PORTUGAL

EN

MRMF-REC

USER/INSTALLER MANUAL

Motorline®
PROFESSIONAL

v1.2Rev. 03/2026

00. CONTENT

INDEX

01. SAFETY WARNINGS

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 WARNINGS

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.
- 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 WARNINGS

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 satefy 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 conditions have been met.
- In the event of tripping of circuits breakers of 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.
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4755-474 Rio Côvo (Santa Eugénia)
Barcelos, Portugal

SYMBOLS LEGEND:


- Important safety notices


- Potentiometer information


- Useful information


- Connectors information


- Programming information

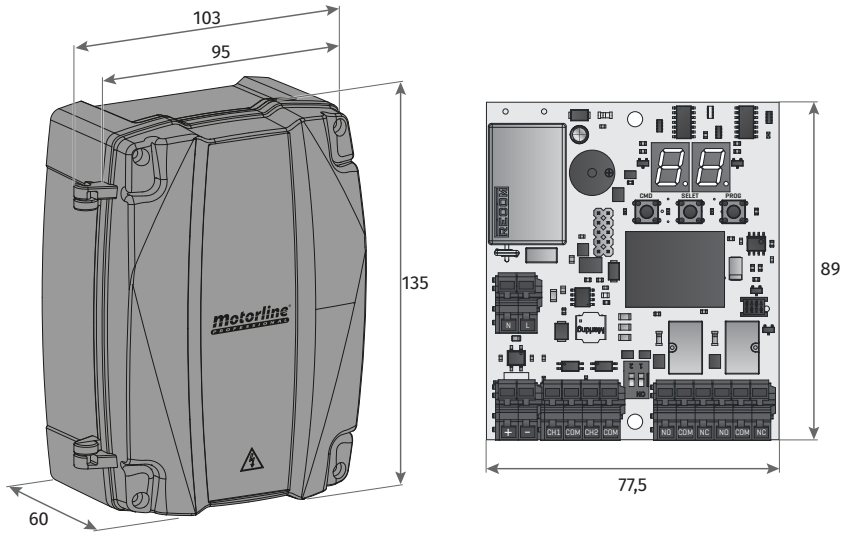

- Buttons information

02. MRMF-REC

GENERAL DESCRIPTION

The **MRMF-REC** is a receiver capable of managing up to eight sensor channels and controlling relays according to the chosen logic.

DIMENSIONS



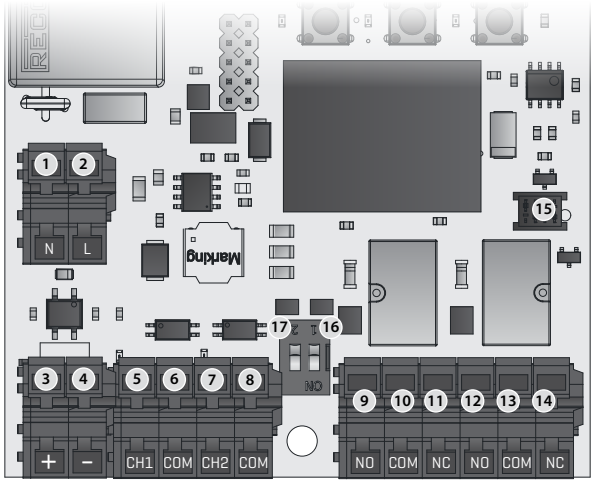
TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS	
• **Power supply**	100-240V AC (50-60 Hz) or 12-24V AC or DC
• **Relays**	30V DC 1A / 125V AC 0.5A
• **Work Frequency**	868MHz ~ 869.8MHz
• **Memory for TX devices**	8
• **Open Field range**	50m
• **Dimensions**	135x103x60mm
• **Protection class**	IP65
• **12V consumption**	5mAh ~ 40mAh (<= 400mWh)
• **230V consumption**	Up to 10mAh (<= 800mWh)

This device should not be used as a standalone security device; it should only complement other security methods.

02. MRMF-REC

LEGEND FOR CONNECTORS

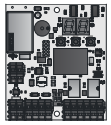


INPUT		DESCRIPTION
1	N	Power supply 110-230VAC 50/60Hz
2	L	
3	+	Power supply 12/24V DC/AC
4	-	
5	CH1	12/24v input Enable auto-test on channel 1 or channel 2
6	COM	
7	CH2	
8	COM	

OUTPUT		DESCRIPTION
9	NO	**Relay output NO channel 1** It activates when it receives a signal from any MSMF-LOOP connected to channel 1.
10	COM	
11	NC (8K2)	
12	NO	**Relay output NO channel 2** It activates when it receives a signal from an MSMF-LOOP connected to channel 2.
13	COM	
14	NC (8K2)	
15	RS485	RS485 connection
16	DIPPER 1	Inverts the self-test signal for channel 1.
17	DIPPER 2	Inverts the self-test signal for channel 2.

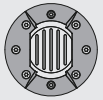
INITIAL SETTINGS

Pairing an MSMF-Loop with an MRMF-Rec



MRMF-REC

1• Access the menu 8L (press MENU, use **UP** or **DOWN** to select 8L , and press **MENU** again to enter).
2• Select the channel where you want to store the MSMF-LOOP (channels 1 to 8).
3• Press the MENU **button** to select the channel; the device enters the menu Pr.
4• Press and hold the MENU **button** until the display starts 88 flashing.
5• This state indicates that the channel is open and ready to accept pairing from an MSMF-LOOP.
6• The channel closes automatically after 10 seconds if a valid connection is not established; the buzzer emits 4 warning beeps, if the operation is successful, it emits 3 beeps.



MSMF-LOOP

7• Press the **PROG** button twice.
The LEDs light up, indicating that the MSMF-LOOP is in pairing mode with an MRMF-REC.
8• If pairing is successful, the LEDs will start flashing.
If it fails, the LEDs will automatically turn off after 10 seconds.

⚠ •**For the buzzer to emit audible alerts, the parameter bU must be enabled in the menu PA.**
•**For pairing between the MSMF-LOOP and the MRMF-REC to be possible, both devices must be configured with the same frequency.**

PROGRAM THE MSMF-LOOP

After pairing an MSMF-LOOP with an MRMF-REC, the MSMF-LOOP automatically enters programming mode.
Programming mode is deactivated when **the CP command is sent from an MRMF-REC** or **after 1 minute without receiving new settings**.
Programming mode can be reactivated by following the steps below:
1• Place a metallic object (except aluminum) near the MSMF-LOOP for 30 seconds, until the LEDs start flashing once every 3 seconds.
2• Move the object away from the MSMF-LOOP; the LEDs will then flash twice every 3 seconds.
3• In MRMF-REC, access the L menu and select the channel where MSMF-LOOP is stored.
This action reactivates the programming mode in MSMF-LOOP, indicated by a faster flashing of the LEDs.

NOTICE: These steps are no longer required starting from firmware version .rev003

To change an MSMF-LOOP parameter using MRMF-REC, proceed as follows:
1• In MRMF-REC, navigate to the parameter you want to change (for example, dA) and enter the parameter by pressing **MENU**.
2• Use the **UP** and **DOWN** buttons to scroll through the available values until the desired value appears on the display (for example, d2).
3• To confirm the change, press and hold the **MENU** button until the display starts AA flashing.
MRMF-REC will send the new value to MSMF-LOOP. To confirm the change, press and hold the MENU button until the display shows a loading animation. The menu will remain locked in this state for 15 seconds or until the MSMF-LOOP successfully receives the new value.
If the MSMF-LOOP receives the configuration successfully, the MRMF-REC buzzer will emit 1 beep.
Otherwise, it means the configuration was not received.

⚠ **In this scenario, the buzzer always emits the confirmation beep, regardless of the parameter's status bU in the menu PA.**

03. PROGRAMMING

INITIAL SETTINGS

CALIBRATING THE MAGNETIC SENSOR OF THE MSMF-LOOP

After installing the MSMF-LOOP in its final location, the magnetic sensor needs to be calibrated to ensure proper adaptation to the environment.
Before starting the calibration, make sure there are no metallic objects near the sensor.
1• With the MSMF-LOOP programming mode active, on the MRMF-REC access the menu 8L, select the channel where the MSMF-LOOP is stored, and navigate to the CL parameter using the **UP** and **DOWN** buttons .
2• Press and hold the MENU **button** until the display starts AA flashing.
The MRMF-REC then sends the calibration command to the MSMF-LOOP.
3• The calibration cycle lasts approximately 5 seconds.
After completion, the MSMF-LOOP LEDs flash once, indicating that the calibration was completed successfully.

PROGRAM THE MRMF-REC

1• To change the MRMF-REC parameters, press the MENU button once; the display will light up and show PA.
Press **MENU** again to enter the menu PA.
2• Use the **UP** and **DOWN** buttons to navigate to the parameter you want to change, for example:
rd – selection of the relay activated by an MSMF-LOOP
rE – defining the relay's behavior

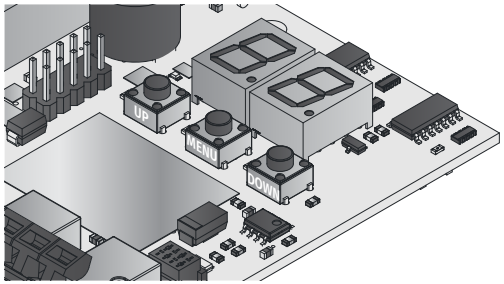
EXAMPLE OF PROGRAMMING:
3• Selection of the relay to be activated (parameter rd):
a) Navigate to the parameter rd and press **MENU** to enter;
b) Use **UP** and **DOWN** to scroll through the channels and press **MENU** to select the channel where the MSMF-LOOP is stored (in this example, channel 1);
c) To select the relay, use **UP** and **DOWN** to switch between r1 and r2.
To confirm, press and hold the **MENU** button until the display starts AA flashing.
This action sets the relay controlled by the MSMF-LOOP stored on channel 1.
4• Relay behavior configuration in impulse mode (parameter rE):
a) Navigate to the parameter rE.
Use **UP** and **DOWN** to switch between r1 and r2 press **MENU** to select the relay.
b) Use **UP** and **DOWN** until rP appears on the display.
To confirm, press and hold the **MENU** button until the display starts AA flashing.
The relay is configured in impulse (monostable) mode.
c) To change the relay pulse time:
Press **UP** and **DOWN** simultaneously until you return to the P menu (or to the parameter rE, if you are already close). Navigate to the parameter Pt and follow the same selection logic:
- 05 – 0.5s
- 10 – 1s
- 15 – 1.5s

d) Confirm the selection by holding down the **MENU** button until the display starts AA flashing.

CHECK FIRMWARE VERSION

Turn off the power and turn it back on again. The display will show the sequence 88 88 88 with the firmware version. (8 These are the firmware version values).

MENU NAVIGATION



BUTTON LEGEND:
LEFT BUTTON: ***UP*** (Increase);
RIGHT BUTTON: ***DOWN*** (Decrease);
CENTER BUTTON: ***MENU***;

BUTTON	FUNCTION
UP	•Navigate through the menus; •When pressed simultaneously, it returns to the previous menu.
DOWN	
MENU	•Press to enter a menu; •Press and hold for 2 seconds to confirm a setting.

The menu is initially off; clicking the ***MENU*** button opens the menu to select between **MENU P** and **MENU L**.

Upon entering the **MENU P**, you can navigate through the menus shown in the tables below. To confirm a setting, press and hold the **MENU** button; the menu will flash 88 twice to indicate that the setting has been saved.

Upon entering the **MENU L** First **, you need to select the channel to be configured**; the display shows values between 01 and 08. **When a channel has a saved MSMF-LOOP, the LED info will light up.**

After selecting the channel to be configured, the menus shown in the tables below appear. **If the selected channel does not have an MSMF-LOOP saved, the only menu that can be selected is the MENU 88.**

Before selecting a channel with a **saved MSMF-LOOP** , the programming mode in the LOOP must be active (**see MSMF-LOOP manual**). After that, you can enter the desired channel, and if the **LED info** lights up, you can proceed with programming the **MSMF-LOOP**. ***NOTE: This step is no longer required starting from firmware version .rev003.***

From here, navigation is the same as in **MENU P**; use the ***UP*** and ***DOWN*** buttons to navigate the menus and the ***MENU*** button to enter menus and confirm settings.

The display enters standby mode after 1 minute without any button interaction, showing 88, and after another minute without any interaction, it turns off.

03. PROGRAMMING

MENU P FUNCTIONS

MENU	FUNCTION	MIN.	MAX.	STATES	FACTORY VALUE	PAGE
bU	STATE OF BUZZER	00	01	00 Buzzer off 01 Buzzer on	00	7A
rd	PROGRAM THE DEVICE RELAY	-	-	01 r1 Connect the device to relay 1 r2 Connect the device to relay 2	r1	7A
				02 r1 Connect the device to relay 1 r2 Connect the device to relay 2	r1	
				03 r1 Connect the device to relay 1 r2 Connect the device to relay 2	r1	
				04 r1 Connect the device to relay 1. r2 Connect the device to relay 2	r1	
				05 r1 Connect the device to relay 1 r2 Connect the device to relay 2	r2	
				06 r1 Connect the device to relay 1 r2 Connect the device to relay 2	r2	
				07 r1 Connect the device to relay 1 r2 Connect the device to relay 2	r2	
				08 r1 Connect the device to relay 1 r2 Connect the device to relay 2	r2	
rE	RELAY MODE	-	-	r1 rP Relay in monostable mode rb Relay in bistable mode rH Relay in photocell mode r8 Relay in 8K2 mode	rP	7B
				r2 rP Relay in monostable mode rb Relay in bistable mode rH Relay in photocell mode r8 Relay in 8K2 mode	rP	
PE	RELAY PULSE TIME	-	-	r1 05 0.5 Seconds 10 1 Second 15 1.5 Seconds	05	7B
				r2 05 0.5 Seconds 10 1 Second 15 1.5 Seconds	05	
CL	SELECT MSMF-LOOP LAYOUT	-	-	AL Free installation AC Anti-Crash An AND logic AA Logic and Anti-Crash A2 Bidirectional Anti-Crash	An	7A
FA	RF OPERATING FREQUENCY	F1	F4	F1 868.00MHz F2 868.60MHz F3 869.20MHz F4 869.80MHz	F1	8A
rt	RELAY RESET	00	99	-	00	8A
rS	MRMF-REC RESET	-	-	-	-	8A

MENU P FUNCTIONS

bu	ALLOWS YOU TO TURN THE BUZZER ON/OFF	
00	**Buzzer off**	00 (Factory value)
01	**Buzzer on**	

rd	PROGRAM THE DEVICE RELAY.		
01	**The selected device will be saved on channel 01**	r1 Connect the device to relay 1	r1 (Factory value)
		r2 Connect the device to relay 2	
02	**The selected device will be saved on channel 02**	r1 Connect the device to relay 1	r1 (Factory value)
		r2 Connect the device to relay 2	
03	**The selected device will be saved on channel 03**	r1 Connect the device to relay 1	r1 (Factory value)
		r2 Connect the device to relay 2	
04	**The selected device will be saved on channel 04**	r1 Connect the device to relay 1	r1 (Factory value)
		r2 Connect the device to relay 2	
05	**The selected device will be saved on channel 05**	r1 Connect the device to relay 1	r2 (Factory value)
		r2 Connect the device to relay 2	
06	**The selected device will be saved on channel 06**	r1 Connect the device to relay 1	r2 (Factory value)
		r2 Connect the device to relay 2	
07	**The selected device will be saved on channel 07**	r1 Connect the device to relay 1	r2 (Factory value)
		r2 Connect the device to relay 2	
08	**The selected device will be saved on channel 08**	r1 Connect the device to relay 1	r2 (Factory value)
		r2 Connect the device to relay 2	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter **MENU P** and it will appear bu.
03 • Use ***UP*** and ***DOWN*** until it appears rd, then press MENU again to enter.
04 • Use ***UP*** or ***DW*** to select an option.
05 • Press ***MENU*** to select the option.
06 • The configured value appears. Use ***UP*** and ***DW*** to change the value.
07 • Press ***MENU*** for 2 seconds to save the new value.

MENU P FUNCTIONS

rE	RELAY MODE		
r1	**Program the operation of relay 1**	rA Relay in monostable mode *1. The relay generates a pulse with a programmable duration when it detects a car.* *2. The pulse time can be programmed in the menu* **Pt**.	rA (Factory value)
		rb Relay in bistable mode *1. The relay changes state when it receives a signal; the state only changes again when another signal is received.*	
		rH Relay in photocell mode *1. The relay activates when it detects a car and remains active as long as the car is detected.* *2.* ***WARNING:*** *This mode only works correctly with sensors in presence detection mode (menu* ***rd = 00****).*	
		rB Relay in 8K2 mode *1. The relay reverses polarity and the NC contact can be used in 8k2 systems.* *2.* ***WARNING:*** *This mode only works correctly with sensors in presence detection mode.*	
r2	**Program the operation of relay 2**	rA Relay in monostable mode *1. The relay generates a pulse with a programmable duration when it detects a car.* *2. The pulse time can be programmed in the menu* **Pt**.	rA (Factory value)
		rb Relay in bistable mode *1. The relay changes state when it receives a signal; the state only changes again when another signal is received.*	
		rH Relay in photocell mode *1. The relay activates when it detects a car and remains active as long as the car is detected.* *2.* ***WARNING:*** *This mode only works correctly with sensors in presence detection mode (menu* ***rd = 00****).*	
		rB Relay in 8K2 mode *1. The relay reverses polarity and the NC contact can be used in 8k2 systems.* *2.* ***WARNING:*** *This mode only works correctly with sensors in presence detection mode.*	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter **MENU P** and it will appear bu.
03 • Use ***UP*** and ***DOWN*** until it appears rE, then press MENU again to enter.
04 • Use ***UP*** or ***DW*** to select an option.
05 • Press ***MENU*** to select the option.
06 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
07 • Press ***MENU*** for 2 seconds to save the new value.

MENU P FUNCTIONS

Pt RELAY PULSE TIME
Allows you to define the pulse time of the relays

r1	**Program the pulse time of relay 1**	05 - 0,5 seconds	10 - 1 second	15 - 1,5 seconds	r1 (Factory value)
r2	**Program the pulse time of relay 2**	05 - 0,5 seconds	10 - 1 second	15 - 1,5 seconds	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter **MENU P** and it will appear 00.
03 • Use ***UP*** and ***DOWN*** until it appears Pt , then press ***MENU*** again to enter.
04 • Use ***UP*** or ***DW*** to select an option.
05 • Press ***MENU*** to select the option.
06 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
07 • Press ***MENU*** for 2 seconds to save the new value.

This parameter only takes effect in relays in monostable mode.

LL SELECT MSMF-LOOP LAYOUT
Allows you to define in MRMF-REC how the MSMF-LOOP devices are installed

IL	**Free installation.** Sensors can be installed as the user desires.	00 (Factory value)
AC	**Anti-Crash.** After the opening command, the receiver only gives the closing command when the car is no longer detected.	
An	**Logic AND.** The receiver only sends the opening command when the car passes through two sensor zones.	
AA	**Logic and Anti-Crash.** The receiver only sends an opening command when the car passes through two sensor zones, and sends a closing command when the car is no longer detected by two sensor zones.	
A2	**Bidirectional Anti-Crash.** Allows the use of Anti-Crash mode in both directions for a single barrier/gate.	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter **MENU P** and it will appear 00.
03 • Use ***UP*** and ***DOWN*** until it appears LL , then press ***MENU*** again to enter.
04 • Use ***UP*** or ***DW*** to select an option.
05 • Press ***MENU*** to select the option.
06 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
07 • Press ***MENU*** for 2 seconds to save the new value.

See Installation Diagram.

Fr DEFINE THE OPERATING FREQUENCY
Allows you to set the RF frequency of the device

F1	868.00MHz	F2	868.25MHz	F3	868.50MHz	F4	868.75MHz	F1 (Valor de fábrica)

rt RELAY RESET

rt	**Relay reset** Allows you to set the time in minutes that the relay takes to return to its initial state when configured as bistable.	00 (Factory value)

rS MRMF-REC RESET

rS	**MRMF-REC Reset** Performs a full reset of the MRMF-REC, erases the saved MSMF-LOOP files, and restores factory settings.

MENU L FUNCTIONS

NOTE: In firmware version rev003, to send settings to the **MSMF-LOOP,** the **LED Info** must be ON, except in the menu 88.

MENU	FUNCTION	MIN.	MAX.	STATES	FACTORY VALUE	PAGE
Pr	PROGRAM MSMF-LOOP	-	-	-	-	9A
d1	DEFINE THE DETECTION DIRECTION	00	02	00 Presence detection 01 Opposite direction to that of the arrows 02 Direction indicated by the arrows	00	9A
LE	DEFINES THE STATE OF THE LEDS AND SENSOR OF THE MSMF	-	-	L0 LEDs and light sensor turned off L1 A light sensor takes readings every 20 minutes	L0	9A
tP	DEFINE THE VERIFICATION TIME	-	-	07 7 Seconds 30 30 Seconds	07	9B
At	ENABLE/DISABLE SELF-TEST	00	01	00 Self-test disabled 01 Self-test activated	00	9B
Au	ENABLE/DISABLE AUTOMATIC RECALIBRATION	-	-	00 Off 30 After 30 minutes of continuous detection 60 After 60 minutes of continuous detection 90 After 90 minutes of continuous detection	00	9B
In	REVERSE DETECTION LOGIC	-	-	00 When it detects the vehicle 01 When it stops detecting the vehicle	00	9B
SE	ADJUST SENSITIVITY	89	09	-	00	10A
r1	TEST SIGNAL STRENGTH	-	-	88 Channel without saved device 0F Device offline / not detected F1 Very weak signal F2 Weak signal F3 Normal signal F4 Good signal F5 Very good signal	88	10A
rS	DELETE DEVICE	-	-	-	-	10A
CL	CALIBRATE DEVICE	-	-	-	-	10A
CP	EXIT PROGRAMMING MODE	-	-	-	-	10A

MENU L FUNCTIONS

Pr PROGRAM MSMF-LOOP

Program MSMF-LOOP
Opens the previously selected channel to allow connection of an MSMF-LOOP.

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter the **MENU L** and it will appear Pr.
03 • Press ***MENU*** to enter.
04 • Use ***UP*** or ***DW*** to select an option.
05 • Press ***MENU*** to select the option.
06 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
07 • Press ***MENU*** for 2 seconds to save the new value.

d1 DEFINE THE DETECTION DIRECTION

Allows you to define the condition for the loop to send a detection signal.

00	**Presence detection**	00 (Factory value)
01	**Direction opposite to that indicated by the arrows**	
02	**Direction indicated by the arrows**	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter the **MENU L** and it will appear Pr.
03 • Use ***UP*** and ***DOWN*** until it appears d1, then press MENU again to enter.
04 • Use ***UP*** or ***DW*** to select an option.
05 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
06 • Press ***MENU*** for 2 seconds to save the new value.

LE DEFINES THE STATUS OF THE LEDS AND SENSOR OF THE MSMF

Allows you to define how the indicator LEDs on the sensor will function.

L0	**LEDs and light sensor turned off**	00 (Factory value)
L1	**A light sensor takes readings every 20 minutes** The LEDs blink for 5ms every 3 seconds while the environment is dark.	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter the **MENU L** and it will appear Pr.
03 • Use ***UP*** and ***DOWN*** until it appears LE, then press MENU again to enter.
04 • Use ***UP*** or ***DW*** to select an option.
05 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
06 • Press ***MENU*** for 2 seconds to save the new value.

MENU L FUNCTIONS

tP DEFINE THE VERIFICATION TIME

Defines the time during which the MSMF-LOOP sends a periodic signal to indicate that it is active.

07	**Self-check every 7 seconds**	00 (Factory value)
30	**Self-check every 30 seconds**	

01 • Press MENU to select between **MENU P** and **MENU L**.
02 • Press MENU to enter the **MENU L** and it will appear Pr.
03 • Use UP and DOWN until it appears tP, then press MENU again to enter.
04 • The factory default value appears. Use UP and DW to change the value.
05 • Press MENU for 2 seconds to save the new value.

At ENABLE/DISABLE SELF-TEST

00	**Self-test disabled**	00 (Factory value)
01	**Self-test activated**	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter the **MENU L** and it will appear Pr.
03 • Use ***UP*** and ***DOWN*** until it appears At, then press ***MENU*** again to enter.
04 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
05 • Press ***MENU*** for 2 seconds to save the new value.

Au ENABLE/DISABLE AUTOMATIC RECALIBRATION

00	**Off**	00 (Factory value)
30	**After 30 minutes of continuous detection**	
60	**After 60 minutes of continuous detection**	
90	**After 90 minutes of continuous detection**	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter the **MENU L** and it will appear Pr.
03 • Use ***UP*** and ***DOWN*** until it appears Au, then press ***MENU*** again to enter.
04 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
05 • Press ***MENU*** for 2 seconds to save the new value.

In REVERSE DETECTION LOGIC

00	**The sensor sends a signal as soon as it detects a car.**	00 (Factory value)
01	**The sensor sends a signal as soon as it stops detecting a car.**	

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter the **MENU L** and it will appear Pr.
03 • Use ***UP*** and ***DOWN*** until it appears In, then press ***MENU*** again to enter.
06 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
07 • Press ***MENU*** for 2 seconds to save the new value.

WARNING: It is recommended to use the receiver with the relays in bistable mode.

MENU L FUNCTIONS

SE ADJUST SENSITIVITY

Adjust Sensitivity
Allows you to increase or decrease the sensor's sensitivity up to 9 levels. The value 0 corresponds to the default value obtained by the sensor.

00 (Factory value) -9 09

01 • Press ***MENU*** to select between **MENU P** and **MENU L**.
02 • Press ***MENU*** to enter the **MENU L** and it will appear PA.
03 • Use ***UP*** and ***DOWN*** until it appears SE , then press ***MENU*** again to enter.
04 • The factory default value appears. Use ***UP*** and ***DW*** to change the value.
05 • Press ***MENU*** for 2 seconds to save the new value.

rA TEST SIGNAL STRENGTH

--	**The selected channel does not have a saved device**
OF	**Device is offline / not detected**
F1	**Very weak signal**
F2	**Weak signal**
F3	**Normal signal**
F4	**Good sign**
F5	**Very good signal**

rS DELETE DEVICE

Delete device
Remove the MSMF-LOOP from the receiver's memory

CL CALIBRATE DEVICE

Calibrate device
It sends a signal to the MSMF-LOOP to perform a new calibration

CP EXIT PROGRAMMING MODE

Exit programming mode
Sends a signal to the MSMF-LOOP to close programming mode.

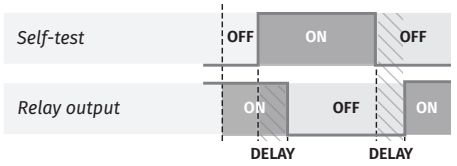
MRMF-REC NOTICES

NOTICE	DESCRIPTION
DISPLAY t.1	**Self-test running on channel 1.**
DISPLAY t.2	**Self-test running on channel 2.**
DISPLAY 1.8	**Received a signal from channel X [1...8].**
DISPLAY E.8	**Device on channel X [1...8] is offline or not detected.**
BUZZER: 1 BEEP	**The command sent was received and executed by MSMF-LOOP.**
BUZZER: 2 BEEP*	**Received a detection signal from an MSMF-LOOP.**
BUZZER: 3 BEEPS*	**MRMF-REC successfully connected to an MSMF-LOOP.**
BUZZER: 4 BEEP*	**Connection timed out, no successful connection.**
BUZZER: 5 BEEPS	**There is a connected device that is offline or not detected.**
NOTE: Only if the buzzer is active (PB → bU → 01)	

SELF-TEST

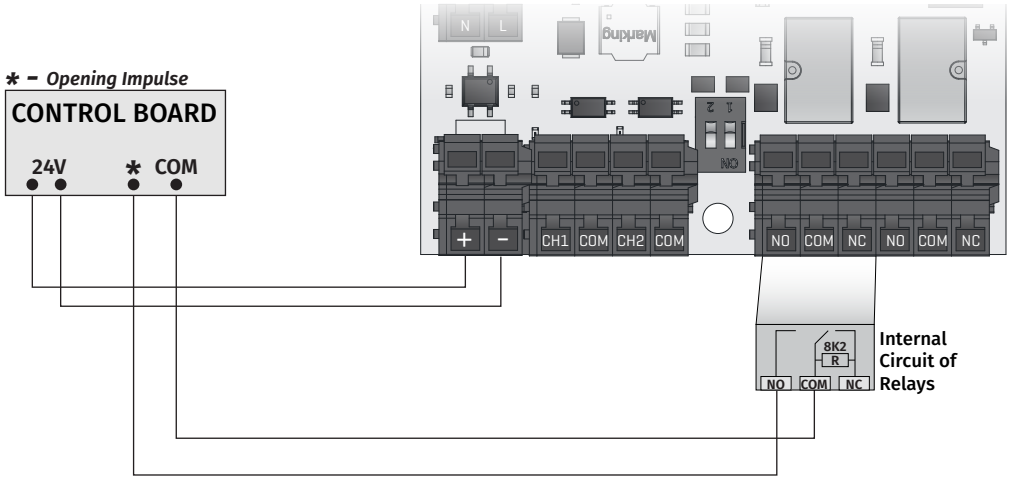
Upon receiving a signal at a self-test input, the **MRMF-REC** tests communication with all **MSMF-LOOP devices** connected to the respective channel and corresponding relay.

Channel 2 - **NO** Channel 1 - **NC**	Channel 2 - **NO** Channel 1 - **NO**	Channel 2 - **NC** Channel 1 - **NO**	Channel 2 - **NC** Channel 1 - **NC**



04. WIRING DIAGRAMS

FOR OPENING ORDER



1• Connect the common wire from the motor control board to the common wire of the relay;

2• Connect the NO output of the relay to the input for the opening impulse;

3• To send an impulse:
- Configure the relay in monostable mode (**MENU** P0 → P6 → P8 → P9)
- The pulse time can be configured in the menu (**MENU** P0 → P6)

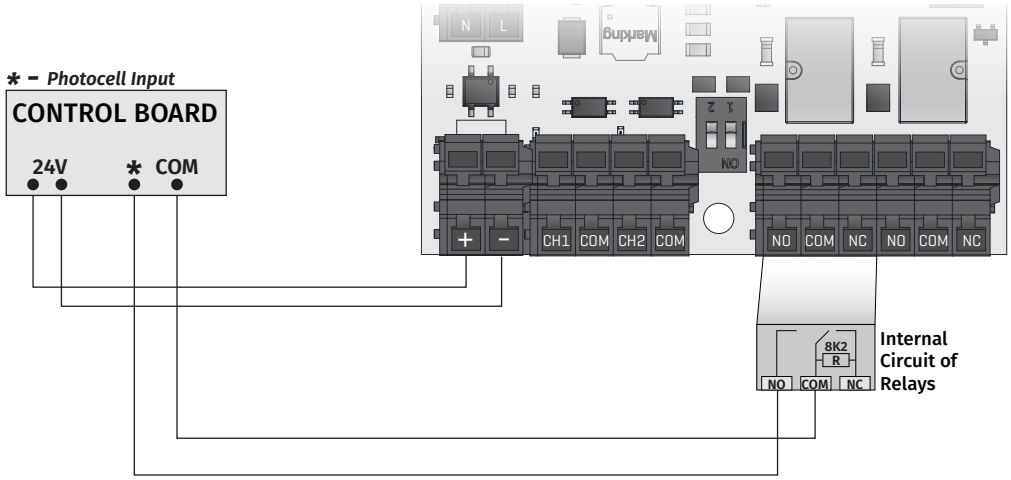
4• To use anti-crash mode:
- Configure the relay in bistable mode (**MENU** P0 → P6 → P8 → PL)

5• To maintain the open signal while the vehicle is detected.
- Configure the relay in photocell mode (**MENU** P0 → P6 → P8 → PH)

NOTE: When the display shows P8, the value 0 corresponds to the selected relay.

04. WIRING DIAGRAMS

FOR USE IN PHOTOCELLS



1• Connect the common wire from the motor control board to the common wire of the relay;

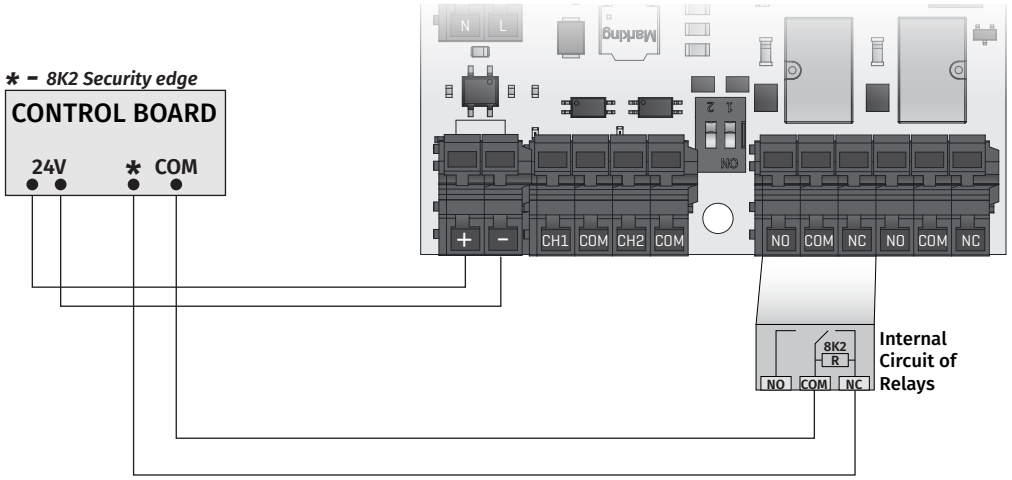
2• Connect the NO output of the relay to the photocell input of the control board;

3• Configure the relay in photocell mode (**MENU** P0 → P6 → P8 → PH)

NOTE: When the display shows P8, the value 0 corresponds to the selected relay.

04. WIRING DIAGRAMS

FOR USE WITH 8K2 SECURITY EDGE

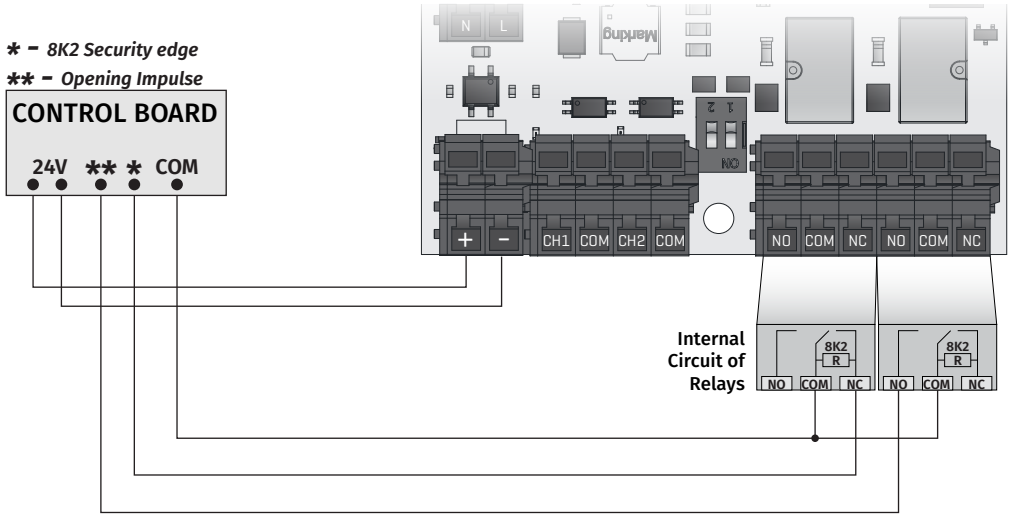


1• Connect the common wire from the motor control board to the common wire of the relay;
2• Connect the NC output of the relay to the safety edge input of the control board;
3• Configure the relay in monostable mode (**MENU** P8 → PE → P8 → P8)

NOTE: When the display shows P8, the value 8 corresponds to the selected relay.

04. WIRING DIAGRAMS

FOR RELAY AS SAFETY EDGE + OPENING ORDER



1• Connect the common wire from the motor control board to the common wire of the relay;
2• Connect the NC output of relay 1 to the 8K2 safety edge input of the control board;
3• Connect the NO output of relay 2 to the input for the opening impulse;
4• Configure relay 1 in 8K2 mode (**MENU** P8 → PE → P8 → P8)
5• To send an impulse:
- Configure relay 1 in monostable mode (**MENU** P8 → PE → P8 → PP)
- The pulse time can be configured in the menu (**MENU** P8 → PE)

6• To use anti-crash mode:
- Configure relay 1 in bistable mode (**MENU** P8 → PE → P8 → PL)

7• To maintain the open signal while the vehicle is detected:
- Configure relay 1 in photocell mode (**MENU** P8 → PE → P8 → PH)

WARNING: Both relays can be configured in any mode; in this example, relay 1 was used in 8K2 mode and relay 2 in impulse mode.
NOTE: When the display shows P8, the value 8 corresponds to the selected relay.