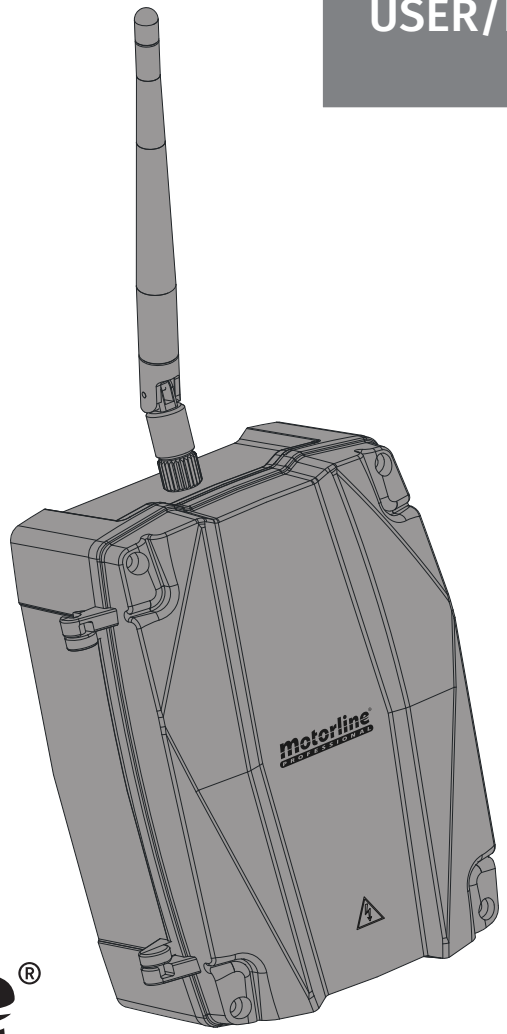
PORTUGAL

EN

MRMF-REC

USER/INSTALLER MANUAL



Motorline®
PROFESSIONAL

v1.7Rev. 10/2026

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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

INSTALLATION (BY A QUALIFIED TECHNICIAN ONLY)

- Installation must be carried out by a qualified technician, in accordance with national regulations governing electrical installations.
- Switch off the power supply before opening the cover or connecting or disconnecting cables.
- For a fixed 100–240 V AC power supply, there must be an omnipolar isolating device (switch or circuit breaker) in the distribution board, with overcurrent protection.
- The 12–24 V AC/DC power supply must come from a safety extra-low voltage (SELV) source, with limited power and bearing the CE mark.
- Connect only one of the power supplies (terminals 1–2 or 3–4).
- Relay contacts: maximum 30 Vdc / 1 A or 125 Vac / 0.5 A. Do not connect mains voltage (230 Vac) to the relays.
- Keep mains cables separate from low-voltage cables inside the box.
- Use the cable glands for cable entry, seal any unused ones and close the cover correctly to maintain the IP65 protection rating.
- Do not modify the equipment.

USE IN AUTOMATION SYSTEMS

- The MRMF-REC is not a safety device and must not be used on its own as such. It is intended solely to complement the safety devices of the automation system.
- When the relays are connected to the photocell or safety edge (8K2) inputs of a control board, the safety devices required for the automation system remain mandatory. After installation, check that the entire system is functioning correctly. Compliance of the automation system is the responsibility of the manufacturer and the installer of that system.

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SYMBOLS LEGEND:


- Important safety notices


- Useful information


- Programming information


- Potentiometer information


- Connectors information

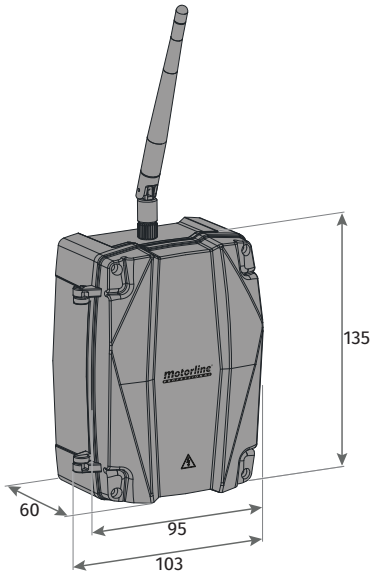

- Buttons information

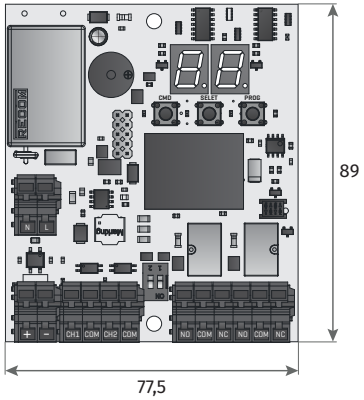
02. MRMF-REC

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





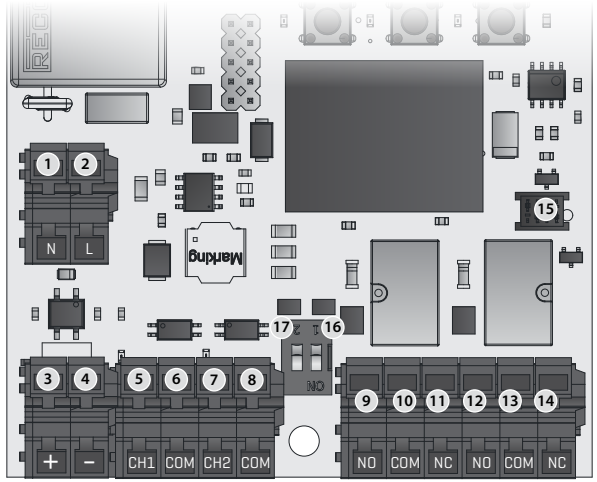
TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS	
• **Power supply**	100-240V AC (50-60 Hz) or 12-24V AC or DC
• **Relays**	30V DC 1A / 125V AC 0.5A
• **Working 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

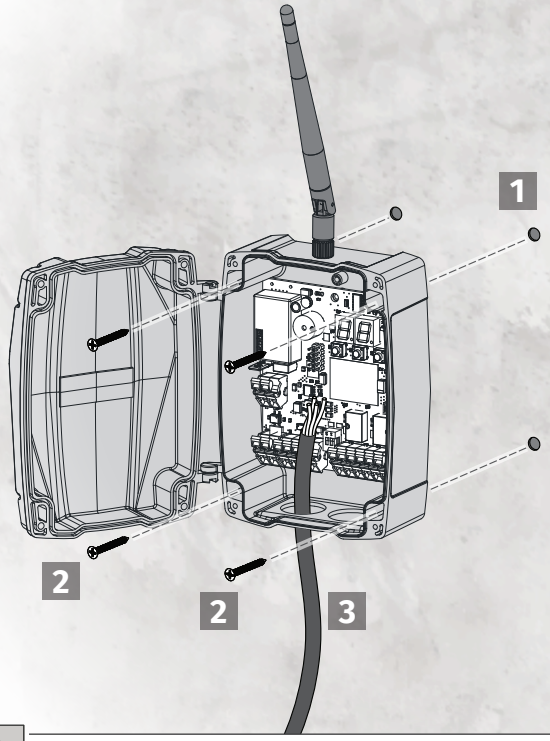
02. MRMF-REC

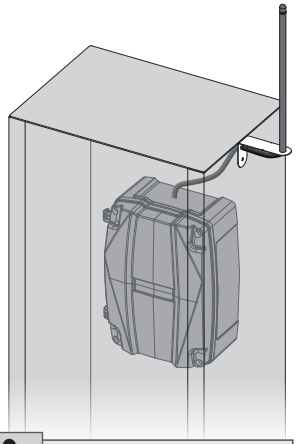
INSTALLATION OF THE MRMF-REC

1 **DRILL THE SURFACE**
Drill 4 holes, with the diameter suited to the screws you will use, on the installation surface.

2 **SECURE THE BOX**
Insert the wall anchors (if necessary) and fix the box to the surface using the screws.

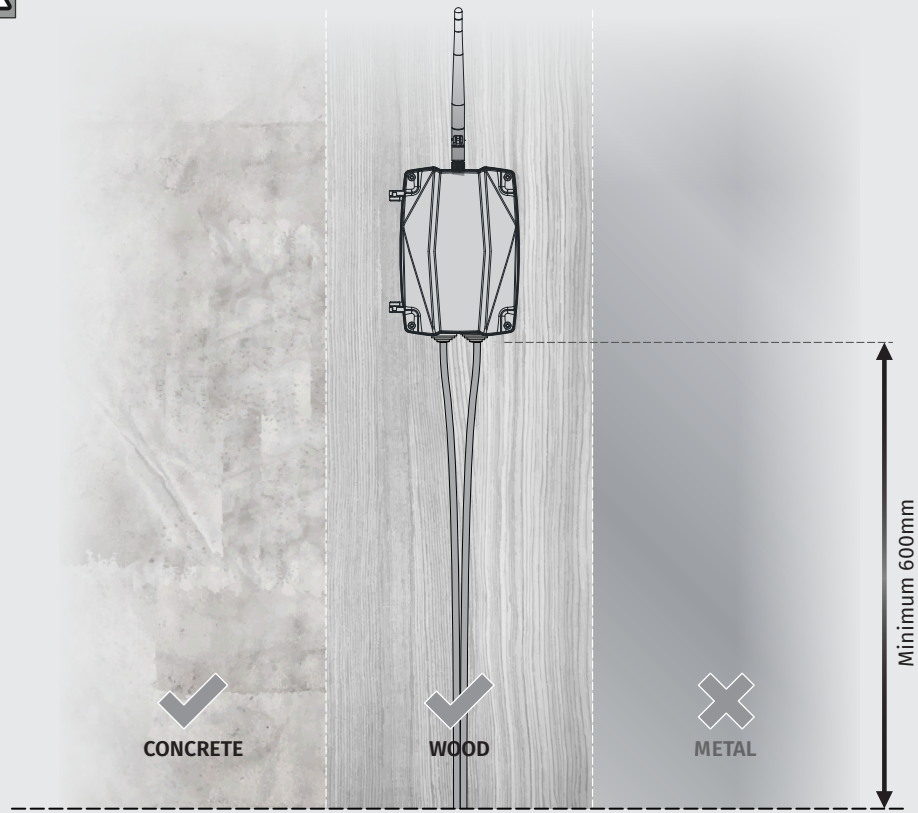
3 **ROUTE THE CABLING**
Route the cables through the cable glands for the receiver's power supply and for the remaining required connections.





NOTICE:
For installations where the control board/receiver is placed inside metal boxes or in locations with poor radio frequency signal coverage, it is recommended that an MA8-868MHz antenna be installed in order to improve communication between the sensors and the receiver.

The MRMF-REC is supplied with the MA6-868MHZ antenna included.
The MA8-868MHZ antenna is not included in the kit but can be purchased separately.



VERY IMPORTANT!

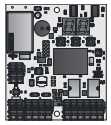
Height Positioning: The receiver box must be installed at a minimum height of 600 mm above the height line of the sensors, ensuring that the receiver is always on a higher level than the sensors.

Mounting Surface: Installation on a non-metallic surface or base.

Shielding and Metal Boxes: If the receiver is installed inside metal boxes or structures (e.g. traffic control barriers or metal electrical cabinets), an external antenna must be fitted to the outside of the structure.

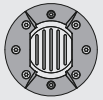
INITIAL SETTINGS

Pairing an MSMF-Loop with an MRMF-Rec



MRMF-REC

1• Access the menu 8C (press MENU, use **UP** or **DOWN** to select 8C , 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 P2.
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 P2.**
•In order for the MSMF-LOOP and MRMF-REC to be paired, both devices must be set to the same frequency and modulation.

PROGRAM THE MSMF-LOOP

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, dH) 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 88 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 88.**

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 8C, 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 88 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 P8.
Press **MENU** again to enter the menu P8.
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 88 flashing.
This action sets the relay controlled by the MSMF-LOOP stored on channel 1.

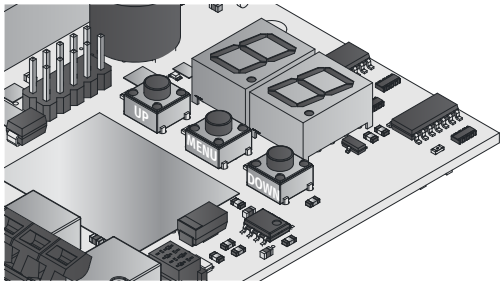
4• Relay behavior configuration in impulse mode (parameter rE):
a) Navigate to the parameter rE.
Use **UP** and **DOWN** to switch between r1 and r2 press **MENU** to select the relay.
b) Use **UP** and **DOWN** until rP appears on the display.
To confirm, press and hold the **MENU** button until the display starts 88 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 88 flashing.

CHECK FIRMWARE VERSION

Disconnect the power supply and then power the **MRMF-REC** back on. The display will show the sequence 0H 0E EE with the hardware version (represented by H) and firmware version (represented by EEE)

MENU NAVIGATION



BUTTON DESCRIPTION:
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.

MENU P FUNCTIONS

MENU	FUNCTION	MIN.	MAX.	STATES	FACTORY VALUE	PAGE
bU	STATE OF BUZZER	00	01	00 Buzzer off 01 Buzzer on	01	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	
Pt	RELAY PULSE TIME	-	-	r1 05 0.5 Seconds 10 1 Second 15 1.5 Seconds	05	8A
				r2 05 0.5 Seconds 10 1 Second 15 1.5 Seconds	05	
LL	SELECT MSMF-LOOP LAYOUT	-	-	AL Free installation AC Anti-Crash Ab AND logic AA Logic and Anti-Crash A2 Bidirectional Anti-Crash	AB	8A
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	8B
mO	MODULATION RF	00	01	00 FSK 01 LoRa	00	8B
rS	MRMF-REC RESET	-	-	-	-	8B

MENU P FUNCTIONS

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

rd	PROGRAM THE DEVICE RELAY Note: This parameter only takes effect in free installation mode. In any other mode, only relay 1 is activated.		
01	Device saved on channel 01	r1 Connect the device to relay 1 r2 Connect the device to relay 2	r1 (Factory value)
02	Device saved on channel 02	r1 Connect the device to relay 1 r2 Connect the device to relay 2	r1 (Factory value)
03	Device saved on channel 03	r1 Connect the device to relay 1 r2 Connect the device to relay 2	r1 (Factory value)
04	Device saved on channel 04	r1 Connect the device to relay 1 r2 Connect the device to relay 2	r1 (Factory value)
05	Device saved on channel 05	r1 Connect the device to relay 1 r2 Connect the device to relay 2	r2 (Factory value)
06	Device saved on channel 06	r1 Connect the device to relay 1 r2 Connect the device to relay 2	r2 (Factory value)
07	Device saved on channel 07	r1 Connect the device to relay 1 r2 Connect the device to relay 2	r2 (Factory value)
08	Device saved on channel 08	r1 Connect the device to relay 1 r2 Connect the device to relay 2	r2 (Factory value)

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 Note: This parameter only takes effect in free installation mode. In any other mode, the relay behaves in accordance with the configured mode.		
r1	**Program the operation of relay 1**	rP 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**. rL 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* ***dl = 00****).* r8 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.*	rP (Factory value)
r2	**Program the operation of relay 2**	rP 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**. rL 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****).* r8 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.*	rP (Factory value)

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

A1	**Program the pulse time of relay 1**	05 - 0,5 seconds	10 - 1 second	15 - 1,5 seconds	05 (Factory value)
A2	**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 bU.
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

FL	**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 bU.
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.

Please refer to the installation diagram in the MSMF-LOOP manual.

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

F1	**868,00MHz**	F2	**868,60MHz**	F3	**869,20MHz**	F4	**869,80MHz**	AA (Factory value)

MENU P FUNCTIONS

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)

mo MODULATION RF
Changing the Communication Modulation (MSMF-LOOP)

00	**FSK**	00 (Factory value)
01	**LoRa**	

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 mo, 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.

When should you change the modulation?
Change the modulation to LoRa whenever you need to increase the RF transmission range.

IMPORTANT NOTICE: All devices on the same network must use the same signal modulation. If there is a discrepancy between the units, communication will fail.

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

MENU	FUNCTION	MIN.	MAX.	STATES	FACTORY VALUE	PAGE
PA	PROGRAM MSMF-LOOP	-	-	-	-	9A
LE	DEFINES THE STATE OF THE LEDS AND SENSOR OF THE MSMF	-	-	00 LEDs and light sensor turned off 01 A light sensor takes readings every 20 minutes	00	9A
tP	DEFINE THE VERIFICATION TIME	-	-	07 7 Seconds 30 30 Seconds	07	9B
AE	ENABLE/DISABLE SELF-TEST	00	01	00 Self-test disabled 01 Self-test activated	00	9B
Ao	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
rA	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

MENU L FUNCTIONS

PA 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 PA.
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.

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.

00	**LEDs and light sensor turned off**	00 (Factory value)
01	**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 PA.
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.

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**	07 (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 PA.
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.

MENU L FUNCTIONS

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 PA.
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 PA.
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 PA.
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.

r1 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

03. PROGRAMMING

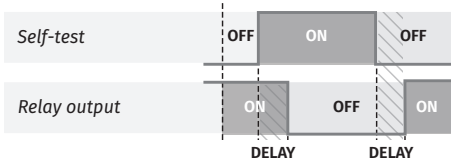
MRMF-REC NOTICES

NOTICE	DESCRIPTION
DISPLAY 	Self-test running on channel 1.
DISPLAY 	Self-test running on channel 2.
DISPLAY 	Received a signal from channel X [1...8].
DISPLAY 	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 → bb → 01)	

SELF-TEST

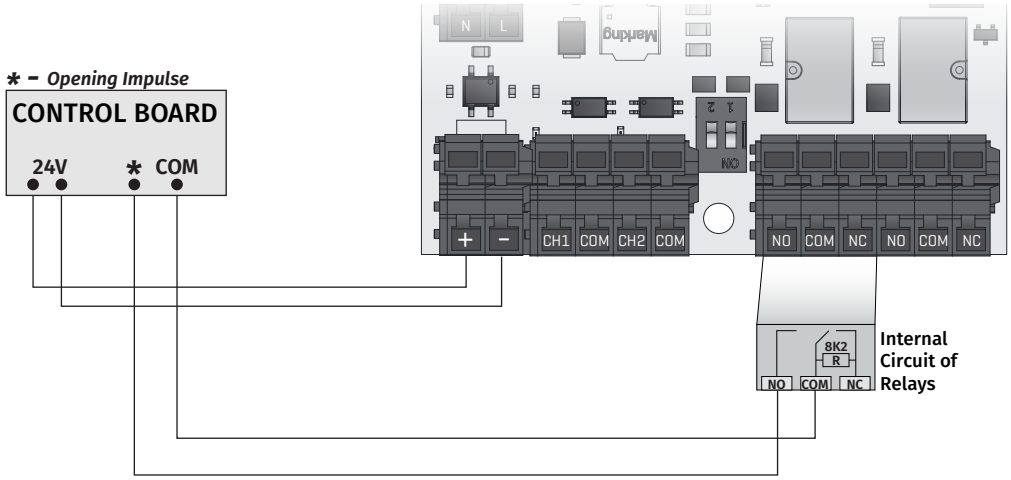
Upon receiving a signal at a self-test input, the **MRMF-REC** tests communication with all **MSMF-LOOP devices** connected to the respective channel and corresponding relay.
Note: This function only works with FSK modulation.





04. WIRING DIAGRAMS

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** PB → PE → PB → PP)
- The pulse time can be configured in the menu (**MENU** PB → PE)

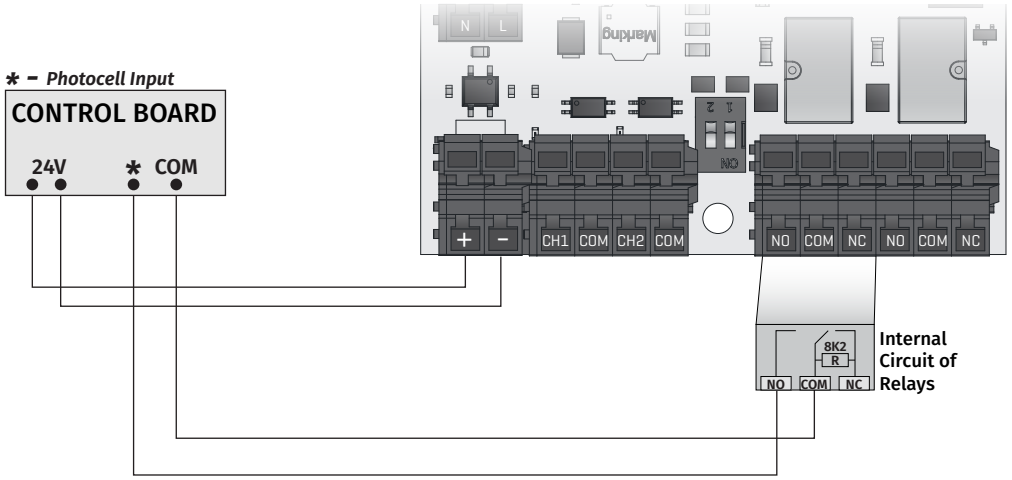
4• To use anti-crash mode:
- Configure the relay in bistable mode (**MENU** PB → PE → PB → PL)

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

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

04. WIRING DIAGRAMS

USE OF PHOTOCELLS

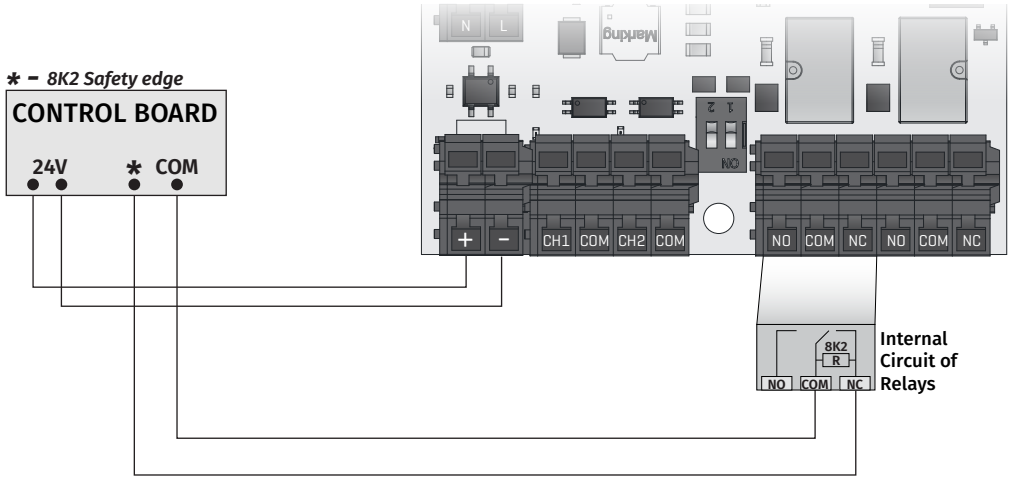


1• Connect the common wire from the motor control board to the common wire of the relay;
2• Connect the NO output of the relay to the photocell input of the control board;
3• Configure the relay in photocell mode (**MENU** P0 → PE → P0 → PH)

NOTE: When the display shows P0, the value 0 corresponds to the selected relay.

04. WIRING DIAGRAMS

USE WITH 8K2 SAFETY EDGE

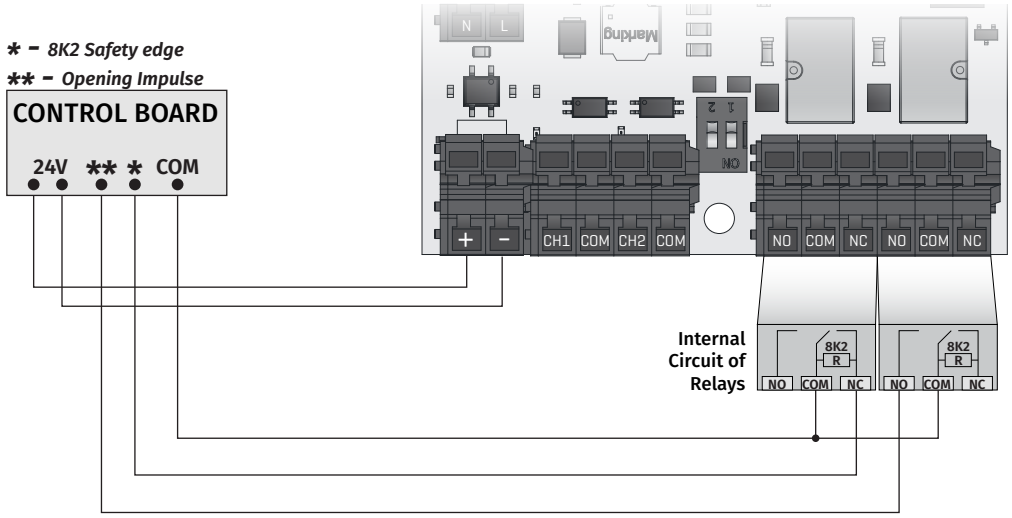


1• Connect the common wire from the motor control board to the common wire of the relay;
2• Connect the NC output of the relay to the safety edge input of the control board;
3• Configure the relay in monostable mode (**MENU** P0 → PE → P0 → PB)

NOTE: When the display shows P0, the value 0 corresponds to the selected relay.

04. WIRING DIAGRAMS

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** P0 → P5 → A0 → A8)

5• To send an impulse:
- Configure relay 1 in monostable mode (**MENU** P0 → P5 → A0 → AP)
- The pulse time can be configured in the menu (**MENU** P0 → P6)

6• To use anti-crash mode:
- Configure relay 1 in bistable mode (**MENU** P0 → P5 → A0 → AL)

7• To maintain the open signal while the vehicle is detected:
- Configure relay 1 in photocell mode (**MENU** P0 → P5 → A0 → AH)

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 A0, the value 0 corresponds to the selected relay.