



M150SP

USER'S AND INSTALLER'S MANUAL



00. CONTENT





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01. SAFETY INSTRUCTIONS

STANDARDS TO FOLLOW

ATTENTION:

	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.
	(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 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.

- It is important for your safety that these instructions are followed.
- Keep these instructions in a safe place for future reference.
- The **ELECTROCELOS S.A.** is not responsible for the improper use of the product, or other use than that for which it was designed.
- The **ELECTROCELOS S.A.** is not responsible if safety standards were not taken into account when installing the equipment, or for any deformation that may occur.
- The **ELECTROCELOS S.A.** is not responsible for insecurity and malfunction of the product when used with components that were not sold by the them.
- This product was designed and manufactured strictly for the use indicated in this manual.
- Any other use not expressly indicated may damage the product and/or can cause physical and property damages, and will void the warranty.
- Do not make any changes to the automation components and/or their accessories.
- Keep remote controls away from children, to prevent the automated system from being activated involuntarily.
- The customer shall not, under any circumstances, attempt to repair or tune the automatism. Must call qualified technician only.
- The installer must have certified professional knowledge at the level of mechanical assemblies in doors and gates and control board programming. He should also be able to perform electrical connections in compliance with all applicable regulations.
- The installer should inform the customer how to handle the product in an emergency and provide him the manual.

02. THE DEVICE

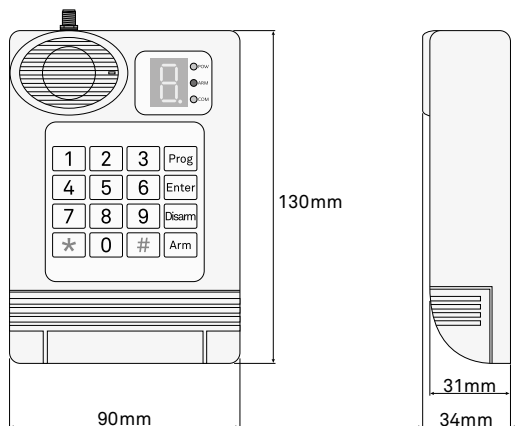
TECHNICAL SPECIFICATIONS

The **M150SP** device was designed to control 1 or 2 equipments remotely (via GSM) through a call or SMS, as well as to receive notification messages or calls of the operated equipment status.

The **M150SP** device characteristics are as follows:

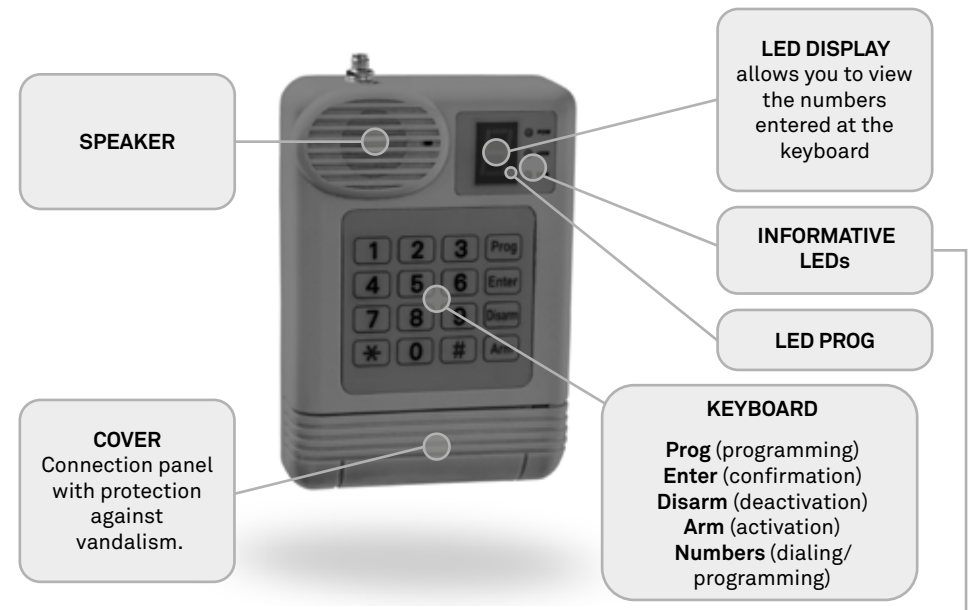
- Power supply- 12V DC.
- Frequency - GSM dual band, 900MHz/1800MHz.
- Display to view inserted numbers / function value.
- LEDs to display the status (operation, alarm, system and GSM).
- 4 programmable inputs (state / alarm), 3 programmable NO / NC and an input controlled by + 12V.
- Programmable message for each input (sms / voice).
- Programmable security password to add / modify authorized numbers and numbers receiving notifications.
- NO/NC bistable relay 1 output (enable/disable alarm)
- Monostable relay 2 output (1 to 99seg programmable impulse).

The device dimensions are as follows:



02. THE DEVICE

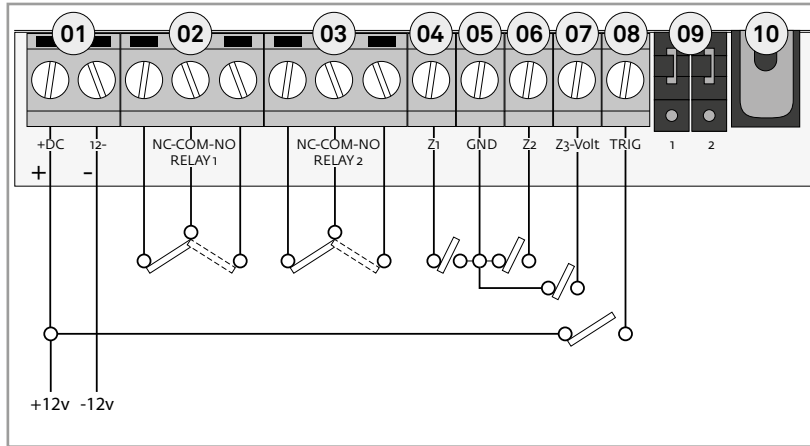
VISUAL ASPECT



	PROG (display) Programming	POW (green) CPU	ARM (red) Ativation	COM (yellow) GSM
LED ON	In programming	Normal operation	System activated	GSM failure
LED OFF	-	Failure in the area	System deactivated	No signal
LED FLASHES SLOWLY	Normal operation	Another type of failure	-	Normal communication
LED FLASHES QUICKLY	-	In communication call / sms	-	There is no SIM card inserted

02. THE DEVICE

CONNECTORS DESCRIPTION



03. INSTALLATION

INSERT SIM CARD



01 • Open the equipment with the help of proper tool and remove the back cover.



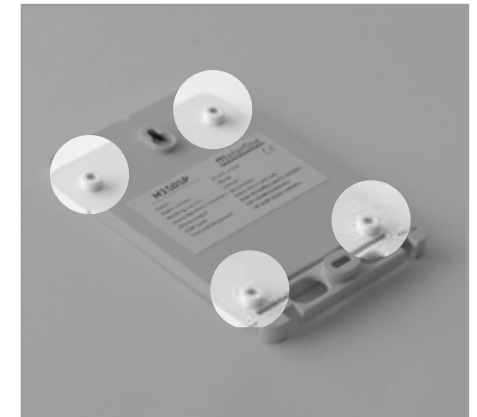
02 • Insert the SIM card (WITH DISABLED PIN) in the SIM's drawer on the back of M150SP.

- 01 • 12V DC 500mA Terminal power supply
- 02 • NO-COM-NC - bistable output
Used to enable / disable the alarm through an SMS sent to the number installed on M150SP (1234ALARM)
- 03 • NO-COM-NC - monostable output
Used to open a gate through a call to the number installed on M150SP or a message with (1234GATE)
- 04 • Input 1
- 05 • Common to control the 1, 2 and 3 inputs
- 06 • Input 2
- 07 • Input 3
- 08 • Input 4 controlled by +12V
- 09 • Jumpers (do not alter)
- 10 • Vandal resistant Switch

DEVICE INSTALLATION



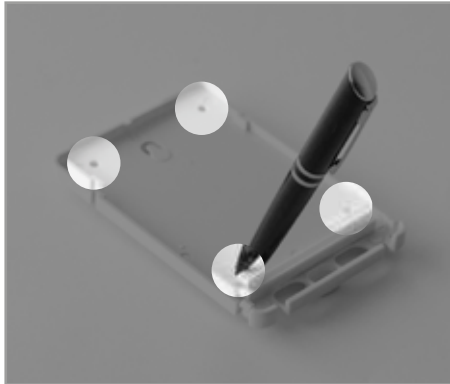
01 • Open the equipment with the help of a proper tool and remove the back cover.



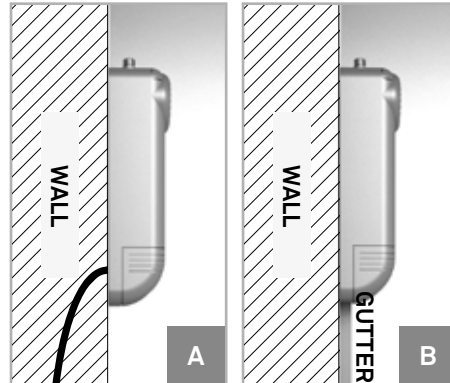
02. Make the 4 holes (3mm) on the back cover, in the places indicated for that purpose.

03. INSTALLATION

DEVICE INSTALLATION



03. Apply the back cover at the desired location for the installation and make the markings on the base through the holes made earlier.



04. Before fixing the back cover, it must be defined the way the wires inside the device will pass.

A - A hole so that it is possible to pass the wires through the wall interior.

B - A gutter with the wires inside.



05 • Apply the back cover on the base. Fixing it with screws.



06 • Finish the installation by applying the device on the back cover.

04. CODES

PROGRAMMING / INSTALLATION ACCESS CODES

When we mark some code on the keyboard, for each key pressed a "beep" sound is heard. When ending the operation with [#] you got to hear two "beep" to confirm the success of the operation. If the operation is wrong, you will hear 3 "beep" and the display will show [E]. Repeat the operation and correct the error.



Before making any alteration / programming, in M150SP you must:

• **Disarm the equipment:**

Disarm → 1 → 2 → 3 → 4 → # (LED ARM turned OFF)

• **Enter into programming:**

Prog → 0 → 1 → 2 → 3 → 4 → 5 → # (LED PROG. turned ON)

The following frame has a few codes of interest, save them for future use:

FUNCTION	CODE	NOTE
Disarm	Disarm → 1 → 2 → 3 → 4 → #	Disable the full functioning communication
Enter into programming	Prog → 0 → 1 → 2 → 3 → 4 → 5 → #	Data programming/ changing status: numbers, communications etc.
Exit programming	Prog → * → #	Exit programming status in order to activate the operation
Arm	Arm → 9 → 1 → 2 → 3 → 4 → #	Enables the functioning of all communications



In the end of programming /alterations, leave the programming and arm again (ARM LED lit)

05. PROGRAMMING RELAY 1

PROGRAMMING RELAY 1 OUTPUT (ALARM)

Programming relay 1 output (maximum three authorized numbers). This output is bistable, used to **turn on and off** low voltage equipment (alarms, heating, etc).

1°	Disarm → 1 → 2 → 3 → 4 → #	
2°	Prog → 0 → 1 → 2 → 3 → 4 → 5 → #	
3°	Prog → 1 → 1 → <small>insert number</small> (1st authorized number)	These numbers are the same authorized to control the relay 2 output.
4°	Prog → 1 → 2 → <small>insert number</small> (2nd authorized number, optional)	
5°	Prog → 1 → 3 → <small>insert number</small> (3rd authorized number, optional)	
6°	Prog → * → #	
7°	Arm → 9 → 1 → 2 → 3 → 4 → #	

Now test the equipment with one of the 3 programmed numbers by sending the SMS (1234ALARM) to the number installed on M150SP. Only the numbers previously programmed can command these orders.

If you want to be notified by using an input, consult Chapter 07 (**Programming the inputs, page 6A**)

06. PROGRAMMING RELAY 2

PROGRAMMING RELAY 2 OUTPUT (GATE)

Programming relay 2 output (maximum three authorized numbers). This output is monostable, being the impulse programmable from 1 to 99 seconds. Normally used to open gates.

1°	Disarm → 1 → 2 → 3 → 4 → #	
2°	Prog → 0 → 1 → 2 → 3 → 4 → 5 → #	
3°	Prog → 1 → 1 → <small>insert number</small> (1st authorized number)	These numbers are the same authorized to control the relay 1 output.
4°	Prog → 1 → 2 → <small>insert number</small> (2nd authorized number, optional)	
5°	Prog → 1 → 3 → <small>insert number</small> (3rd authorized number, optional)	
6°	Prog → 2 3 → impulse time (1 to 99 seg.) → #	
7°	Prog → * → #	
8°	Arm → 9 → 1 → 2 → 3 → 4 → #	

Now test the equipment with one of the 3 programmed numbers, by making a call to the number installed on M150SP. After the 3rd ringing, the call will be disconnected if the number is authorized. You can also control this output by sending a SMS with the text "1234 GATE".

If you want to be notified of the gate movement by using the "1, 2 or 3 inputs", consult Chapter 07 (**Programming the inputs, page 6A**)

07. PROGRAMMING THE INPUTS

PROGRAMMING INPUT 1

This device has the ability to notify 5 programmed numbers when the inputs 1,2,3 and 4 are activated.

You can use inputs 1,2 and 3 with GND and input 4 with + 12V.

End zone - close the circuits with the resistance offered.

The zone 1, 2 and 3 are, by default, circuits "end area". You can change these circuits to "NO" or "NC". Consult the chapter 08 (inputs status, **page 9B**).

In each of the inputs it is possible to associate a message that can be a customizable SMS or voice call with a recording previously made (max. 40sec.)

For that, consult the chapter 08 (notification type, page 9A).

The amount of outgoing calls for each number is programmable from 1 to 5.

The M150SP can send SMS or make a call to the maximum of 5 numbers. For that, consult the chapter 9 (programming numbers, **page 10B**).

• Programming input 1

1º Disarm → 1 → 2 → 3 → 4 → #

2º Prog → 0 → 1 → 2 → 3 → 4 → 5 → #

⚠ These will be the notified numbers (for which the GSM will send SMS or call) after the input 1,2,3 or 4 be activated.

3º Prog → 0 → 1 → 0 0 → insert country prefix + number → #

4º Prog → 0 → 2 → 0 0 → insert country prefix + number → # (optional)

5º Prog → 0 → 3 → 0 0 → insert country prefix + number → # (optional)

6º Prog → 0 → 4 → 0 0 → insert country prefix + number → # (optional)

7º Prog → 0 → 5 → 0 0 → insert country prefix + number → # (optional)

Example for Portugal:

Prog → 0 → 1 → 0 0 3 5 1 → 2 5 3 8 3 0 0 6 0 → #

8º Prog → 1 5 → ex: 2 1 1 0 0 → #

type of warning call/ sms

↓

2nd number, sms

↓

3rd number, sms

↓

4th number, voice call and sms

↓

5th number, voice call and sms

Warning type description:

0 (sms + voice)
1 (sms)
2 (voice)

07. PROGRAMMING THE INPUTS

PROGRAMMING INPUT 1 (RECORD VOICE MESSAGES AND SMS)

• In case you want use voice notifications:

Prog → 1 9 → 0 1 (ex. for input 1) → # → 🎤 start recording

After finishing recording (40 seconds) press **Enter**. The message will be reproduced. If you want to modify go back and repeat the operation.

• In case you want use sms notifications:

Prog → 2 1 → 0 1 (ex. for input 1) → # → 📱 send message to the number installed on M150SP

After sending the message (70 characters max.), the M150SP will show in the display the number 2, confirming the success of the operation.

Whenever the input 1 is activated, you will get the message set on this point. If, for example, you send a "gate open" message, the M150SP will send another message when the input 1 gets back to its initial state, send esta mensagem não configurável "First wired zone restore".

If you want to change the message, repeat the previous step. Whenever input 1 is activated, the numbers programmed into M150SP as numbers to be notified, they will receive a voice call with this message or 1 sms.

• In case you want delete the sms:

Prog → 2 1 → 8 1 → # message deleted

• Set the number of calls to do after the trigger input

Prog → 1 6 → 1 → (Example for a call after the input being triggered. You can set up to five calls. The number "2" set two calls, "3" three calls, "4" four calls and "5" defines five calls) → #

• Set status of 1, 2 and 3 inputs (NO-NC or end of line) :

Prog → 1 8 → ex: 0 2 1 → #

↓

Input 3, selected in NC

↓

Input 2, selected in end of line

↓

Input 1, selected in NO



Exit programming: Prog → * → #

Arm: Arm → 9 → 1 → 2 → 3 → 4 → #

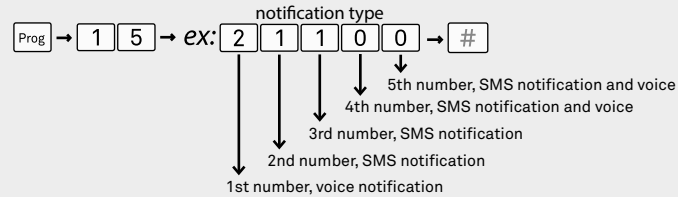
Whenever a programming is made it is necessary to leave the programming mode and arm.

07. PROGRAMMING THE INPUTS

PROGRAMMING INPUT 2

Follow the steps of programming the input 1, taking into account the following features that correspond to input 2.

NOTE • If you set the type of notification on input 1, you should skip this step.



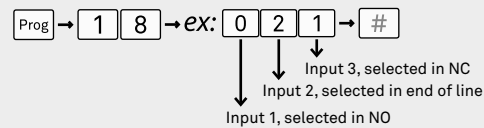
Warning type description: 0 (sms + voice)
 1 (sms)
 2 (voice)

Prog → 1 9 → 0 2 (ex. for input 2) → # → start recording

Prog → 2 1 → 0 2 (ex. for input 2) → # → send message to the number installed on M150SP

Prog → 2 1 → 8 2 → # message deleted

NOTE • If you have set the input status on input 1, skip this step.

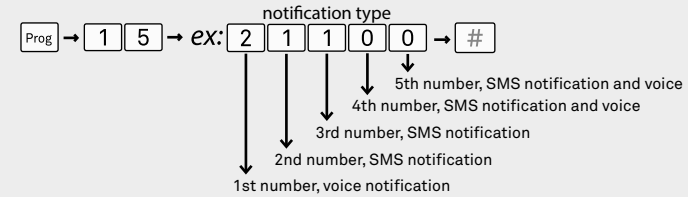


07. PROGRAMMING THE INPUTS

PROGRAMMING INPUT 3

Follow the steps of programming the input 1, taking into account the following features that correspond to input 3.

NOTE • If you set the type of notification on input 1, you should skip this step.



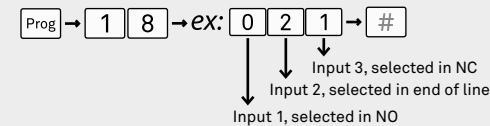
Warning type description: 0 (sms + voice)
 1 (sms)
 2 (voice)

Prog → 1 9 → 0 3 (ex. for input 3) → # → start recording

Prog → 2 1 → 0 3 (ex. for input 3) → # → send message to the number installed on M150SP

Prog → 2 1 → 8 3 → # message deleted

NOTE • If you have set the input status on input 1, skip this step.

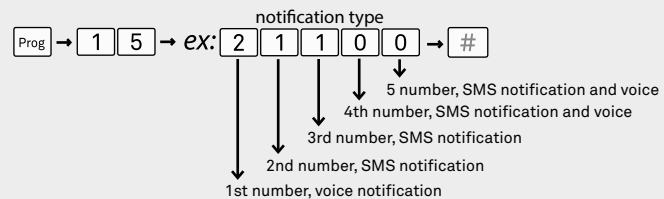


07. PROGRAMMING THE INPUTS

PROGRAMMING INPUT 4

Follow the steps of programming the input 1, taking into account the following features that correspond to input 4.

NOTE - If you set the type of notification on input 1, you should skip this step.
The input status is not configurable, triggered only +12V DC.



Warning type description: 0 (sms + voice)
1 (sms)
2 (voice)

Prog → 1 9 → 0 4 (ex. for input 4) → # → start recording

Prog → 2 1 → 0 4 (ex. for input 4) → # → send message to the number installed on M150SP

Prog → 2 1 → 8 4 → # message deleted

08. CHANGE SETTINGS

CHANGE / DELETE NOTIFIED NUMBERS

This function can program, change, or delete numbers previously programmed in the respective functions.

1° Disarm → 1 → 2 → 3 → 4 → #

2° Prog → 0 → 1 → 2 → 3 → 4 → 5 → #

These numbers will be notified after the entry 1,2,3 or 4 be activated.

Program numbers	Delete numbers
Programming 1st number: Prog → 0 1 → [insert number] → #	Prog → 0 1 → #
Programming 2nd number: Prog → 0 2 → [insert number] → #	Prog → 0 2 → #
Programming 3rd number: Prog → 0 3 → [insert number] → #	Prog → 0 3 → #
Programming 4th number: Prog → 0 4 → [insert number] → #	Prog → 0 4 → #
Programming 5th number: Prog → 0 5 → [insert number] → #	Prog → 0 5 → #
Exit programming: Prog → * → #	
Arm: Arm → 9 → 1 → 2 → 3 → 4 → #	

08. CHANGE SETTINGS

SET OR CHANGE NOTIFICATION TYPE

This function allows you to select the type of notification sent to the five preset numbers as numbers to be notified when one of the inputs is triggered.

0 - to use alarm by written message and voice message

1 - to use alarm by written message

2 - to use voice alarm

You should always fill out the programming for the 5 numbers (using 0, 1 and 2), otherwise the programming will be given as invalid and canceled.

The device comes standard with all values to 0 (alarm for written message and voice message).

1°	Disarm → 1 → 2 → 3 → 4 → #
2°	Prog → 0 → 1 → 2 → 3 → 4 → 5 → #
3°	<p>Prog → 1 5 → ex: 2 1 1 0 0 → #</p> <p>type of warning call/ sms</p> <p>5th number, notification by sms and voice</p> <p>4th number, notification by sms and voice</p> <p>3rd number, notification by sms</p> <p>2nd number, notification by sms</p> <p>1st number, notification by voice</p>
<p>Warning type description: 0 (sms + voice) 1 (sms) 2 (voice)</p>	
4°	Exit programming: Prog → * → #
5°	Arm: Arm → 9 → 1 → 2 → 3 → 4 → #

08. CHANGE SETTINGS

SET OR CHANGE 1, 2 AND 3 INPUTS STATUS

The device comes with the predefined inputs in the "end of line zone" (2) (close area with resistance).

It is also possible to change these inputs between NO or NC. Attention, input 4 is not configurable.

Input type of action:

0-open circuit (NO)

1- close circuit (NC)

2-end of line zone (close the circuit between Z1 Z2 or Z3 with GND, using provided resistance).

You should always fill out the programming for the 3 wired zones (using 0, 1 and 2), otherwise the programming will be given as invalid and canceled.

1°	Disarm → 1 → 2 → 3 → 4 → #
2°	Prog → 0 → 1 → 2 → 3 → 4 → 5 → #
3°	<p>Prog → 1 8 → ex: 0 2 1 → #</p> <p>Inputs type of action:</p> <p>Input 1, selected in NO</p> <p>Input 2, selected in end of line</p> <p>Input 3, selected in NC</p>
<p>Inputs type of action description: 0 open circuit (NO) 1 close circuit (NC) 2 end of line zone (use resistance)</p>	
4°	Exit programming: Prog → * → #
5°	Arm: Arm → 9 → 1 → 2 → 3 → 4 → #

08. CHANGE SETTINGS

SAVE / MODIFY OR DELETE VOICE MESSAGE

The M150SP communicator can record 4 different notifications (by sms or voice call), one for each input.

1°	Disarm → 1 → 2 → 3 → 4 → #
2°	Prog → 0 → 1 → 2 → 3 → 4 → 5 → #
Save message	
Input 1:	Prog → 1 → 9 → 0 → 1 → # → start recording
Input 2: (optional)	Prog → 1 → 9 → 0 → 2 → # → start recording
Input 3: (optional)	Prog → 1 → 9 → 0 → 3 → # → start recording
Input 4: (optional)	Prog → 1 → 9 → 0 → 4 → # → start recording
Exit programming:	Prog → * → #
Arm:	Arm → 9 → 1 → 2 → 3 → 4 → #
Delete message	
	Prog → 1 → 9 → 0 → 1 → # → Enter
	Prog → 1 → 9 → 0 → 2 → # → Enter
	Prog → 1 → 9 → 0 → 3 → # → Enter
	Prog → 1 → 9 → 0 → 4 → # → Enter

08. CHANGE SETTINGS

SAVE / MODIFY TEXT MESSAGE

1°	Disarm → 1 → 2 → 3 → 4 → #
2°	Prog → 0 → 1 → 2 → 3 → 4 → 5 → #
Input 1:	Prog → 2 → 1 → 0 → 1 → # → send message (up to 70 characters)
Input 2: (optional)	Prog → 2 → 1 → 0 → 2 → # → send message (up to 70 characters)
Input 3: (optional)	Prog → 2 → 1 → 0 → 3 → # → send message (up to 70 characters)
Input 4: (optional)	Prog → 2 → 1 → 0 → 4 → # → send message (up to 70 characters)
⚠ When the message is received, the display goes to the next input number.	
Exit programming:	Prog → * → #
Arm:	Arm → 9 → 1 → 2 → 3 → 4 → #

DELETE TEXT MESSAGE

1°	Disarm → 1 → 2 → 3 → 4 → #
2°	Prog → 0 → 1 → 2 → 3 → 4 → 5 → #
Delete messages	
	Prog → 2 → 1 → 8 → 1 → # erase written message of input 1
	Prog → 2 → 1 → 8 → 2 → # erase written message of input 2
	Prog → 2 → 1 → 8 → 3 → # erase written message of input 3
	Prog → 2 → 1 → 8 → 4 → # erase written message of input 4
Exit programming:	Prog → * → #
Arm:	Arm → 9 → 1 → 2 → 3 → 4 → #

08. CHANGE SETTINGS

SET MESSAGE CENTER NUMBER

If you do not receive notifications after the settings, check the card balance and the number of the message center.

1° Disarm → 1 → 2 → 3 → 4 → #

2° Prog → 0 → 1 → 2 → 3 → 4 → 5 → #

Prog → 1 4 → 0 → # (automatic)

Prog → 1 4 → 1 → # (manual)

Prog → 1 4 → Message center number → # (number's manual definition)

Exit programming: Prog → * → #

Arm: Arm → 9 → 1 → 2 → 3 → 4 → #

08. CHANGE SETTINGS

MODIFY FACTORY CODES (OPTIONAL)

• Programming code: 0 1 2 3 4 5 (from factory)

Changing the programming code:

1° Disarm → 1 → 2 → 3 → 4 → #

2° Prog → 0 → 1 → 2 → 3 → 4 → 5 → #

3° Prog → 0 → 0 → (new code, required the use of 6 digits) → #

4° Prog → * → #

5° Arm → 9 → 1 → 2 → 3 → 4 → #

The programming code is changed

• Arm and disarm code: 1 2 3 4 (from factory)

Changing arm and disarm code:

1° Disarm → 1 → 2 → 3 → 4 → #

2° Prog → 0 → 1 → 2 → 3 → 4 → 5 → #

3° Prog → 0 → 6 → (new code, required the use of 6 digits) → #

4° Prog → * → #

5° Arm → 9 → x → x → x → x → # (replace x for the new code, just keep the number 9)

From now on the code:

Arm → 9 → 1 → 2 → 3 → 4 → #

changes to:

Arm → 9 → x → x → x → x → #

new 4 digit code

09. CONSULT MEMORIES

CONSULT MEMORIES

With M150SP in operating state, you can check the authorized numbers for all the settings made. The number or setting will appear on the display after dialing the code.

• Check stored numbers for notifications receipt:

Check 1st number **Prog** → **5** **1** → **#** It will appear on the display a set of numbers that correspond to the 1st preset number.

Check 2nd number **Prog** → **5** **2** → **#** It will appear on the display a set of numbers that correspond to the 2nd preset number.

Check 3rd number **Prog** → **5** **3** → **#** It will appear on the display a set of numbers that correspond to the 3rd preset number.

Check 4th number **Prog** → **5** **4** → **#** It will appear on the display a set of numbers that correspond to the 4th preset number.

Check 5th number **Prog** → **5** **5** → **#** It will appear on the display a set of numbers that correspond to the 5th preset number.

• Check network level:

***** → **5** **6** → **#** Will appear on the display a number corresponding to the network level.

Network levels:

- 0-No network
- 1-Very weak
- 2-Weak
- 3-Reasonable
- 4-Good
- 5-Very good

• Check authorized numbers to relay 1 and 2:

Check 1st number **Prog** → **6** **1** → **#** Will appear on the display a set of numbers that correspond to the authorized control number.

Check 2nd number **Prog** → **6** **2** → **#** Will appear on the display a set of numbers that correspond to the authorized control number.

Check 3rd number **Prog** → **6** **3** → **#** Will appear on the display a set of numbers that correspond to the authorized control number.

• Check the message center number:

Prog → **6** **4** → **#** Will appear on the display a set of numbers that correspond to the message number number.

09. CONSULT MEMORIES

CONSULT MEMORIES

• Check types of notifications:

Prog → **6** **5** → **#** Will appear on the display a set of numbers that correspond to the programmed types notification.
0 - sms+voice
1 - sms
2 - voice

• Check amount of notifications:

Prog → **6** **6** → **#** Will appear on the display a set of numbers that correspond to the amount of voice notifications.

• Check inputs status type:

Prog → **6** **8** → **#** Will appear on the display a set of numbers that correspond to the selected state for inputs.
0 - open circuit (NO)
1 - closed circuit (NC)
2 - end of line zone

• Listen the recorded voice message:

Voice message input 1 **rog** → **6** **9** → **0** **1** → **#** Listen the notification message being reproduced when the input 1 is triggered.

Voice message input 2 **rog** → **6** **9** → **0** **2** → **#** Listen the notification message being reproduced when the input 2 is triggered.

Voice message input 3 **rog** → **6** **9** → **0** **3** → **#** Listen the notification message being reproduced when the input 3 is triggered.

Voice message input 4 **rog** → **6** **9** → **0** **4** → **#** Listen the notification message being reproduced when the input 4 is triggered.

• Check relay 2 impulse time:

Prog → **7** **3** → **#** Will appear on the display, the time set on the chapter 06 from 5B page.

10. RESET MEMORY

RESTORE FACTORY PARAMETERS (GSM RESET)

1° • Disarm → 1 → 2 → 3 → 4 → #

2° • Prog → 0 → 1 → 2 → 3 → 4 → 5 → #

3° • Prog → 9 → 9 → #

4° • Prog → 2 → 4 → 2 → #

At this point the M150SP returned to factory settings.