



MRMF-REC

EN

USER/INSTALLER MANUAL



motorline[®]
PROFESSIONAL



00. CONTENT

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01. SAFETY WARNINGS

	This product is certified in accordance with European Community (EC) safety standards.
	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 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

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 is 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.

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SYMBOLS LEGEND:



• Important safety notices



• Useful information



• Programming information



• Potentiometer information



• Connectors information



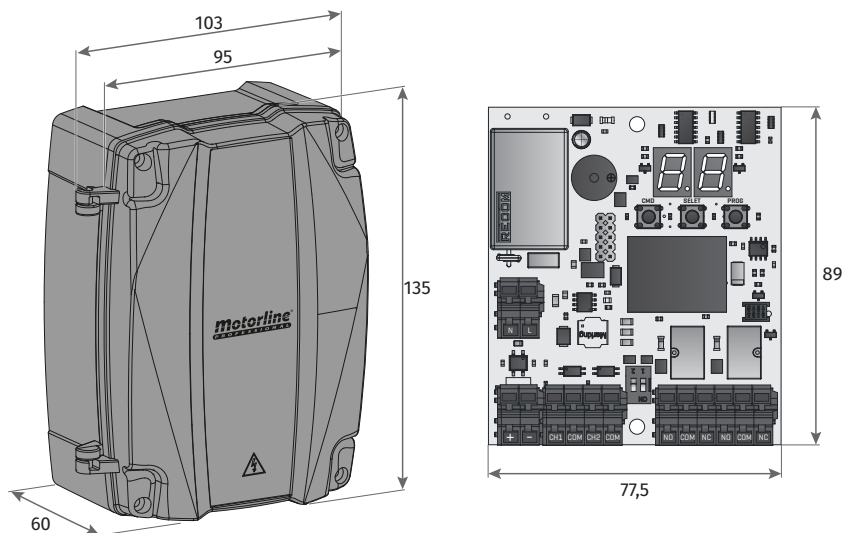
• Buttons information

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

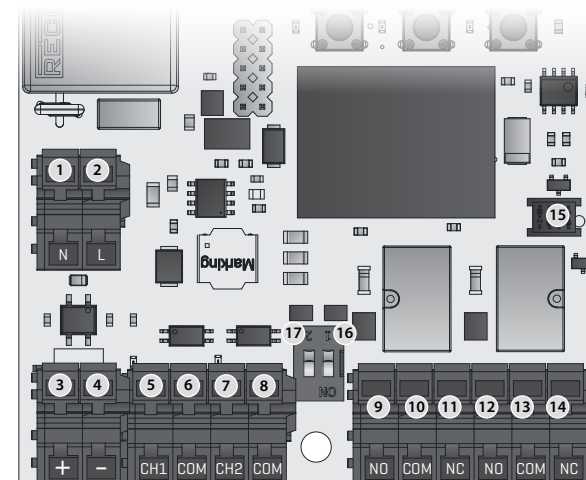
TECHNICAL CHARACTERISTICS	
• Power supply	100-240V AC (50-60 Hz) or 12-24V AC or DC
• Relays	30V DC 1A / 125V AC 0.5A
• Work Frequency	868MHz ~ 869.8MHz
• Memory for TX devices	8
• Open Field range	50m
• Dimensions	135x103x60mm
• Protection class	IP65
• 12V consumption	5mAh ~ 40mAh (<= 400mWh)
• 230V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

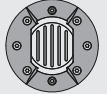


INPUT		DESCRIPTION
1	N	Power supply 110-230VAC 50/60Hz
2	L	
3	+	Power supply 12/24V DC/AC
4	-	
5	CH1	12/24v input Enable auto-test on channel 1 or channel 2
6	COM	
7	CH2	
8	COM	

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.

03. PROGRAMMING

INITIAL SETTINGS

Pairing an MSMF-Loop with an MRMF-Rec	
 MRMF-REC	1• Access the menu $\overline{BB}$ (press MENU, use UP or DOWN to select $\overline{BB}$, 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 $\overline{PE}$. 4• Press and hold the MENU button until the display starts $\overline{BB}$ 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. <i>The LEDs light up, indicating that the MSMF-LOOP is in pairing mode with an MRMF-REC.</i> 8• If pairing is successful, the LEDs will start flashing. <i>If it fails, the LEDs will automatically turn off after 10 seconds.</i>
 •For the buzzer to emit audible alerts, the parameter $\overline{BB}$ must be enabled in the menu $\overline{BB}$. •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. <i>This action reactivates the programming mode in MSMF-LOOP, indicated by a faster flashing of the LEDs.</i>	
 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, $\overline{d1}$) 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, $\overline{d2}$). 3• To confirm the change, press and hold the MENU button until the display starts $\overline{BB}$ flashing. <i>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.</i> 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 $\overline{BB}$ in the menu $\overline{BB}$.	

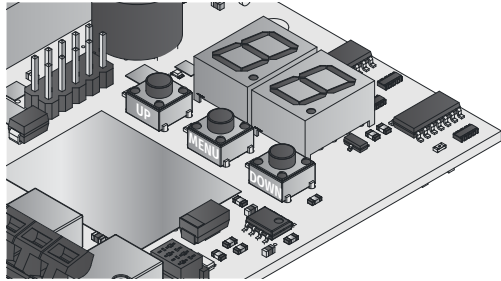
03. PROGRAMMING

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 $\overline{BB}$, 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 $\overline{BB}$ flashing. <i>The MRMF-REC then sends the calibration command to the MSMF-LOOP.</i> 3• The calibration cycle lasts approximately 5 seconds. <i>After completion, the MSMF-LOOP LEDs flash once, indicating that the calibration was completed successfully.</i>
PROGRAM THE MRMF-REC
1• To change the MRMF-REC parameters, press the MENU button once; the display will light up and show $\overline{BB}$. Press MENU again to enter the menu $\overline{BB}$. 2• Use the UP and DOWN buttons to navigate to the parameter you want to change, for example: $\overline{rd}$ – selection of the relay activated by an MSMF-LOOP $\overline{rE}$ – defining the relay's behavior
EXAMPLE OF PROGRAMMING: 3• Selection of the relay to be activated (parameter $\overline{rd}$): a) Navigate to the parameter $\overline{rd}$ 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 $\overline{rB}$ and $\overline{r2}$. To confirm, press and hold the MENU button until the display starts $\overline{BB}$ flashing. This action sets the relay controlled by the MSMF-LOOP stored on channel 1. 4• Relay behavior configuration in impulse mode (parameter $\overline{rE}$): a) Navigate to the parameter $\overline{rE}$. Use UP and DOWN to switch between $\overline{rB}$ and $\overline{r2}$ press MENU to select the relay. b) Use UP and DOWN until $\overline{rB}$ appears on the display. To confirm, press and hold the MENU button until the display starts $\overline{BB}$ 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 $\overline{rE}$, if you are already close). Navigate to the parameter $\overline{PE}$ 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 $\overline{BB}$ flashing.
CHECK FIRMWARE VERSION
Turn off the power and turn it back on again. The display will show the sequence $\overline{BB} \overline{BB} \overline{BB}$ with the firmware version. ($\overline{B}$ These are the firmware version values).

03. PROGRAMMING

MENU NAVIGATION



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

BUTTON	FUNCTION
UP	•Navigate through the menus;
DOWN	•When pressed simultaneously, it returns to the previous menu.
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
88	STATE OF BUZZER	00	01	00 Buzzer off	00	7A
				01 Buzzer on		
88	PROGRAM THE DEVICE RELAY	-	-	01 88 Connect the device to relay 1 82 Connect the device to relay 2	88	7A
				02 88 Connect the device to relay 1 82 Connect the device to relay 2		
				03 88 Connect the device to relay 1 82 Connect the device to relay 2		
				04 88 Connect the device to relay 1. 82 Connect the device to relay 2		
				05 88 Connect the device to relay 1 82 Connect the device to relay 2		
				06 88 Connect the device to relay 1 82 Connect the device to relay 2		
				07 88 Connect the device to relay 1 82 Connect the device to relay 2		
				08 88 Connect the device to relay 1 82 Connect the device to relay 2		
88	RELAY MODE	-	-	88 Relay in monostable mode 80 Relay in bistable mode 8H Relay in photocell mode 8B Relay in 8K2 mode	88	7B
				88 Relay in monostable mode 80 Relay in bistable mode 8H Relay in photocell mode 8B Relay in 8K2 mode		
88	RELAY PULSE TIME	-	-	88 0.5 Seconds 80 1 Second 85 1.5 Seconds	05	7B
				88 0.5 Seconds 80 1 Second 85 1.5 Seconds		
88	SELECT MSMF-LOOP LAYOUT	-	-	80 Free installation 8E Anti-Crash 8A AND logic 8B Logic and Anti-Crash 82 Bidirectional Anti-Crash	80	7A
88	RF OPERATING FREQUENCY	88	89	88 868.00MHz 82 868.60MHz 83 869.20MHz 84 869.80MHz	88	8A
88	RELAY RESET	00	99	-	00	8A
89	MRMF-REC RESET	-	-	-	-	8A

03. PROGRAMMING

MENU P FUNCTIONS

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

88 PROGRAM THE DEVICE RELAY.		
01	Device saved on channel 01	88
		88 (Factory value)
02	Device saved on channel 02	88
		88 (Factory value)
03	Device saved on channel 03	88
		88 (Factory value)
04	Device saved on channel 04	88
		88 (Factory value)
05	Device saved on channel 05	88
		88 (Factory value)
06	Device saved on channel 06	88
		88 (Factory value)
07	Device saved on channel 07	88
		88 (Factory value)
08	Device saved on channel 08	88
		88 (Factory value)
01 • Press MENU to select between MENU P and MENU L . 02 • Press MENU to enter MENU P and it will appear 88. 03 • Use UP and DOWN until it appears 88, 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.		

03. PROGRAMMING

MENU P FUNCTIONS

RELAY MODE		
 Program the operation of relay 1	 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 .	 (Factory value)
	 Relay in bistable mode 1. The relay changes state when it receives a signal; the state only changes again when another signal is received.	
	 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).	
	 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.	
 Program the operation of relay 2	 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 .	 (Factory value)
	 Relay in bistable mode 1. The relay changes state when it receives a signal; the state only changes again when another signal is received.	
	 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).	
	 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 88. 03 • Use UP and DOWN until it appears 88, 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.		

03. PROGRAMMING

MENU P FUNCTIONS

PE RELAY PULSE TIME				
Allows you to define the pulse time of the relays				
88	Program the pulse time of relay 1	05- 0,5 seconds	10- 1 second	15- 1,5 seconds
88	Program the pulse time of relay 2	05- 0,5 seconds	10- 1 second	15- 1,5 seconds
(Factory value)				
01 • Press MENU to select between MENU P and MENU L.				
02 • Press MENU to enter MENU P and it will appear 88.				
03 • Use UP and DOWN until it appears PE, 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.				
LE SELECT MSMF-LOOP LAYOUT				
Allows you to define in MRMF-REC how the MSMF-LOOP devices are installed				
10	Free installation.	(Factory value)		
Sensors can be installed as the user desires.				
AC	Anti-Crash.			
After the opening command, the receiver only gives the closing command when the car is no longer detected.				
AA	Logic AND.			
The receiver only sends the opening command when the car passes through two sensor zones.				
AA	Logic and Anti-Crash.	(Factory value)		
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.	(Factory value)		
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 88.				
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 • 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.				
FA 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	(Factory value)		
(Valor de fábrica)				
PE RELAY RESET				
88	Relay reset	(Factory value)		
Allows you to set the time in minutes that the relay takes to return to its initial state when configured as bistable.				
FS MRMF-REC RESET				
FS	MRMF-REC Reset	(Factory value)		
Performs a full reset of the MRMF-REC, erases the saved MSMF-LOOP files, and restores factory settings.				

03. PROGRAMMING

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
88	PROGRAM MSMF-LOOP	-	-	-	-	9A
88	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
88	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
88	DEFINE THE VERIFICATION TIME	-	-	07 7 Seconds 30 30 Seconds	07	9B
88	ENABLE/DISABLE SELF-TEST	00	01	00 Self-test disabled 01 Self-test activated	00	9B
88	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
88	REVERSE DETECTION LOGIC	-	-	00 When it detects the vehicle 01 When it stops detecting the vehicle	00	9B
98	ADJUST SENSITIVITY	89	09	-	00	10A
88	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
25	DELETE DEVICE	-	-	-	-	10A
00	CALIBRATE DEVICE	-	-	-	-	10A
00	EXIT PROGRAMMING MODE	-	-	-	-	10A

03. PROGRAMMING

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.

DI DEFINE THE DETECTION DIRECTION

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

00 Presence detection

01 Direction opposite to that indicated by the arrows

02 Direction indicated by the arrows

00
(Factory value)

- 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 **DI**, 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.

00 LEDs and light sensor turned off

01 A light sensor takes readings every 20 minutes

The LEDs blink for 5ms every 3 seconds while the environment is dark.

00
(Factory value)

- 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.

03. PROGRAMMING

MENU L FUNCTIONS

EP 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

30 Self-check every 30 seconds

07
(Factory value)

- 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 **EP**, 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.

RE ENABLE/DISABLE SELF-TEST

00 Self-test disabled

01 Self-test activated

00
(Factory value)

- 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 **RE**, 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

30 After 30 minutes of continuous detection

60 After 60 minutes of continuous detection

90 After 90 minutes of continuous detection

00
(Factory value)

- 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.

RA REVERSE DETECTION LOGIC

00 The sensor sends a signal as soon as it detects a car.

01 The sensor sends a signal as soon as it stops detecting a car.

00
(Factory value)

- 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 **RA**, 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.

03. PROGRAMMING

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.



- 01 • Press **MENU** to select between **MENU P** and **MENU L**.
- 02 • Press **MENU** to enter the **MENU L** and it will appear **PP**.
- 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.

PP TEST SIGNAL STRENGTH

PP	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

PS DELETE DEVICE

Delete device

Remove the MSMF-LOOP from the receiver's memory

CC 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.

03. PROGRAMMING

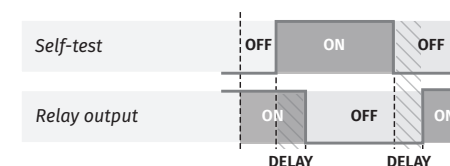
MRMF-REC NOTICES

NOTICE	DESCRIPTION
DISPLAY 81	Self-test running on channel 1.
DISPLAY 82	Self-test running on channel 2.
DISPLAY 88	Received a signal from channel X [1...8].
DISPLAY 88	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 (PP → 88 → 09)	

SELF-TEST

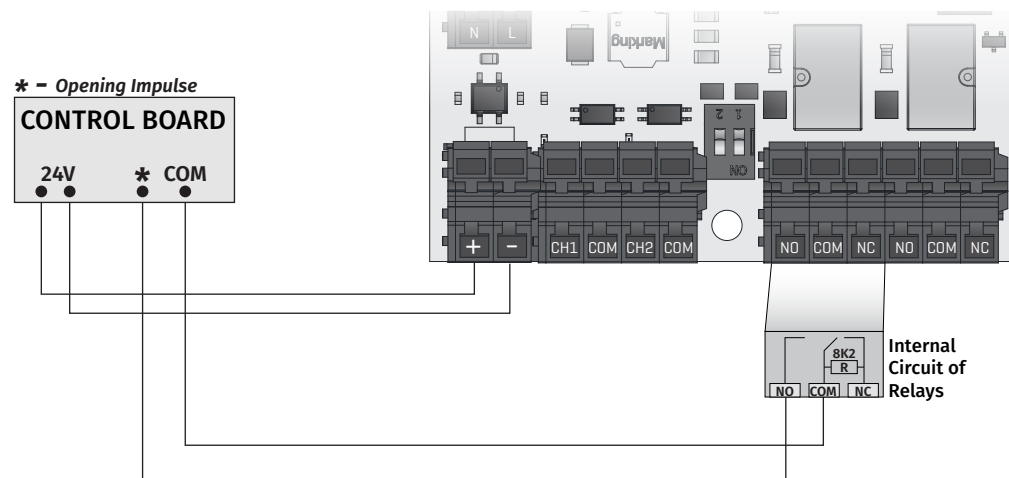
Upon receiving a signal at a self-test input, the **MRMF-REC** tests communication with all **MSMF-LOOP** devices connected to the respective channel and corresponding relay.

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



04. WIRING DIAGRAMS

FOR OPENING ORDER

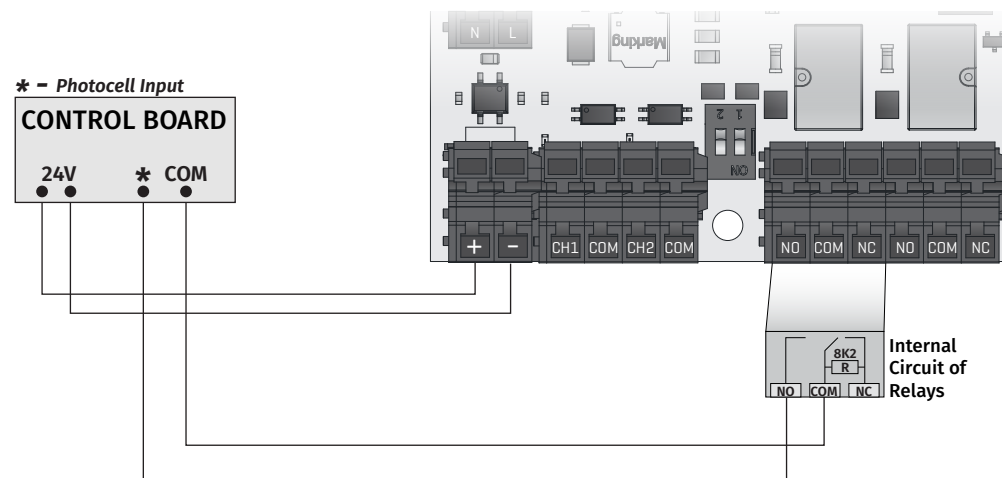


- 1• Connect the common wire from the motor control board to the common wire of the relay;
- 2• Connect the NO output of the relay to the input for the opening impulse;
- 3• To send an impulse:
 - Configure the relay in monostable mode (**MENU $P8 \rightarrow P8 \rightarrow P8 \rightarrow PP$**)
 - The pulse time can be configured in the menu (**MENU $P8 \rightarrow PE$**)
- 4• To use anti-crash mode:
 - Configure the relay in bistable mode (**MENU $P8 \rightarrow P8 \rightarrow P8 \rightarrow PL$**)
- 5• To maintain the open signal while the vehicle is detected.
 - Configure the relay in photocell mode (**MENU $P8 \rightarrow PE \rightarrow P8 \rightarrow PH$**)

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

04. WIRING DIAGRAMS

FOR USE IN PHOTOCELLS

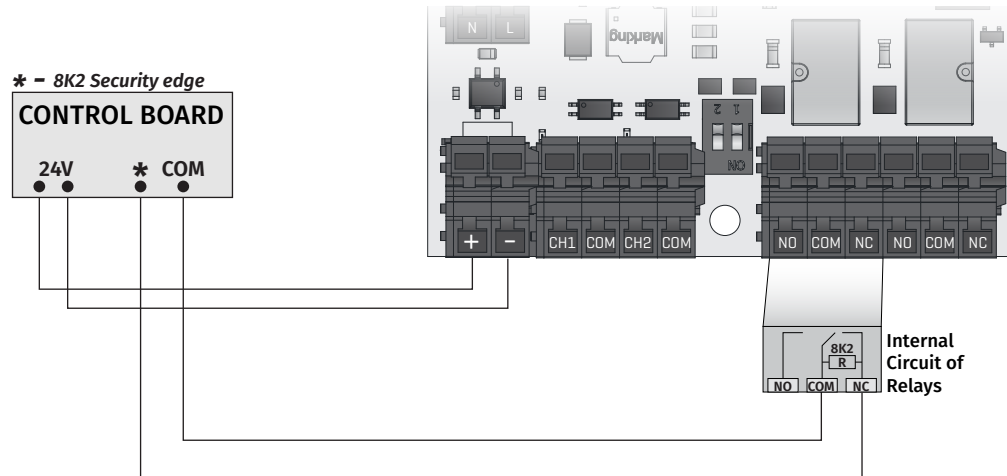


- 1• Connect the common wire from the motor control board to the common wire of the relay;
- 2• Connect the NO output of the relay to the photocell input of the control board;
- 3• Configure the relay in photocell mode (**MENU $P8 \rightarrow PE \rightarrow P8 \rightarrow PH$**)

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

04. WIRING DIAGRAMS

FOR USE WITH 8K2 SECURITY EDGE

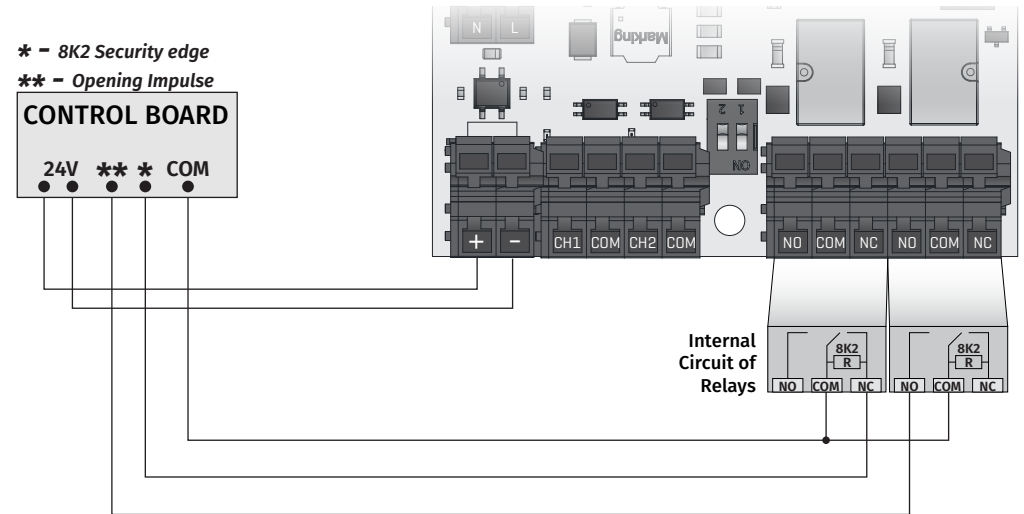


- 1• Connect the common wire from the motor control board to the common wire of the relay;
- 2• Connect the NC output of the relay to the safety edge input of the control board;
- 3• Configure the relay in monostable mode (**MENU** *BB* → *BE* → *BB* → *BB*)

NOTE: When the display shows *BB*, the value *B* 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** *BB* → *BE* → *BB* → *BB*)
- 5• To send an impulse:
 - Configure relay 1 in monostable mode (**MENU** *BB* → *BE* → *BB* → *BP*)
 - The pulse time can be configured in the menu (**MENU** *BB* → *PE*)
- 6• To use anti-crash mode:
 - Configure relay 1 in bistable mode (**MENU** *BB* → *BE* → *BB* → *BL*)
- 7• To maintain the open signal while the vehicle is detected:
 - Configure relay 1 in photocell mode (**MENU** *BB* → *BE* → *BB* → *BH*)

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 *BB*, the value *B* corresponds to the selected relay.