PU	LED ON when the external "PU" button is active	
		LE	LED ON when the photocell is active	
		LA	LED ON when the resistive safety edge (8.2k) is active	
		LB	LED ON when the emergency button is active	
		SE	LED ON when the optical safety edge is active	

04. CONTROL BOARD MC94-300

DESCRIPTION OF THE MC94-300 AND COMPONENT CONNECTION

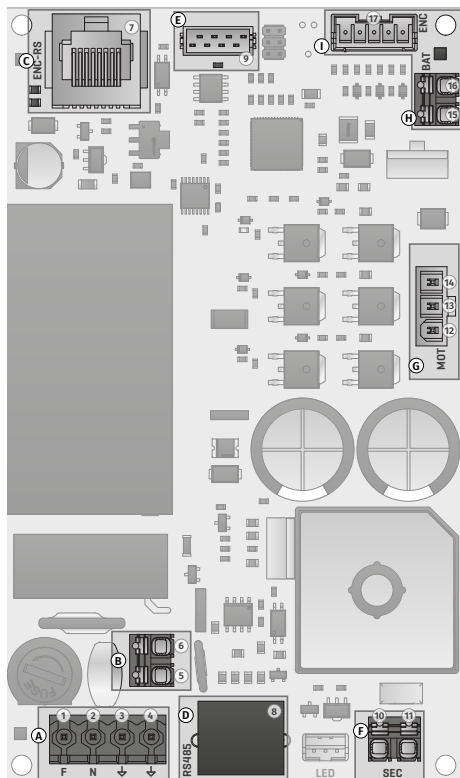
Power control board for brushless motors **KVM305** and **KVM310**.

The power control board is controlled through an **RJ45** cable, which provides 12Vdc to **MC93-300** and integrates two RS485 communications for its control.



04. CONTROL BOARD MC94-300

CONNECTOR DESCRIPTION



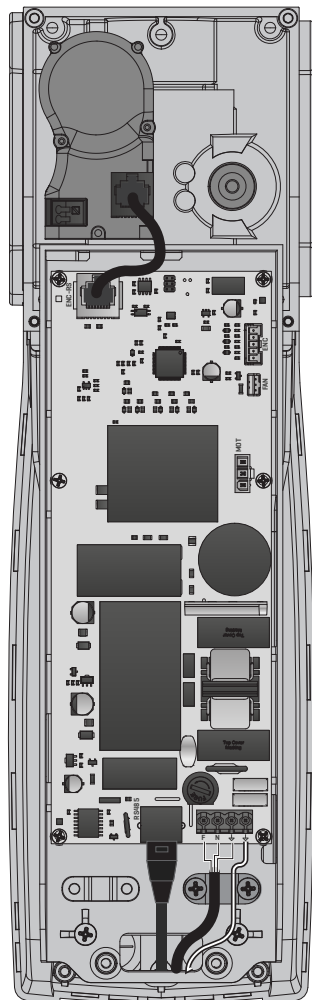
A	Power Supply	F N ↓ ↓	01• 230Vac Phase
			02• Neutral
			03• Power supply ground
			04• Power supply ground
B	PRI		05• Connection of the Primary Phase of the transformer
C	ENC-RS		06• Connection of the Primary Neutral of the transformer
D	RS485		07• Connector for absolute encoder
E	BAT MODULE		08• Connector for RJ45 plug between door control board and motor control board. Provides power to the door control board, and carries the absolute encoder communication signal, as well as communication between the boards
F	SEC		09• Connector for battery module
G	MOT		10• Connection of the Secondary Phase of the transformer
			11• Connection of the Secondary Neutral of the transformer
			12• Motor phase U 13• Motor phase V 14• Motor phase W
H	BAT		Max 200W
I	ENC		15• Battery positive
			16• Battery negative
			17• Connector for motor encoder

05. CONTROL BOARD MC95-300

DESCRIPTION OF THE MC95-300 AND COMPONENT CONNECTION

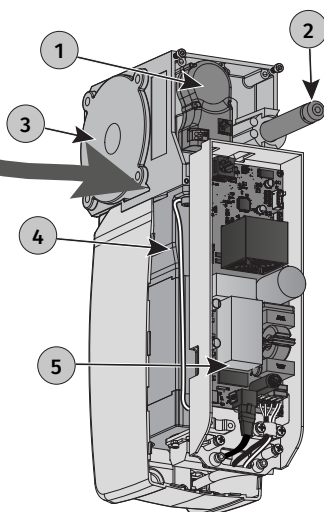
Power control board for brushless motor **KVM315**.

The power control board is controlled through an **RJ45** cable, which provides 12Vdc to **MC93-300** and integrates two **RS485** communications for its control.



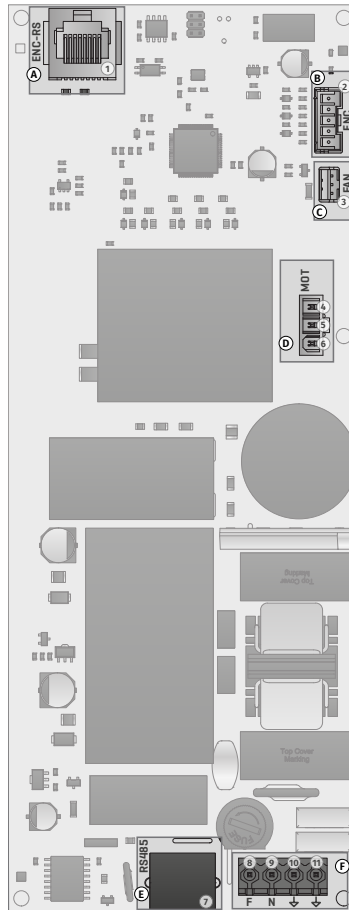
Ground wire
(earthing)

- 1• Absolute Encoder
- 2• Unlock lever shaft
- 3• Gearbox
- 4• Motor
- 5• MC95-300 Control Board



05. CONTROL BOARD MC95-300

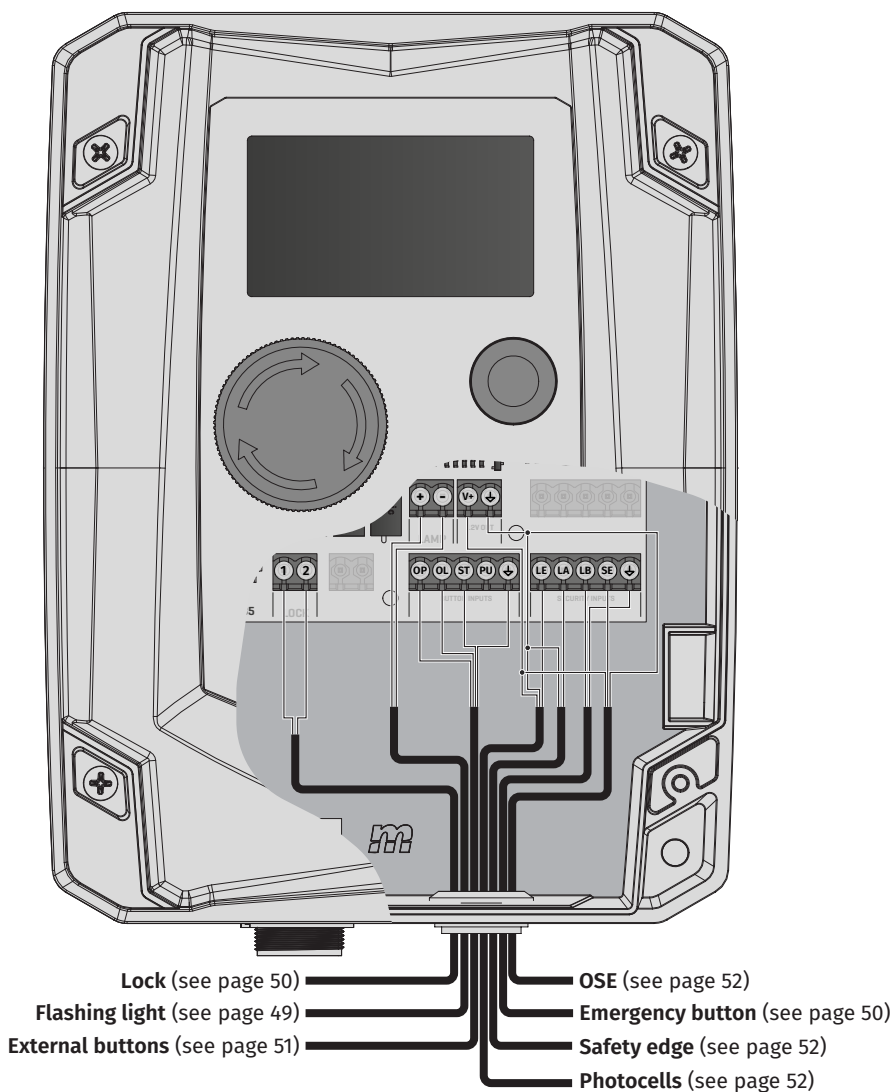
CONNECTOR DESCRIPTION



A	ENC-RS	01• Connector for absolute encoder		
B	ENC	02• Connector for motor encoder		
C	FAN	03• Connector for fan		
D	MOT	U V W	04• Motor phase U 05• Motor phase V 06• Motor phase W	Max 900W
E	RS485	07• Connector for RJ45 plug between door control board and motor control board. Provides power to the door control board, and carries the absolute encoder communication signal, as well as communication between the boards.		
F	SUPPLY	F N ↓ ↓	08• 230Vac Phase 09• Neutral 10• Ground power supply 11• Ground power supply	

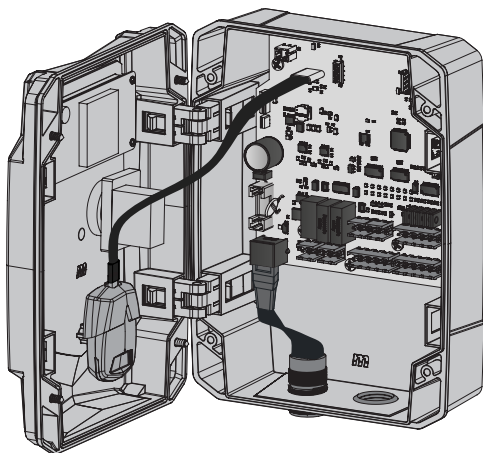
06. INSTALLATION

CONNECTOR DESCRIPTION



06. INSTALLATION

INSTALLING MCONNECT LINK



As Motorline exports to several countries, the menus are set to English by default. If the user wishes to change the language, they should use the MCONNECT LINK Wi-Fi module and select the desired language via the MCONNECT application.

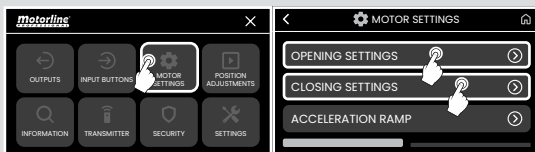
ESSENTIAL STEPS FOR INSTALLATION

01• Connect all accessories according to the connection diagram.

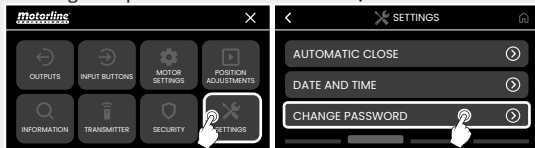
02• Turn on the power.

03• Before starting movements with the motor, enter the menu with the following password: "0000".

a• If necessary, adjust the motor speed (**MOTOR SETTINGS** → **OPENING SETTINGS** / **CLOSING SETTINGS**).



b• Change the password for future access (**SETTINGS** → **CHANGE PASSWORD**).



04• Exit the menu.

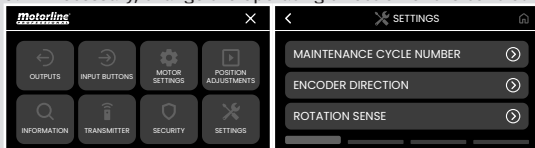
05• Check that the door movement matches that shown on the screen.

06. INSTALLATION

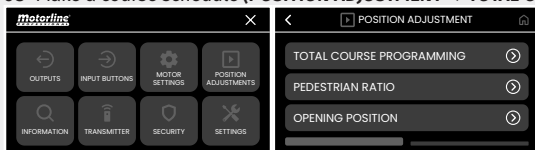
ESSENTIAL STEPS FOR INSTALLATION

06• Re-enter the menu.

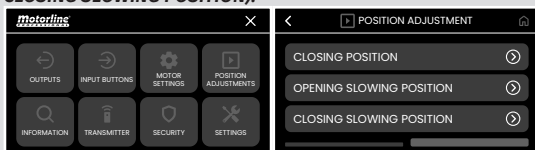
07• If necessary, change the operating direction of the control board (**SETTINGS** → **ROTATION SENSE**).



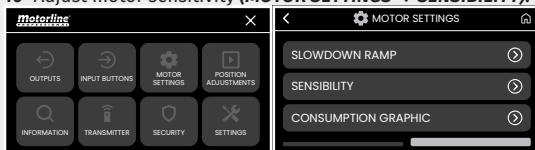
08• Make a course schedule (**POSITION ADJUSTMENT** → **TOTAL COURSE PROGRAMMING**).



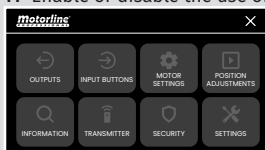
09• If necessary, adjust the door deceleration position (**POSITION ADJUSTMENT** → **OPENING SLOWING POSITION** / **CLOSING SLOWING POSITION**).



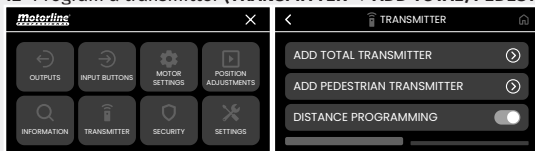
10• Adjust motor sensitivity (**MOTOR SETTINGS** → **SENSIBILITY**).



11• Enable or disable the use of security features (**SECURITY**).



12• Program a transmitter (**TRANSMITTER** → **ADD TOTAL/PEDESTRIAN TRANSMITTER**).



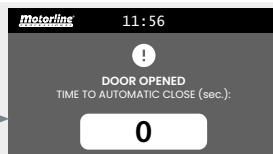
07. MENU NAVIGATION

MENU NAVIGATION

•The screen shows the status of the door and, if applicable, the timing for the door to move.

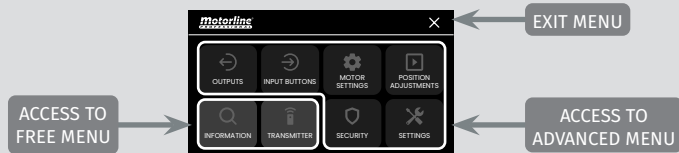
•When you click on the screen, the **simplified menu** will be displayed.

ACCESS TO
SIMPLIFIED MENU



Simplified Menu

•The purpose of the simplified menu is to provide easy access to information and parameters that do not affect the door's behavior.



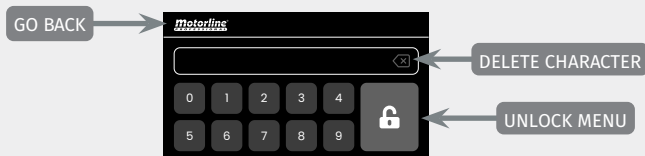
•The **INFORMATION** sub-menu can be accessed while the door is moving, as it is mainly used to check relevant information in real time.

•However, the **TRANSMITTER** sub-menu can only be accessed when the door is stopped, to prevent unintentional movements.

Access to the Advanced Menu

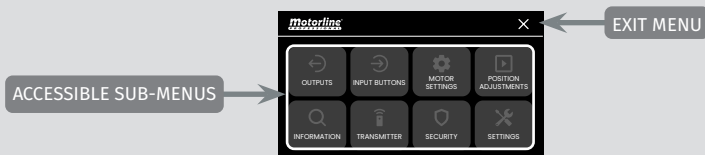
•The other menus are only accessible when the door is stopped, as they impact its operation.

•To unlock the advanced menu, you must enter the set password (Factory value: "0000").



Advanced Menu

•In the advanced menu, you can change all available parameters. The parameters currently available are related to door/control board control, including input, output, and motor settings, among others.

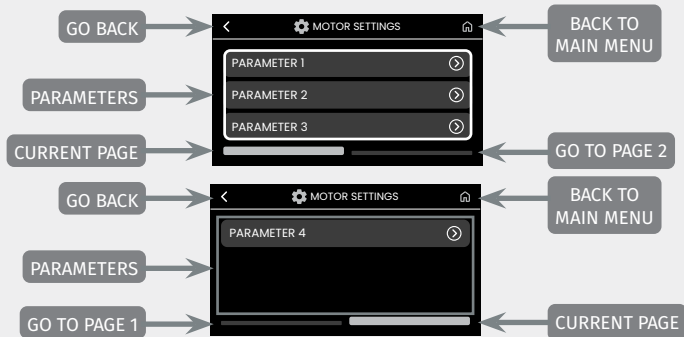


07. MENU NAVIGATION

MENU NAVIGATION

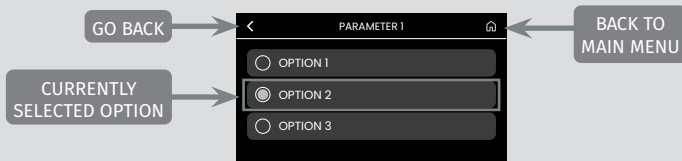
Sub-Menu

- The sub-menu has a main theme (example: **MOTOR SETTINGS**) and contains a list of related parameters, which in turn can be grouped into a new sub-menu.
- There may be more than one page, depending on the number of settings available.



Changing Parameters Based on Options

- The parameters that aim to select a type of functionality are divided into options, which contain a descriptive name, to easily be associated with the type of functionality.
- To select a new option, simply press an option different from the one currently selected.

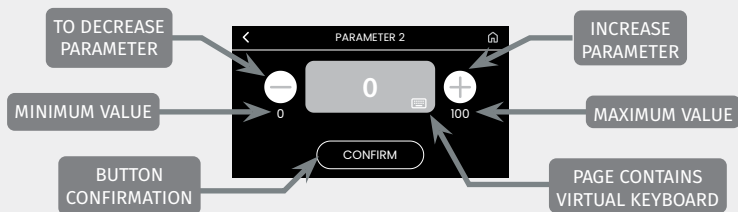


07. MENU NAVIGATION

MENU NAVIGATION

Changing Parameters Based on Values

- Parameters that aim to change the value of a parameter (Example: **OPEN SPEED**), use buttons to increase or decrease the parameter.
- The **CONFIRM** button is used to save the parameter with the value displayed on the screen.



•For faster value entry, you can also use a virtual keyboard. To access the keyboard, simply click the rectangle containing the value you want to change. After entering the value, click the confirmation icon to save your changes.

•Clicking the confirm icon without entering a value, or entering a value outside the parameter limits, causes the keyboard to hide.



07. MENU NAVIGATION

MENU NAVIGATION

MENU SETTINGS			
SUB-MENU	PARAMETER	VALUES	PAGE
OUTPUT CONFIGURATIONS	MULTIFUNCTIONAL OUTPUT R - FUNCTION MULTIFUNCTIONAL OUTPUT G - FUNCTION MULTIFUNCTIONAL OUTPUT B - FUNCTION MULTIFUNCTIONAL OUTPUT Y - FUNCTION	• OPENED • CLOSED • OPENING • CLOSING • OPENING/CLOSING • STOPPED IN MIDDLE POINT • OPENING/OPENED • CLOSING/CLOSED • OPENING/CLOSING/PAUSED • NOT CLOSED • CONTROL BOARD IN ERROR • CYCLES MAINTENANCE	32
	MULTIFUNCTIONAL OUTPUT R - FREQUENCY MULTIFUNCTIONAL OUTPUT G - FREQUENCY MULTIFUNCTIONAL OUTPUT B - FREQUENCY MULTIFUNCTIONAL OUTPUT Y - FREQUENCY	0s ~ 99s	
RELAY	MODE	• MOVEMENT (INTERMITTENT) • MOVEMENT (STATIC) • MOVEMENT AND PAUSE TIME • COURTESY LIGHT • NOT CLOSED • CONTROL RF (BISTABLE) • CONTROL RF (TIMER)	
	TIMER	0s ~ 1000s	
FLASHING LIGHT	PRE-FLASHING LIGHTS TIME	0s ~ 99s	
	COURTESY LEDs TIME	0s ~ 99s	
	FLASHING LIGHT MODE	• MOVEMENT (INTERMITTENT) • MOVEMENT (STATIC) • MOVEMENT AND PAUSE TIME • COURTESY LIGHT • NOT CLOSED	
LOCK IMPULSE TIME	50 ms→200 ms	-	

MENU INPUT BUTTONS			
SUB-MENU	PARAMETER	VALUES	PAGE
LB INPUT	DEACTIVATE ACTIVATE	-	34
OPERATION MODE	AUTOMATIC STEP BY STEP CONDOMINIUM CONDOMINIUM 2		
HUMAN PRESENCE	DEACTIVATE ACTIVE CLOSING ACTIVE OPENING AND CLOSING		
ST INPUT	STOP PEDESTRIAN		

07. MENU NAVIGATION

MENU NAVIGATION

MENU MOTOR SETTINGS			
SUB-MENU	PARAMETER	VALUES	PAGE
OPENING SETTINGS	OPEN SPEED	500RPM ~ 2000RPM	35
	SLOW OPEN SPEED	500RPM ~ 1000RPM	
CLOSING SETTINGS	CLOSE SPEED	500RPM ~ 2000RPM	
	SLOW CLOSE SPEED	500RPM ~ 1000RPM	
ACCELERATION RAMP	0 s →2 s	-	
SLOWDOWN RAMP	0 s →2 s		
SENSIBILITY	0 → 9		
CONSUMPTION GRAPHIC	Current consumption graph in relation to door position		

MENU POSITION ADJUSTMENTS			
SUB-MENU	PARAMETER	VALUES	PAGE
TOTAL COURSE PROGRAMMING	Course programming	-	37
PEDESTRIAN RATIO	0% → 50%		
OPENING POSITION	-100 → 100		
CLOSING POSITION	-100 → 100		
OPENING SLOWING POSITION	VARIABLE → 1000		
CLOSING SLOWING POSITION	VARIABLE → 1000		

MENU INFORMATION			
SUB-MENU	PARAMETER	VALUES	PAGE
READ PARAMETERS	MOTOR SPEED	Read motor speed	39
	SPEED REFERENCE	Read motor reference speed	
	MOTOR CURRENT	Read motor current	
	BUS VOLTAGE	Read bus voltage	
	INPUT POWER	Read input power	
	MOTOR DRIVER TEMPERATURE	Read motor controller temperature	
	ENCODER ANGLE	Read absolute encoder angle	
	DOOR POSITION	Read door position	
DIAGNOSTICS	Check the status, inputs and outputs of the door	-	
CYCLE NUMBER	Read the number of cycles the door has already performed		
LOGS	Check for errors and logs that have already occurred		
INPUT STATES	Read the current status of the inputs		
OUTPUT STATES	Read the current status of the outputs		

07. MENU NAVIGATION

MENU NAVIGATION

MENU TRANSMITTER			
SUB-MENU	PARAMETER	VALUES	PAGE
ADD TOTAL TRANSMITTER	Add/Remove a transmitter for door control	-	42
ADD PEDESTRIAN TRANSMITTER	Add/Remove a transmitter for pedestrian door control		
DISTANCE PROGRAMMING	OFF ~ ON		
REMOVE ALL TRANSMITTERS	Remove all programmed transmitters		
PEDESTRIAN TRANSMITTERS MODE	TRANSMITTER FOR PEDESTRIAN MODE TRANSMITTERS FOR TOTAL MODE TRANSMITTERS FOR RELAY CONTROL		
SIGNAL STRENGTH	Read the signal strength of the transmitter		

MENU SECURITY			
SUB-MENU	PARAMETER	VALUES	PAGE
PHOTOCELL	ACTIVATION	• DEACTIVATE • ACTIVATE • ACTIVATE WITH TEST	44
	DIRECTION	• OPENING • CLOSING	
	DOOR MOVEMENT	• DOOR IS INVERTED • DOOR STOPS, WAITS 5 SEC., RESUME • DOOR INVERTS FOR 2 SEC. AND STOP • DOOR STOPS	
SAFETY EDGE	ACTIVATION	• DEACTIVATE • ACTIVATE	
	DIRECTION	• OPENING • CLOSING	
	DOOR MOVEMENT	• DOOR IS INVERTED • DOOR STOPS, WAITS 5 SEC., RESUME • DOOR INVERTS FOR 2 SEC. AND STOP • DOOR STOPS	
OSE	ACTIVATION	• DEACTIVATE • ACTIVATE	
	DIRECTION	• DEACTIVATE • ACTIVATE	
	DOOR MOVEMENT	• DOOR IS INVERTED • DOOR STOPS, WAITS 5 SEC., RESUME • DOOR INVERTS FOR 2 SEC. AND STOP • DOOR STOPS	
TURN OFF REVERSION	0% → 99%	-	
FOLLOW ME	FOLLOW ME TYPE	• FOLLOW ME OFF • ACTIVE AFTER OPEN • ACTIVE IN OPEN	
	FOLLOW ME TIME	1s ~ 9s	

07. MENU NAVIGATION

MENU NAVIGATION

MENU SECURITY			
SUB-MENU	PARAMETER	VALUES	PAGE
MMR15 CONFIG	INVERT DOOR OUTPUT	<i>Program MX14 to reverse the door</i>	44
	STOP DOOR OUTPUT	<i>Program MX14 to stop the door</i>	
	OPERATION MODE	•WORK MODE •ALWAYS ACTIVE	
	AUTO TEST TIME	•30 SECONDS •7 SECONDS	
	BUZZER CONFIGURATION	•DEACTIVATE •ACTIVATE	
	CHANGE FREQUENCY	868.0MHz 868.6MHz 869.2MHz 869.8MHz	
	MMR15 STOP	OFF ~ ON	
	MMR15 INVERT	OFF ~ ON	
	MMR15 AUTOTEST	OFF ~ ON	

MENU SETTINGS				
SUB-MENU	PARAMETER	VALUES	PAGE	
MAINTENANCE CYCLE NUMBER	0 k Cycles → 500 K Cycles		47	
ENCODER DIRECTION	RIGHT LEFT			
MOTOR DIRECTION	STANDARD INVERTED			
AUTOMATIC CLOSE	TOTAL OPENING			0s ~ 99s
	PEDESTRIAN OPENING			0s ~ 99s
DATE AND TIME	Set the current date on the screen			
CHANGE PASSWORD	Change the password used to unlock the parameterisation menu			
FACTORY RESET	Reset all parameters to factory settings			
CYCLE RESET	Clear the maintenance warning			
DISPLAY SETTINGS	BRIGHTNESS			10% ~ 100%
	AUTO POWER SAVE	1min ~ 10min		
	MENU INACTIVITY TIMEOUT	5s ~ 99s		
	CLICK SOUND	OFF ~ ON		
	ALERT SOUND	OFF ~ ON		
ECO SETTINGS	ECO ACTIVATION TIME	1min ~ 20min		
	ECO MODE	OFF ~ ON		
BATTERY SETTINGS	NORMAL OPERATION OPEN DOOR CLOSE DOOR	-		

08. PROGRAM / CHANGE PARAMETERS



OUTPUTS

OUTPUTS MENU

OUTPUT CONFIGURATION (J CONNECTOR)

Multifunctional outputs monitor the status of the door or control board. They operate in open-collector mode: off by default and activated when connected to GND.

1

Output	Function ^{*(1)}		Frequency ^{*(2)}	
	Option - Description	Factory	Min./Max.	Factory
MULTIFUNCTIONAL OUTPUT R (IR CONNECTOR)	• OPENED - Activates with the door open; • CLOSED - Activates with the door closed; • OPENING - Activated with the OPENING door;	CLOSING		0s
MULTIFUNCTIONAL OUTPUT G (IG CONNECTOR)	• CLOSING - Activated with the CLOSING door; • STOPPED - Activates when the door is stopped; • OPENING/OPENED - Activated with the door	OPENING		0s
MULTIFUNCTIONAL OUTPUT B (IB CONNECTOR)	OPENING or open; • CLOSING/CLOSED - Activated with the door CLOSING or closed;	OPENED		0s
MULTIFUNCTIONAL OUTPUT Y (IY CONNECTOR)	• NOT CLOSED - Activated when the door is not closed; • Error State - Activated with the control board in Error; • Maintenance - Activates with the maintenance warning.	CLOSED		0s

^{*(1)}For each multifunctional output, it is possible to choose the function that activates the output, allowing easy viewing of the status of the door.

^{*(2)}This parameter allows you to select the output frequency when it is active. If the selected frequency is 0s, the output remains active.

RELAY (CONNECTOR M)

2

Parameter - Description	Option - Description	Factory
Mode: Parameter for controlling the multifunction relay mode. This relay can be used to activate external devices (e.g., a lamp), depending on the mode selected for it.	Movement (Intermittent) - Activates intermittently while the door is moving during automatic operation.	MOVEMENT AND PAUSE TIME
	Movement (Static) - Activates continuously while the door is in motion during automatic operation.	
	Movement and Pause Time - Activated continuously during door movement or during pauses in automatic operation.	
	Courtesy Light - Activates as a courtesy light, remaining on after the door moves to aid visibility. The time is set in FLASHING LIGHT → COURTESY LEDS TIME .	
	Not Closed - Activated when the door is out of the closed position.	
	Control RF (Bistable) - Changes the state when pressing a pedestrian transmitter(if the output is on, it turns off, and vice versa).	*
	Control RF (Timer) - Activates when a pedestrian command is pressed, deactivates after the time set in RELAY → TIMER .	*
*(Pedestrian commands must be configured for relay control)		
Timer: Allows you to control the time the relay remains active when in the RELAY → MODE parameter, the selected option is CONTROL RF (TIMER) .	Value	
	Min./Max.	Factory
		30s

08. PROGRAM / CHANGE PARAMETERS



OUTPUTS

OUTPUTS MENU

FLASHING LIGHT (CONNECTOR H)

Parameter	Description	Value	
		Min./Max.	Factory
PRE-FLASHING LIGHTS TIME	Select the pre-flashing light time, or the delay between the flashing light's activation and the motor's start. This allows the user to be warned of motor movement before it occurs.		0s
COURTESY LEDS TIME	Selection of the time the flashing light remains on in courtesy light mode. Activated as a courtesy light, that is, a light that remains active after the door moves, to assist with visibility of the location for a defined period of time.		0m
FLASHING LIGHT MODE	Output state selection in pre-flashing light.	Option - Description	
		• Movement (Intermittent) - Activates intermittently while the door is moving during automatic operation • Movement (Static) - Activates continuously while the door is moving during automatic operation • Movement and Pause Time - Activates continuously while the door is in motion, or during pause time, during automatic operation. • Courtesy Light - Activated as a courtesy light, i.e., a light that remains active after the door moves, to assist with visibility of the location for a set time. The duration of the light is programmed in FLASHING LIGHT → COURTESY LEDS TIME. • Not Closed - Activated when the door is out of the closed position.	
			MOVEMENT (INTERMITTENT)

LOCK IMPULSE TIME (L CONNECTOR)

Parameter	Description	Value	
		Min./Max.	Factory
LOCK IMPULSE TIME	Select the pulse time for lock activation, that is, for changing the lock's position (open to closed, and vice versa). Lower values may result in a lack of force to change the lock's state, and higher values cause greater force to change state.		100ms

08. PROGRAM / CHANGE PARAMETERS



INPUT BUTTONS

INPUTS MENU

LB INPUT (CONNECTOR O - LB)

Allows you to activate the emergency button input.

1	Options	Description	Factory
	DEACTIVATE	Disables the emergency button	DEACTIVATE
	ACTIVATE	Activates the NC emergency button	

OPERATION MODE

Door operation type selection.

2	Options	Description	Factory
	AUTOMATIC	Whenever there is an order the movement is reversed	STEP BY STEP
	STEP BY STEP	OPEN → STOP → CLOSE → STOP If it is fully open and timed, it closes	
	CONDOMINIUM	Does not respond to orders during opening and pause time.	
	CONDOMINIUM 2	Does not respond to orders during opening.	

HUMAN PRESENCE

Selection of the present man function mode associated with the door opening and closing actions

3	Options	Description	Factory
	DEACTIVATE	Disables the present man function	DEACTIVATE
	ACTIVE CLOSING	The present man function is active when closing the door.	
	ACTIVE OPENING AND CLOSING	The present man function is active when opening and closing the door.	

ST INPUT (CONNECTOR N)

Defines the function assigned to the ST input, which can act as a total system stop or pedestrian command (partial opening).

4	Options	Description	Factory
	STOP	Immediately stops any ongoing maneuver and prevents further movements while the signal is present.	STOP
	PEDESTRIAN	Activates pedestrian opening mode: controls partial opening of the door, ideal for people to pass through.	

08. PROGRAM / CHANGE PARAMETERS



MOTOR
SETTINGS

MOTOR SETTINGS MENU

OPENING SETTINGS

1	Parameter	Description	Value	
			Min./Max.	Factory
	OPEN SPEED	Normal motor opening speed in automatic operation.		1500 ^{RPM}
	SLOW OPEN SPEED	Reduced opening speed slowdown zones or IDLE state.		1000 ^{RPM}

CLOSING SETTINGS

2	Parameter	Description	Value	
			Min./Max.	Factory
	CLOSE SPEED	Normal motor closing speed in automatic operation.		1500 ^{RPM}
	SLOW CLOSE SPEED	Reduced closing speed in slowdown zones or IDLE state.		1000 ^{RPM}

ACCELERATION RAMP

3	Description	Value	
		Min./Max.	Factory
	Motor acceleration time. Example: with a time of 1s, if the speed set for the "CLOSE SPEED" parameter is 1500 RPM, the motor takes 1 second to go from 0 RPM to 1500 RPM. If the door starts moving at the "SLOW CLOSE SPEED" speed and the set speed is 500 RPM, the motor takes 1 second to go from 0 RPM to 500 RPM.		1 ^s

SLOWDOWN RAMP

4	Description	Value	
		Min./Max.	Factory
	Motor deceleration time from auto speed to slowdown speed. Example: with a time of 0.1s, if the speed set for the "CLOSE SPEED" parameter is 1500 RPM, and the "SLOW CLOSE SPEED" speed is 500 RPM, the motor will take about 0.1s to slow down from 1500 RPM to 500 RPM.		0.2 ^s

SENSITIVITY

5	Description	Value	
		Min./Max.	Factory
	Higher values increase sensitivity to motor effort detection, allowing stopping or reversing. A value of 0 disables this function. Caution: Excessive sensitivity may cause false positives.		5

08. PROGRAM / CHANGE PARAMETERS



MOTOR
SETTINGS

MOTOR SETTINGS MENU

CONSUMPTION GRAPHIC

This menu displays a comparative graph of the electrical current consumed by the door throughout its movement, allowing you to analyze the effort during opening or closing.

- The X axis represents the door opening percentage, ranging from 0% (fully closed) to 100% (fully open).
- The Y-axis shows the electrical current in percentage, based on the maximum recorded door current.

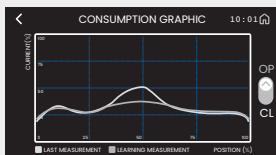
The graph shows two curves:

- Learning Measurement:** Current recorded during programming, used as a reference.
- Last Measurement:** Current of the last maneuver performed, for comparison.

6

A button allows you to switch between opening and closing graphics, making it easier to identify differences in door behavior in both directions.

This visualization helps in diagnosing faults, mechanical wear or obstructions in the path.



08. PROGRAM / CHANGE PARAMETERS



POSITION
ADJUSTMENTS

POSITION ADJUSTMENTS MENU

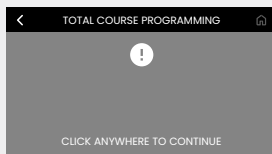
TOTAL COURSE PROGRAMMING

While the course is being programmed, when the screen appears to click, you can advance to the next phase in several ways:

- Click on the screen
- Press a button on a programmed transmitter
- Click the open button embedded in the box, when the next action is open
- Click the open button embedded in the box, when the next action is closing

If programming is interrupted before completion, the system will revert to the previous course settings. Below are the main causes of interruptions and the errors displayed on the screen:

- **Safety Device Activation:** If the emergency button or the MMR15 stop signal are activated, the system displays the error **"ERROR: SAFETY ACTIVATED"**;
- **Swapping Opening and Closing Positions:** In modes with Absolute Encoder or Quadrature Encoder and Homing, if the opening and closing positions are swapped, **"ERROR: POSITION"** will be displayed;
- **Opening Position Error:** When using Quadrature Encoder and Homing mode, if the opening position is set beyond the homing end of course limit, **"ERROR: OPEN POSITION"** will appear;
- **Cancel Programming:** If the user goes back in the menu or presses the STOP button integrated in the box, the error displayed will be **"ERROR: LEARNING CANCELED"**;
- **Door or Motor Error:** If a problem occurs with the door or motor during the process, the system will display **"ERROR: DOOR ERROR"**.



1

Position Device	Programming method
ABSOLUTE ENCODER	• The user maneuvers the door (with open and close buttons) at slow speed until it reaches the opening position. • Click on the screen to save position. • The user operates the door (with open and close buttons) at slow speed until the opening slowdown starts. • Click on the screen to save the position. If the position is smaller than the calculated slowdown position, the minimum position will be used. • The user maneuvers the door at slow speed until it reaches the starting position for slowdown the closing. • Click on the screen to save the position. If the position is smaller than the calculated slowdown position, the minimum position will be used. • The user maneuvers the door at slow speed until it reaches the closing position. • Click on the screen to save position. • The user clicks on the screen, and the door opens at normal speed. • At 50% of course, the door enters the slowdown position. • When it reaches the opening position the door stops. • The user clicks on the screen, and the door closes at normal speed. • At 50% of course, the door enters the slowdown position. • When it reaches the closing position the door stops. • The user clicks on the screen, and the door will open with the minimum deceleration distance, when it is in the opening position. • The user clicks on the screen, and the door will close with the minimum deceleration distance, when it is in the closing position, and the programming ends.

08. PROGRAM / CHANGE PARAMETERS



POSITION
ADJUSTMENTS

POSITION ADJUSTMENTS MENU

PEDESTRIAN RATIO

2	Description	Value	
		Min./Max.	Factory
	Allows you to change the pedestrian opening percentage. Example: If a door is fully open with 2 meters of course, in pedestrian mode it remains open with 1 meter of course, and the programmed "PEDESTRIAN RATIO" value is 50%.		50%

OPENING POSITION CLOSING POSITION

3/4	Description	Value	
		Min./Max.	Factory
	Allows adjustment of the door's final positions. Using values below zero shortens the course; using values above zero lengthens the course. 1 unit of the parameter is equivalent to 0.1% of the programmed course. Example: If a door is open at 2 meters, and the "OPENING POSITION" value is 50, the new open value is 2.1 meters (2 (2 x 0.050)).		0%

OPENING SLOWING POSITION CLOSING SLOWING POSITION

5/6	Description	Value	
		Min./Max.	Factory
	Allows adjustment of the deceleration distance, where 1 unit of the parameter is equivalent to 1% of the course. The minimum value for the parameter is the result of a calculation that uses the speeds defined for the door, and the acceleration and deceleration times.	Min.: Variable Max: 100%	VARIABLE

08. PROGRAM / CHANGE PARAMETERS



INFORMATION

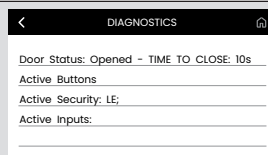
INFORMATION MENU

READ PARAMETERS

Parameter	Description
MOTOR SPEED	Motor speed in RPM
SPEED REFERENCE	Speed set in RPM
MOTOR CURRENT	Motor current in AMPERES
BUS VOLTAGE	Bus Voltage in VOLTS
INPUT POWER	Input power in WATTS
MOTOR DRIVER TEMPERATURE	Motor driver temperature in degrees Celsius
ANGLE ENCODER	" ABSOLUTE ENCODER " angle in DEGREES (0°-360°)
DOOR POSITION	Door position in percentage

DIAGNOSTIC

Allows you to view the status of the door and active inputs in real time. This helps identify signals that are blocking or interfering with operation. Inputs are only displayed if they are active and configured as "Activated."



Identification	Description	Designation	Description of the Designation
DOOR STATUS	Door Status displays the current status of the door, making it easy to identify what action it's currently performing. If there's time remaining for parCLOSING or continuing movement, this information will be displayed on the screen. If there is time for closing/continue, it appears on the screen.	IDLE	Door needs to find a known point before resuming normal operation
		CLOSED	Door in closed position
		OPENING	Opening door
		STOPPED	Door stopped in the middle of the course
		CLOSING	Door CLOSING
		OPENED	Door in open position
		ERROR	Door in error state
ACTIVE BUTTONS	Active buttons being checked	OP	OPEN button
		CL	CLOSE button
		PU	PUSH button
		ST	STOP button
ACTIVE SECURITY	Active securities being verified	EM	Emergency input
		LE	Photocell
		LA	Safety edge
		OSE	Optical safety edge
		MMR15INV	MMR15 inversion signal
		MMR15ST	MMR15 stop sign

CYCLE NUMBER

Description
Shows the number of cycles performed by the door, shows up to 7 digits.

08. PROGRAM / CHANGE PARAMETERS

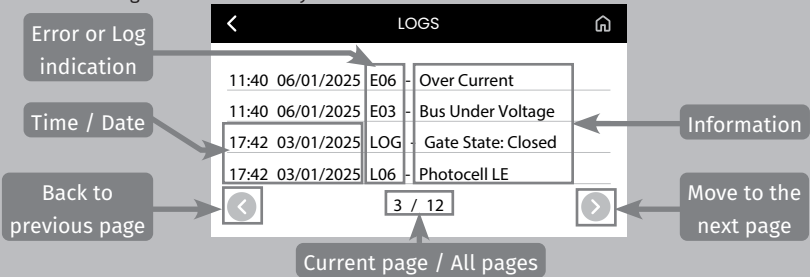


INFORMATION

INFORMATION MENU

LOGS

The Logs menu displays relevant information about errors and actions that caused the door to stop. This data is stored in the control board's memory, so errors and logs can be checked even after a reboot; older errors and logs are overwritten by new ones.



Types	Description	List
ERRORS	Possible errors that may occur: The control board can store up to 10 different error states, with a maximum of 15 simultaneous errors in each state. Errors are identified by codes E01 to E15, and their descriptions and resolutions can be found in the TROUBLESHOOTING section.	E01 - Software Error E02 - Bus Over Voltage E03 - Bus Under Voltage E04 - Over Temperature E05 - Speed Feedback Error E06 - Over Current Board E07 - Over Current Software E08 - Obstacle detected E09 - Motor Disconnected E10 - Absolute Encoder failed E11 - Absolute Encoder Overflow E12 - Absolute Encoder is Inverted E13 - Work Time Out E14 - Motor Board Not Replying E15 - Max Inversion by Obstacle
LOGS	Possible logs that can be saved: The control board can also store up to 20 events related to the control board. These logs are recorded when a security device is activated, bypassing normal door operations (such as opening and closing). Each log contains the door status and the active inputs at the time of the event.	Door states: •Idle - door needs to find a known point before returning to normal operation •CLOSED - Closed door •OPENING - Door opening •STOPPED - Door stopped in the middle of the course •CLOSING - Door closing •OPENED - Door in open position •Error - Door in error state L01 - Open Button L02 - Close Button L03 - Push Button L04 - Stop Button L05 - State of Emergency L06 - Photocell L07 - Safety Band L08 - OSE Sensor L09 - MMR15 Inversion L10 - MMR15 Stop L11 - Security Test Failed

08. PROGRAM / CHANGE PARAMETERS



INFORMATION

INFORMATION MENU

INPUT STATES

Displays the status of the inputs in real time. The LED is green if the circuit is closed and red if it is open.

List of Abbreviations

5

OPB – Open Button (external and membrane)	LA – Safety edge
CLB – Close Button (external and membrane)	SE – Optical Safety edge
STB – Stop button (external and membrane)	LB – Emergency entrance
PUB – Push Button	MMR15INV – MMR15 inversion order
LE – Photocell	MMR15ST – MMR15 Stop Order

OUTPUT STATES

Shows the output status in real time. The LED is green if the output should be active, and red if it should be inactive.

List of Abbreviations

6

MFO R – Multi-function output R	LAMP – Flashing light
MFO G – Multi-function output G	RELAY – Multifunctional relay
MFO B – Multi-function output B	LOCK – Lock
MFO Y – Multifunctional output Y	

08. PROGRAM / CHANGE PARAMETERS

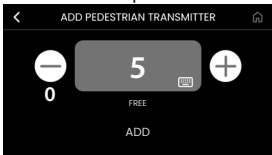
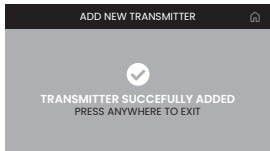
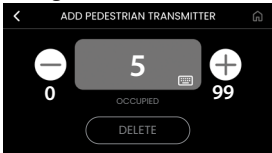
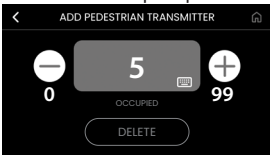
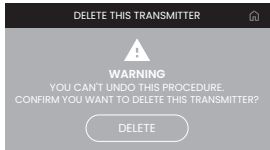
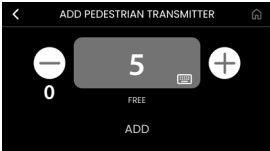


TRANSMITTER

TRANSMITTER MENU

ADD TOTAL REMOTE / ADD PEDESTRIAN TRANSMITTER

These screens allow you to save transmitters to the desired memory location. There's space for 100 total transmitters and 100 pedestrian transmitters.

ADD TRANSMITTER	REMOVE TRANSMITTER
To add a command, follow these steps: 1. Select a free position:  2. Click the ADD button:  3. Click an unprogrammed button on the transmitter:  4. Programmed transmitter. 	To remove a transmitter, follow these steps: 1. Select an occupied position:  2. Click the DELETE button:  3. Click the DELETE button again.  Transmitter removed.

1/2

08. PROGRAM / CHANGE PARAMETERS



TRANSMITTER

TRANSMITTER MENU

ACTIVATE DISTANCE PROGRAMMING

This option allows you to activate or deactivate the programming of new transmitters without directly accessing the control board, using a previously memorized transmitter.

3

HOW DISTANCE PROGRAMMING WORKS:

Press the buttons shown in the image simultaneously for 10 seconds, and the flashing light will flash (the screen will show the screen for pressing a transmitter button). Each time you memorize a transmitter, the control board will exit remote programming. If you want to memorize more transmitters, you'll need to repeat the process of pressing the transmitter buttons simultaneously for 10 seconds for each new transmitter.



REMOVE ALL TRANSMITTERS

4

Description

This option allows you to remove all transmitters at once.

PEDESTRIAN TRANSMITTERS MODE

This parameter allows you to change the way in which pedestrian transmitters are used.

5

Parameter	Description	Factory
TRANSMITTER FOR PEDESTRIAN MODE	Standard use of pedestrian transmitters.	TRANSMITTER FOR PEDESTRIAN MODE
TRANSMITTERS FOR TOTAL MODE	Use the pedestrian transmitters to extend the number of total transmitters.	
TRANSMITTERS FOR RELAY CONTROL	Uses pedestrian transmitter to control the multifunction relay in the control board. For the relay to be activated with the transmitter, it must be configured in the RELAY → MODE menu as " Control RF ".	

SIGNAL STRENGTH

6

Description

This screen allows you to see the signal strength in % when a button on the transmitter is clicked. It is a useful tool to check whether the transmitter is communicating correctly with the control board and to identify any operating errors.

08. PROGRAM / CHANGE PARAMETERS



SECURITY

SECURITY MENU

PHOTOCELL (CONECTOR O – LE)

1

Parameter	Description	Options	Factory
ACTIVATION	Allows you to turn off or activate the Photocell check, you can also turn on a test on the photocell before opening or closing.	• DEACTIVATE • ACTIVATE • ACTIVATE WITH TEST	DEACTIVATE
DIRECTION	Allows you to choose the direction of the door in which the photocell is checked.	• OPENING • CLOSING	CLOSING
DOOR MOVEMENT	Allows you to program the door's behavior when a photocell is activated.	• DOOR IS INVERTED; • DOOR STOPS, WAITS 5 SEC., RESUME; • DOOR INVERTS FOR 2 SEC. AND STOPS; • DOOR STOPS	DOOR IS INVERTED

SAFETY EDGE (CONECTOR O – LA)

2

Parameter	Description	Options	Factory
ACTIVATION	Allows you to turn off or enable safety edge checking.	• DEACTIVATE • ACTIVATE	DEACTIVATE
DIRECTION	Allows you to choose the direction of the door in which the safety edge is checked.	• OPENING • CLOSING	CLOSING
DOOR MOVEMENT	Allows you to program the door's behavior when the safety edge is activated.	• DOOR IS INVERTED; • DOOR STOPS, WAITS 5 SEC., RESUME; • DOOR INVERTS FOR 2 SEC. AND STOPS; • DOOR STOPS	DOOR IS INVERTED

OSE (O – SE CONNECTOR)

Allows you to program the behavior of the OSE safety input. The OSE input can use optical sensors with frequencies higher than 300Hz and lower than 2000Hz.

3

Parameter	Description	Options	Factory
ACTIVATION	Allows you to turn off or on the Optical sensor check.	• DEACTIVATE • ACTIVATE	DEACTIVATE
DIRECTION	Allows you to choose the direction of the door in which the safety edge is checked.	• OPENING • CLOSING	CLOSING
DOOR MOVEMENT	Allows you to program the door's behavior when the optical sensor is activated.	• DOOR IS INVERTED; • DOOR STOPS, WAITS 5 SEC., RESUME; • DOOR INVERTS FOR 2 SEC. AND STOPS; • DOOR STOPS	DOOR IS INVERTED

08. PROGRAM / CHANGE PARAMETERS



SECURITY

SECURITY MENU

TURN-OFF REVERSAL

4	Description	Value	
		Min./Max.	Factory
	Disables inversions caused by safety edges during closing. This parameter refers to the door position. The higher the value, the sooner the safety edges are ignored. Values are defined as a % of the scheduled course.		0%

FOLLOW ME

5	Parameter	Description	Options	Factory
	FOLLOW ME TYPE	Allows you to control an AUTO-MATIC CLOSING action after a safety device is activated, thus CLOSING the door faster than with AUTOMATIC CLOSING time. For FOLLOW ME to be fulfilled, it is necessary to have AUTOMATIC CLOSING time in the SETTINGS MENU → AUTOMATIC CLOSING → TOTAL OPENING and active Photocells (LE) in SECURITY MENU → PHOTOCCELL > ACTIVATION → ACTIVATE / ACTIVATE WITH TEST	FOLLOW ME OFF - When this option is selected, follow me will not be performed; ACTIVE AFTER OPEN - (The photocell does not work during opening and only performs follow me when the door is open; ACTIVE IN OPEN - After passing through the Security (Photocell), it counts the time set in FOLLOW ME TIME and closes. If it is opening, it stops the movement and closes.	FOLLOW ME OFF

	Parameter	Description	Value	
			Min./Max.	Factory
	FOLLOW ME TIME	Time to wait before closing the door after passing through security (Photocell).		1 (second)

MMR15 CONFIG

6	Parameter	Description
	INVERT DOOR OUTPUT	When programming an MX14 on one of the channels in this menu, its signals will be used to reverse the door; the reversal order only works when closing.
	STOP DOOR OUTPUT	When programming an MX14 on one of the channels in this menu, its signals will be used as an emergency.

08. PROGRAM / CHANGE PARAMETERS



SECURITY

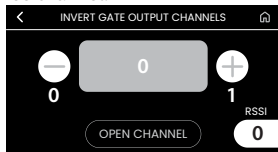
SECURITY MENU

MMR15 CONFIG

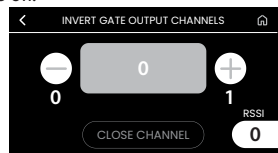
To program an MX14 on this control board, follow these steps:

Attention: The frequency of the MX14 must be the same as that of the MMR15.

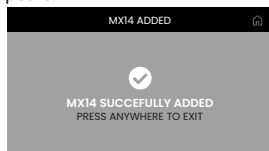
Select a free channel:



When you click the Open Channel button, the button changes to Close channel, and the MMR15 LED stays on.

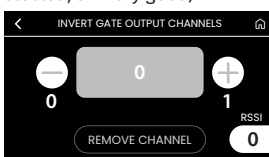


Click on the MX14 Join button until the MX14 ADDED screen appears.



Now the MX14 is associated with the selected channel, and you can check the RSSI value in real time.

(0 = not detected; 5 = very good)



Parameter	Description	Options	Factory
OPERATION MODE	Allows you to choose the operating mode for the MMR15 and MX14. In Work Mode, when the door is idle, the MX14s enter hibernation mode to save energy. When the door starts moving, all MX14s wake up and enter normal operating mode. In Always Active, the MX14s are always active.	•WORK MODE •ALWAYS ACTIVE	ALWAYS ACTIVE
SELF-TEST TIME	Allows you to change the communication self-test period on the MMR15.	•30 SECONDS •7 SECONDS	30 SECONDS
BUZZER CONFIGURATION	Allows you to turn off the MMR15's audible alarm.	•DEACTIVATE •ACTIVATE	ACTIVATE
CHANGE FREQUENCY	Allows you to change the frequency of the MMR15. To program an MX14, you must set the same frequency. Attention: The MMR15 will display an error until all programmed MX14s are configured to operate on its frequency.	868.0 MHZ 868.6 MHZ 869.2 MHZ 869.8 MHZ	
MMR15 STOP	Allows you to ignore MMR15 stop signs	•OFF •ON	OFF
MMR15 INVERT	Allows you to ignore MMR15 inversion signals	•OFF •ON	OFF
MMR15 AUTOTEST	Allows you to activate or deactivate the self-test that is performed whenever the door leaves the open or closed position.	•OFF •ON	OFF

08. PROGRAM / CHANGE PARAMETERS



SETTINGS

MENU SETTINGS

MAINTENANCE CYCLE NUMBER

1	Description	Value	
		Min./Max.	Factory
	Allows you to select how many cycles the door must perform before a maintenance warning appears. To clear the warning, go to the SETTINGS → CYCLE RESET menu and reset the maintenance cycles.		0 K cycles

ENCODER DIRECTION

2	Description	Options	Factory
	This setting allows you to adjust the direction of rotation of the encoder. FOR FUTURE CONFIGURATIONS	RIGHT LEFT	RIGHT

MOTOR STEERING

3	Description	Options	Factory
	Changes the direction of rotation of the motor and swaps the positions of the door. Motor in Vertical Position: STANDARD Motor in horizontal position and rotated downwards: INVERTED	STANDARD INVERTED	STANDARD

AUTOMATIC CLOSE

Allows you to select the waiting times for CLOSING the door.

4	Parameter	Description	Value	
			Min./Max.	Factory
	TOTAL OPENING	Adjust the pause time for AUTOMATIC CLOSING at TOTAL OPENING or mid-course. Allows you to set the door's waiting time from when it stops until it starts closing.		0 s
	PEDESTRIAN OPENING	Adjust the pause time for AUTOMATIC CLOSING during partial opening. Allows you to set the door's waiting time from the moment partial opening ends until closing begins.		0 s

08. PROGRAM / CHANGE PARAMETERS



SETTINGS

MENU SETTINGS

DATE AND TIME

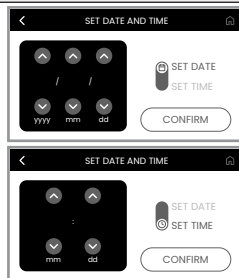
Description

In this menu, you can change the system date and time. It's important to keep the date up to date, as errors and logs will be recorded with the date and time, making it easier to identify events.

When you open this screen, the values displayed correspond to the currently set time. After adjusting the settings, click Confirm to save the new date.

If necessary, time zones can be set via **MCONNECT LINK**. If no time zone is specified, the system defaults to GMT 0. When the date is changed via **MCONNECT LINK**, the control board automatically adopts the time zone of the mobile phone used to make the change.

Attention: The time zone does not change when resetting the device.



CHANGE PASSWORD

Description

This menu allows you to change the password used to access the settings menus. The password can only be changed in this menu or via **MCONNECT LINK**.

FACTORY RESET

Description

Resets all parameters to factory default values, with the exception of programmed transmitters, cycle counter, logs and date.

CYCLE RESET

Description

This function allows you to reset maintenance cycles, eliminating warnings related to the need for maintenance.

DISPLAY SETTINGS

Parameter	Description	Value	
		Min./Max.	Factory
BRIGHTNESS	Allows you to increase or decrease the brightness of the screen.		100%
POWER SAVE TIME	Sets the time until the screen enters power saving mode after the last touch or end of the maneuver.		1m
MENU INACTIVITY TIMEOUT	Sets the inactivity time, that is, the maximum interval from the last button press until the menu is considered inactive.		30s
CLICK SOUND	Enables a sound to be emitted when pressing the buttons on the screen.	Options	Factory
		•OFF •ON	ON
ALERT SOUND	Enables sound emission when a safety is activated.	•OFF •ON	ON

08. PROGRAM / CHANGE PARAMETERS



SETTINGS

MENU SETTINGS

ECO SETTINGS

Parameter	Description	Value	
		Min./Max.	Factory
ECO ACTIVATION TIME	This parameter defines the amount of inactivity required for the product to automatically enter eco mode (low-power standby). In other words, after the door is moved or the menu is exited, the system waits the configured amount of time before activating eco mode. Attention: If the time set for the courtesy light is longer than the eco mode activation time, the system will first wait for the flashing light to turn off before entering eco mode.		20_m
ECO MODE	This parameter activates the energy-saving function, allowing the product to enter eco mode after the time set in Eco Activation Time . While the product is in eco mode, only the following inputs remain operational: • OPB – Open Button (external and membrane) • CLB – Close Button (external and membrane) • STB – Stop button (external and membrane) • PUB – Push Button • RF Receiver • MCONNECT LINK Attention: When this parameter is ON , and eco mode is active, all accessories will be turned off. If it is necessary to keep accessories on (e.g., Auxiliary Power, or multifunctional outputs), this parameter must be set to OFF . The accessories (MCONNECT LINK and MMR15) remain connected, which causes higher consumption, even in ECO mode.	Options	Factory
		• OFF • ON	ON

BATTERY SETTINGS

This parameter defines the behavior of the door when operating on battery power only.

Attention:

- Can only be used with the MC94 control board.
- The door may not reach the speed set in the parameters.
- Door sensitivity can act differently.

Parameter	Options	Factory
BATTERY SETTINGS	Normal Operation - the door operates normally; Open Door - The door opens automatically. Once open, it will remain open until external power is restored; Close Door - The door closes automatically. Once closed, it will remain closed until external power is restored.	NORMAL OPERATION

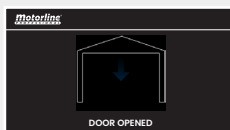
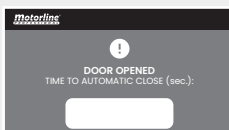
09. DISPLAY

DISPLAY INDICATIONS

When the control board is in operation, its status can be checked using the display.

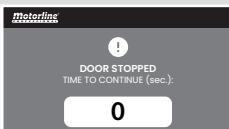
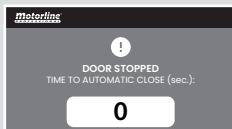
OPEN DOOR

If there is a scheduled closing time, the timer will be displayed on the screen. Otherwise, an image will be displayed indicating that the door is open.



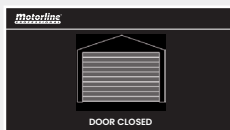
STOPPED DOOR

If there is a programmed time for CLOSING the door/continuing movement, the timer will be displayed on the screen. Otherwise, an image will be shown indicating the current position of the door.



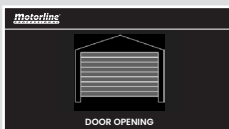
CLOSED DOOR

When the door is closed, an image indicating its closed position is displayed on the screen.



MOVING DOOR

While the door is moving, the screen shows the current position in real time.



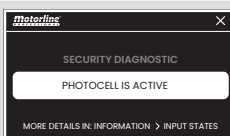
MAINTENANCE ALERT

When the maneuver cycles reach the value set for maintenance, an alert icon will appear on the screen. **Note:** This icon does not interfere with the door's operation; it serves only to alert the user to the need for maintenance. To remove the icon, access the **SETTINGS** menu, select **MAINTENANCE CYCLE RESET**, and confirm the reset.



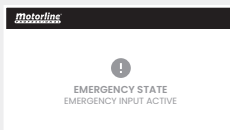
ACTIVE SECURITY ALERT

When a safety input is activated, a warning will appear on the screen to alert the user. Clicking the warning symbol will automatically redirect the user to a page where they can see which safety input is active or a limit switch error.



ACTIVE EMERGENCY

If the emergency input is activated, the door cannot be moved. In this case, the display will show an "Emergency Active" message.



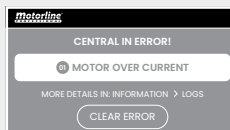
09. DISPLAY

DISPLAY INDICATIONS

ERROR SCREEN

When an error occurs at the door, the screen will display an error message. This screen displays the first error that occurred, based on the error list. By clicking the Clear Error button, the control board will attempt to resolve the issue. If the error message disappears, the errors have been resolved. Otherwise, the screen will continue to display any remaining errors.

All recorded errors can be consulted in the **INFORMATION → LOGS** menu.



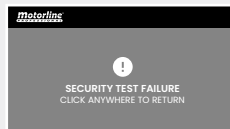
SECURITY TEST

When the safety test is active (either on the Photocells or on the MMR15), the following screen will be displayed during the test process.



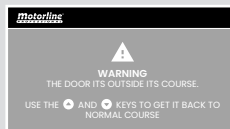
SECURITY TEST ERROR

If the safety test fails, an error screen will be displayed. This screen will remain visible until the error is cleared or a new order to move the door is given.



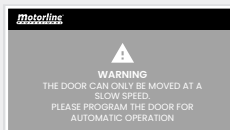
ABSOLUTE ENCODER SAFETY

With the absolute encoder, there is protection in case the door deviates from its normal course, whether due to encoder overflow or another reason. In this situation, the door will remain in idle mode and can only be moved in "human presence" mode. The goal is to restore the door to its normal cycle before allowing its regular movement again.



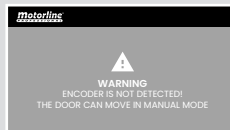
UNSCHEDULED COURSE NOTICE

When the course is not programmed, a warning screen will be displayed. This screen allows the door to operate in "human presence" mode, but it is recommended that the course be programmed for proper operation in automatic mode.



ENCODER NOT DETECTED

When no absolute encoder is detected, the door can be operated in "human presence" mode. This feature prevents the door from remaining stationary in awkward positions or in the event of encoder failure.



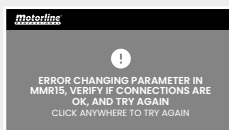
09. DISPLAY

WARNING AND ERROR SCREENS

While changing parameters, if an error occurs, an error screen may appear.

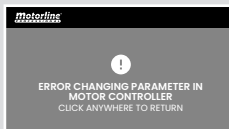
Error Changing Parameter in MMR15

There was a problem while trying to change a parameter in MMR15. The response was not received within the time limit.



Error Loading Motor Parameters

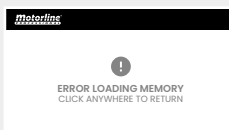
There was a problem loading motor parameters into the controller. This error may be caused by communication issues between the upper and lower boards.



Error Loading EEPROM Memory Parameters

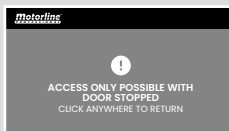
There was a problem loading EEPROM parameters into the microcontroller. This error may indicate a lack of EEPROM memory or related issues.

When you click on the screen, the control board will restart if it can communicate with the EEPROM memory.



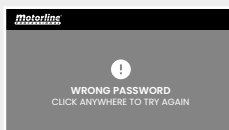
Menu Access Notice

The menu can only be accessed when the door is stopped.



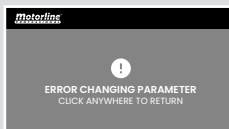
Invalid Password Warning

The password you entered is incorrect.



Error Changing Parameter

An error occurred while trying to change a parameter. This issue may be related to difficulties saving to the EEPROM or communication with the motor controller.

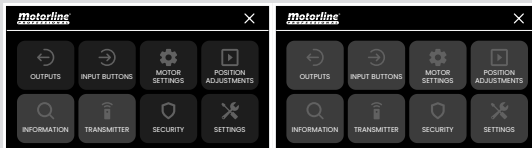


09. DISPLAY

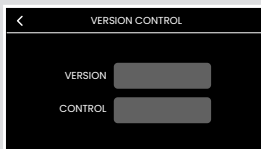
CHECK THE CONTROL BOARD VERSION

It may be necessary to identify the control board version, especially if requested by a MOTORLINE technician. To access the control board version, you must be in one of the following menus:

Click 3 times on the MOTORLINE symbol



To check the control board version, click 3 times on the MOTORLINE symbol. The page with the control board version will be displayed.



10. CONTROL BOARD OPERATION IN IDLE

IDLE CONTROL BOARD OPERATION

After a power failure, the control board doesn't need to find a reference point to resume normal operation, as it uses an absolute encoder, which allows it to always know the door's position. For safety reasons, if the door moves outside its programmed path, it must be manually moved, with the operator present, back within the defined path. After this adjustment, the door returns to normal automatic operation. In this process, the door always moves at the set deceleration speed, both during opening and closing.

If the control board does not detect the absolute encoder, it will be possible to move the door with a human presence, to enable testing of the door/motor if necessary.

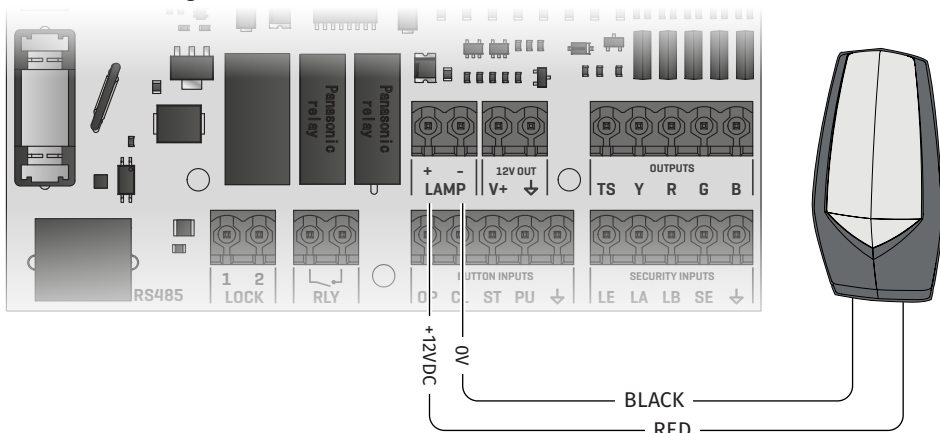
11. CONNECTION DIAGRAMS



This section provides detailed instructions for connecting the different system components. Each subsystem has specific requirements that must be followed to ensure proper door operation. The main features and their respective connections are described below.

FLASHING LIGHT

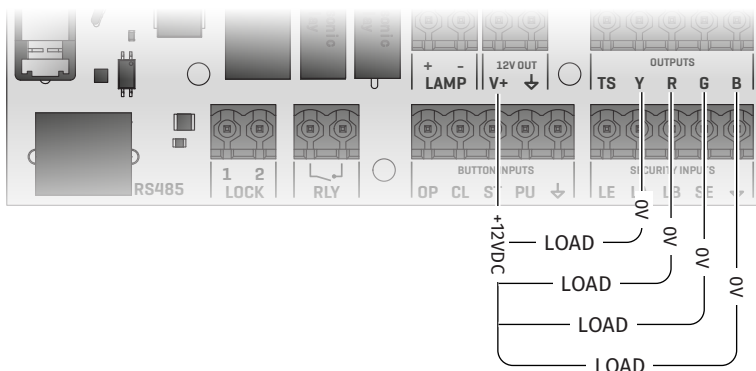
The flashing light indicates the door is working and also serves to illuminate the area after the door moves. Its parameters can be changed in the **OUTPUTS → FLASHING LIGHT** menu .



MULTIFUNCTIONAL OUTPUTS

The Y/R/G/B multifunction outputs can be programmed to check the status of the door or control board. These outputs are configured as open-collector, meaning that when a load is applied to the output, it remains off. When the control board turns on the output, it is connected to GND, which activates the load.

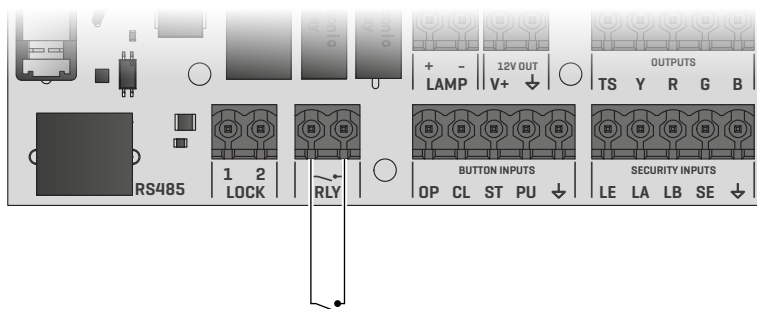
Programming is done in the **OUTPUTS → OUTPUT CONFIGURATION** menu .



11. CONNECTION DIAGRAMS

MULTIFUNCTIONAL RELAY

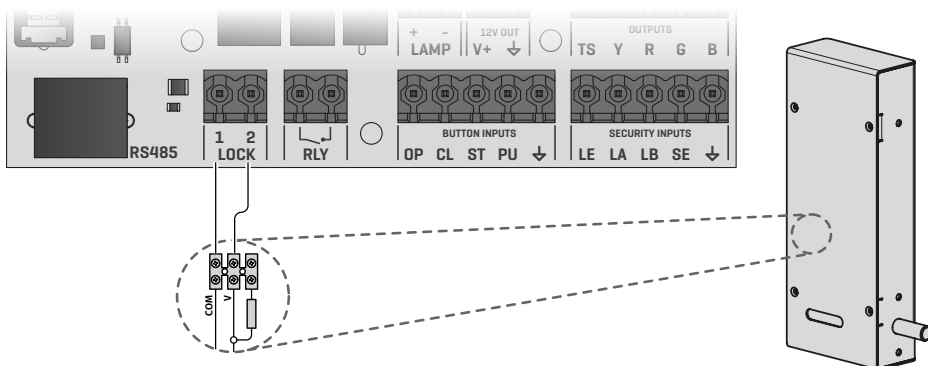
The functionality of this relay is to activate external devices, according to the mode configured in the menu. The parameters related to relay configuration are in **OUTPUTS → RELAY**.



LOCK

The lock is a component that allows the door to be locked when it is fully closed. This input is designed for a two-way lock, with one impulse being for OPENING and the other for CLOSING.

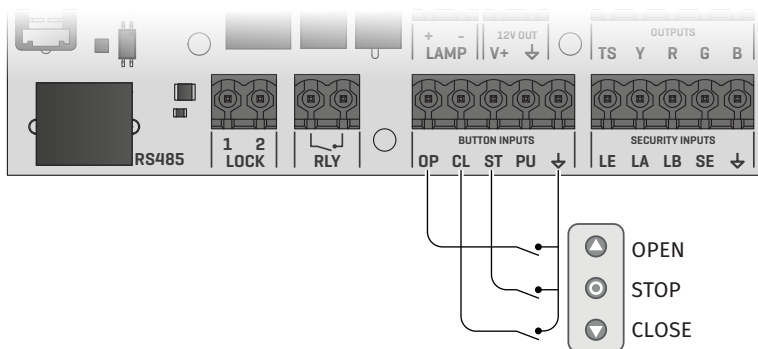
If the lock lacks power when changing state (open to closed, and vice versa), it may be necessary to increase the pulse time in the **OUTPUTS → LOCK IMPULSE TIME** parameter.



11. CONNECTION DIAGRAMS

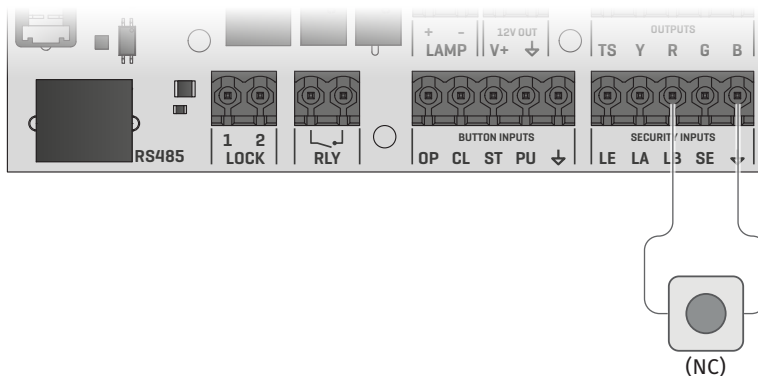
EXTERNAL BUTTONS

In addition to the buttons on the product box, there are connectors that allow you to connect door control devices, including external buttons. The **OPEN**, **CLOSE**, **STOP**, and **PUSH** inputs are normally open (NO).



EMERGENCY BUTTON

The emergency connector is normally closed (NC). Therefore, if it is not used, you can disable the connector in the **INPUTS → LB INPUT** parameter .



11. CONNECTION DIAGRAMS

SECURITY

The 8K2 **safety edge** is a physical sensor designed to detect pressure or impact in safety systems. When pressed or subjected to impact, its electrical resistance changes, and the control board detects this change.

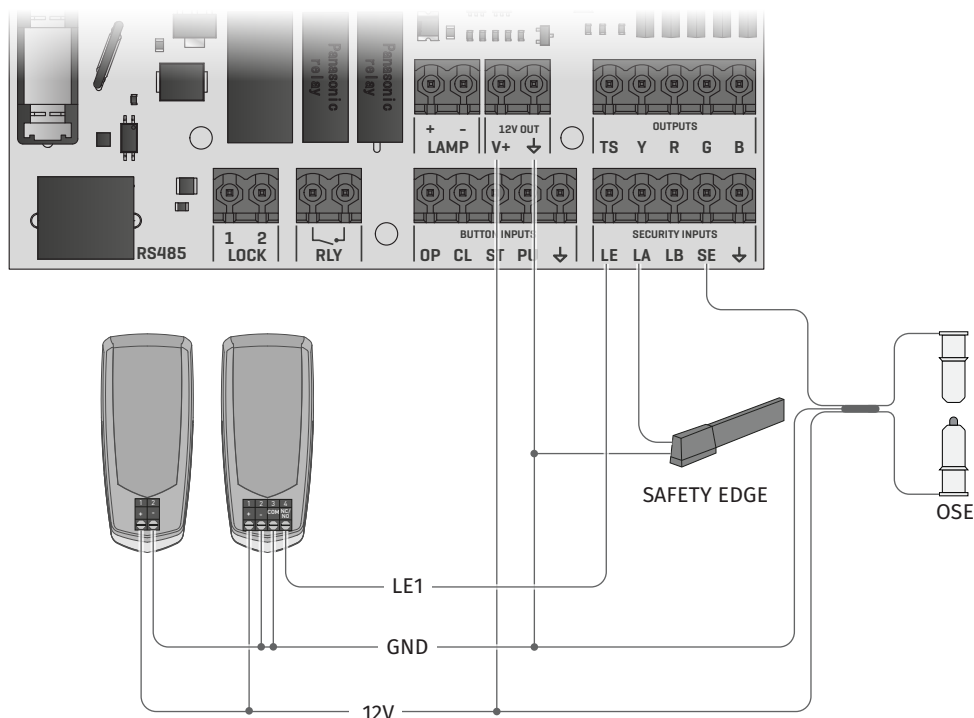
The 8K2 **safety edge** has no polarity, so one of the wires must be connected to the **LA** input and the other to **GND**.

The **OSE** is an electronic sensor that detects the presence of objects or people by changing the frequency of a beam of light.

It is necessary to check the **OSE sensor datasheet** to identify which wire corresponds to **12Vdc**, **GND** and **signal**. The signal wire must be connected to the **OSE** input .

A photocell is an electronic sensor that detects the presence of objects or people by interrupting a beam of infrared light.

The photocell must be powered by **12Vdc** and **GND**. The common wire must be connected to **GND**, and the **photocell's NC/NO output must be connected to the control board's LE** input . To test the photocell, the **photocell's GND** must be connected to the **control board's TS** .



12. TROUBLESHOOTING

TROUBLESHOOTING

01• SOFTWARE ERROR	Motor control software failure. Restart the control board.
02• BUS OVER VOLTAGE	The bus voltage exceeded the permitted limit. Check that the supply voltage is not too high and that there are no power surges on the network.
03• BUS UNDER VOLTAGE	The bus voltage is below the minimum limit, possibly due to higher-than-expected current consumption. Check the power supply and the integrity of the electrical connections.
04• OVER TEMPERATURE	Overheating error. The module has reached an excessive temperature, likely due to continuous operation of the door.
05• SPEED FEEDBACK ERROR	Error in motor speed reading due to missing or faulty Hall sensors. Without this information, speed control is compromised. Check the presence and operation of the sensors.
06• OVER CURRENT BOARD	Hardware-detected motor current overload. This could be caused by a mechanical blockage or excessive effort. Inspect the door's path and remove any obstacles.
07• OVER CURRENT BOARD	Excessive motor current detected by software. This could be caused by a mechanical blockage or excessive effort. Inspect the door path and remove any obstacles.
08• OBSTACLE DETECTED	Error caused by excessive force detection, indicating a possible obstruction in the door path. In case of false positives, adjust the SENSIBILITY parameter to ensure effective detection.
09• MOTOR DISCONNECTED	The motor is disconnected from the gearbox. Check the position of the release lever and make sure it is properly engaged.
10• ABSOLUTE ENCODER FAILED	Communication with the absolute encoder failed. Check the cable connections and encoder functionality. The motor may be disconnected from the gearbox. Check the position of the release lever and make sure it is properly engaged.
11• ABSOLUTE ENCODER OVERFLOW	The absolute encoder has exceeded the count limit. Make sure the course is programmed correctly and that the encoder resolution is appropriate for the door size.
12• ABSOLUTE ENCODER INVERTED	The angle measured by the absolute encoder does not match the expected value. Adjust the SETTINGS → ENCODER DIRECTION parameter to correct the reading direction.
13• WORK TIME OUT	The door operated continuously for over 5 minutes without interruption. To protect the motor and ensure system integrity, operation was halted.
14• MOTOR BOARD NOT REPLYING	Communication failure between the control board and the motor board. Check that the communication cable is connected correctly and in good condition.
15• MAX INVERSION BY OBSTACLE	This error occurs after an excessive number of consecutive reversals, typically caused by repeated obstacles. Check the door path and remove any obstructions.