INSTALLATION CERTIFICATE

The undersigned qualified installer attests to have personally fitted the here described vehicle security system following the manufacturer instructions.

By :

Sold on : .....

Type of device : ☐ **933MH**

Vehicle : .....

GEMINI Technologies S.r.l.
Via Luigi Galvani 12 - 21020 Bodio Lomnago (VA) - Italia
Tel. +39 0332 943211 - Fax +39 0332 948080
www.gemini-alarm.com
ISO 9001Certified Company

GEMINI® ALARM SYSTEMS

933MH

INSTALLATION AND USE MANUAL

UK

CE

Made in Italy

AC2908 Rev. 02 - 04/16

UK

TABLE OF CONTENTS

1.0 - PRELIMINARY ADVICE

Dear customer, thank you for choosing a GEMINI product.
This 933MH CAN BUS alarm system has been designed and manufactured in Italy especially for recreational vehicles.
Please read the present manual carefully to familiarize yourself fully with the operation of your alarm system and do keep it for future reference.
The following signs, intended for the installer or the user, are meant to signal particular functions or connections as follows:

For the user.
This sign highlights useful information.

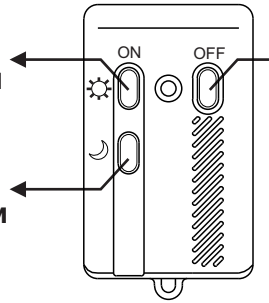
For the installer.
This sign indicates that the system will operate according to the connections and the programming selected or it simply provides useful indications for the installation.

2.0 - GEMINI REMOTE CONTROL

If the right connections have been made, the vehicle doors will lock/unlock when pressing the arming/disarming buttons.

BUTTON 1:
TOTAL SYSTEM ARMING (and doors locked).

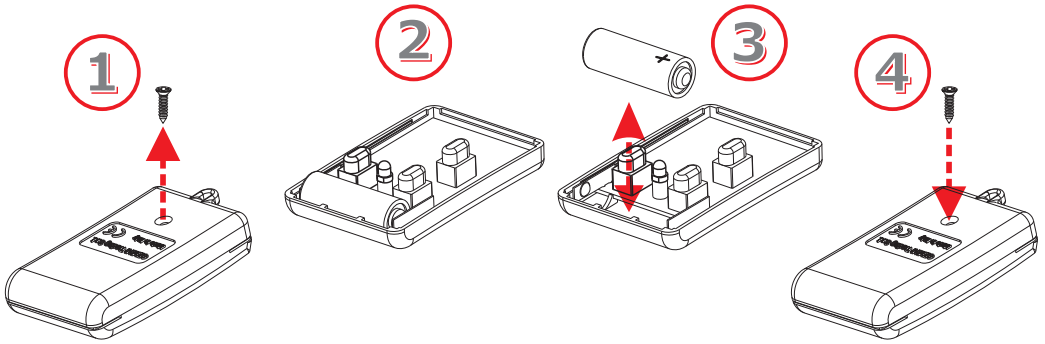
BUTTON 3:
PARTIAL ARMING OF SYSTEM (doors locked with sensors excluded).



BUTTON 2:
SYSTEM DISARMING (and doors unlocked).

3-button remote control
(code 938)

If the LED blinks when you press a button, the battery is weak; to replace proceed as follows:



Use only 23AE batteries.
Discard used batteries properly in special dedicated containers.

3.0 - OPERATING INSTRUCTIONS

3.1 - COMPLETE SYSTEM ARMING

Press the lock button on the vehicle remote control or button “1” on the Gemini remote control (art. 938); system arming is confirmed by a siren chirp and a flash of the turn indicators.
The system has a 30” pre-arming “neutral time” during which the LED is turned ON steady.

3.2 - SYSTEM ARMING WITH SENSORS EXCLUDED

The system can be armed without activating the internal volumetric protection and the external sensors (wirless infrared or wireless hyper-frequency).
To do so, press button 3 on the Gemini remote control or proceed as follows:
- •Insert the electronic key into its receptacle; the LED will give a quick flash.
- •Close all doors and press the lock button on the vehicle remote control.
- •System arming is confirmed by the standard audio/visual arming signals.

For the following alarm systems, the above sensors can be excluded via remote control:
- **933MHD and 933MHR starting from revision Rev.06 (see barcode label).**
- **933MHT starting from revision Rev.01 (see barcode label).**

Proceed as follows:
- • Lock the vehicle via the vehicle original remote control.
- • Wait at least 5 sec. (but before the end of the arming neutral time); press the lock button again.
- • Exclusion is confirmed by 1 acoustic low tone signal (Bop).

NB: THE CONFIRMATION TONE CANNOT BE EXCLUDED.

Exclusion via remote control is only available for the following vehicles:
- • FIAT DUCATO ‘11›
- • FORD TRANSIT ‘14›
- • RENAULT MASTER ‘10›

Exclusion of sensors is bound to each single arming cycle.

3.3 - PASSIVE ARMING

If programmed for passive arming, the system will automatically arm approximately 60” after ignition is switched OFF and the last door is opened and closed.
System arming is confirmed by the standard audio/visual arming signals.

If programmed for passive arming, the system will automatically arm approximately 60” after ignition is switched OFF and the last door is opened and closed.
System arming is confirmed by the standard audio/visual arming signals.

3.4 - ARMING NEUTRAL TIME

System neutral arming time lasts 30” and is signaled by the LED being ON steady; during this lapse of time you can exit the vehicle without triggering any alarm.

3.5 - SYSTEM ARMED

After the neutral time, the system is armed and ready to detect theft attempts. The LED will start flashing when the system is fully armed.

3.6 - ALARM, NEUTRAL TIME BETWEEN ALARMS AND ALARM CYCLES

Theft attempts are signaled by audio/visual signals.
Once the alarm ceases, there is a 5” time-interval before another alarm can be triggered.
Each alarm event can generate up to 10 cycles of 30” each, for each input and for each arming cycle

For safety reasons, during an alarm event, the system cannot be disarmed via the Gemini remote control (art.938) but only with the vehicle original remote control.

3.7 - SYSTEM DISARMING

Press the unlock button on the vehicle original remote or button “2” on the Gemini remote (art. 938); system disarming is confirmed by 2 siren chirps and by 2 flashes of the turn indicators.
If, when the system is disarmed, the siren chirps 5 times and the turn indicators flash 5 times, it means that there has been a theft attempt.
Paragraph 3.9 details all possible alarm causes and relative signals.

3.8 - EMERGENCY DISARMING WITH ELECTRONIC KEY

This disarming procedure is used for “EMERGENCY DISARMING” and “TOTAL DISARMING”.
When the electronic key is inserted in its receptacle, the system disarms and switches OFF.
It will not rearm by pressing the lock button on the vehicle remote control or the GEMINI remote control.

To restore normal operation, insert the electronic key in its receptacle.
A quick siren chirp and a quick flash of the status LED will confirm that the system is back to normal mode.

3.9 - ALARM MEMORY

The LED memory allows to determine what generated the last alarm (indicated by the 5 siren chirps and the 5 turn indicator flashes triggered when the system was disarmed).
Turn ignition key “ON”. The LED will start to blink according to the last alarm detected (see table below).
The flash sequence is repeated 3 times; to interrupt simply turn ignition key “OFF”.

LED FLASHES	ALARM CAUSES	ALARM CYCLES
✸✸●✸✸	Ignition attempt (+15/54)	10
✸✸✸●✸✸✸	Door opening	10
✸✸✸✸●✸✸✸✸	Bonnet opening	10
✸✸✸✸✸●✸✸✸✸✸	Boot opening	10
✸✸✸✸✸✸●✸✸✸✸✸✸	Volumetric or external sensor	10
✸✸✸✸✸✸✸✸●✸✸✸✸✸✸✸✸	Wireless magnetic contacts or opening detectors	10
✸✸✸✸✸✸✸✸✸●✸✸✸✸✸✸✸✸✸	Wireless infrared sensors (PIR) or wireless hyper-frequency sensors	10
✸✸✸✸✸✸✸✸✸✸✸●✸✸✸✸✸✸✸✸✸✸✸	Wire tampering	10
● LED OFF (2 seconds) ✸ LED ON (1 second)		

4.0 - PINOUT TABLES

4.1 - 20-PIN CONNECTOR

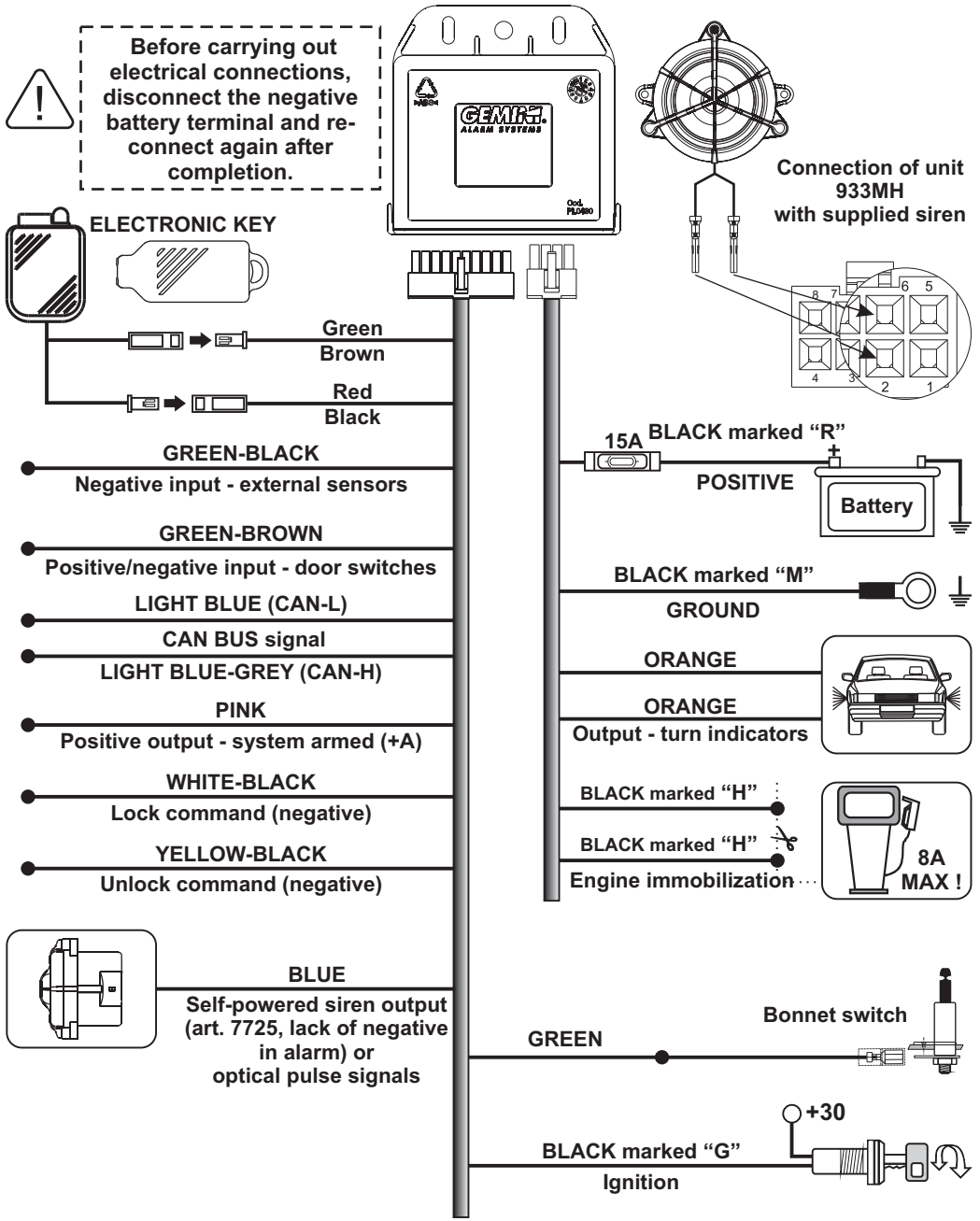
POSITION	WIRE FUNCTION	WIRE COLOUR
- 1 -	-----	-----
- 2 -	-----	-----
- 3 -	-----	-----
- 4 -	-----	-----
- 5 -	Positive/negative input - door switches	GREEN-BROWN
- 6 -	Input - electronic key receptacle	GREEN
- 7 -	Ground - electronic key receptacle	BROWN
- 8 -	LED negative output	BLACK
- 9 -	LED positive output	RED
- 10 -	Ignition	BLACK marked “G”
- 11 -	CAN BUS (CAN-H) signal	LIGHT BLUE-GREY
- 12 -	CAN BUS (CAN-L) signal	LIGHT BLUE
- 13 -	Positive output - system armed (+A)	PINK
- 14 -	Negative input - external sensors	GREEN-BLACK
- 15 -	Negative input - bonnet switch	GREEN
- 16 -	Output for self-powered siren (lack of negative during alarm) or optical pulse signals	BLUE
- 17 -	Lock command (1,5” negative pulse when pressing remote control button “1” or “3”)	WHITE-BLACK
- 18 -	Unlock command (1,5” negative pulse when pressing remote control button “2”)	YELLOW-BLACK
- 19 -	-----	-----
- 20 -	-----	-----

4.2 - 8-PIN CONNECTOR

POSITION	WIRE FUNCTION	WIRE COLOUR
- 1 -	Ground	BLACK marked “M”
- 2 -	Siren output	-----
- 3 -	Positive supply	BLACK marked “R”
- 4 -	Positive output - turn indicators	ORANGE
- 5 -	Engine immobilization	BLACK marked “H”
- 6 -	Siren output	-----
- 7 -	Engine immobilization	BLACK marked “H”
- 8 -	Positive output - turn indicators	ORANGE

For complete information regarding connections, please refer to your vehicle wiring diagram.

5.0 - COMPLETE WIRING DIAGRAM



6.0 - VEHICLE CODE PROGRAMMING

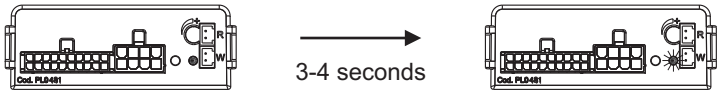
The system must be configured according to the specific vehicle model on which it is to be installed.
To help you understand the coding procedure, here below is an example illustrating the configuration procedure.
In this case the code used is 1-0-3 which hypothetically corresponds to a "FIAT XXXXX".

A separate leaflet, included in the alarm packaging, lists all the available vehicles (codes are updated at packaging time).
Up-to-date information on supported vehicle models can be found at: www.gemini-alarm.com.

The alarm has an indicator LED that signals any wrong vehicle code inserted.
The code must range between 100 and 235 otherwise the LED on the unit blinks repeatedly and the procedure is interrupted.
The previously inserted code remains stored.
The procedure is also invalidated if the LED blinks more than 10 times.
In this case there is no optical warning, the procedure is simply interrupted.
In either case, repeat the whole procedure.

Connect the wiring harness connectors to the alarm connectors.
Press and hold the button shown below until the LED lights up.

Release the button, the LED switches OFF.

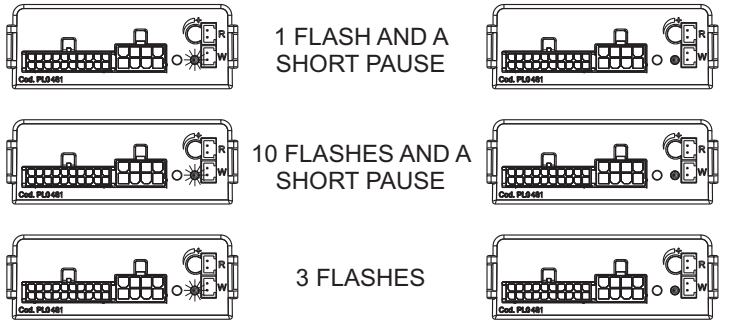


After 3 to 4 seconds, the LED starts flashing; count the flashes.
In this case press the button at the 1st flash which corresponds to number "1".

Again after 4 seconds, the LED starts flashing for the second time.
Press the button at the 10th flash which corresponds to number "0".

After 4 more seconds, the LED starts flashing for the third time.
Press the button at the 3rd flash which corresponds to number "3".

When the last digit is entered, the alarm system "repeats" the entered code.



Press the vehicle remote control lock/unlock buttons to make sure the alarm system works properly.
Eventually disconnect the 8-pin connector and reconnect it after a few seconds.

7.0 - CONNECTIONS TO ARM/DISARM THE SYSTEM

Alarm system 933MH can work either via CAN-BUS or via the Gemini remote control (art. 938).
Both arming/disarming modes are described here below.

During an alarm event, the system cannot be disarmed via the Gemini remote (art.938) but only with the vehicle original remote control.

Either the vehicle original remote control or the Gemini remote control can be used to arm/disarm the alarm system.

7.1 - OPERATION VIA CAN BUS

In this case, arming/disarming and alarms are managed via CAN BUS line. Only the alarm system CAN BUS wires need to be connected to the vehicle CAN BUS wiring (see available diagrams at: www.gemini-alarm.com).

7.2 - OPERATION VIA GEMINI REMOTE CONTROL

This type of connection allows arming/disarming the system and locking/unlocking the vehicle doors via the Gemini remote control (art. 938).
No particular connection is needed since the alarm system comes with a vehicle-specific wiring harness.

8.0 - SYSTEM PROGRAMMING

The table below applies to the system programmed in "standard configuration".
Every time you enter in programming mode, the alarm system resets to the default settings.

FUNCTION	STATUS	LED FLASHES
Exclusion of arming/disarming optical signals	Disabled	✷
Exclusion of arming/disarming audio signals	Disabled	✷✷
System passive arming	Disabled	✷✷✷
For Gemini only, turn ignition key	-----	✷✷✷✷
Door input - positive	Disabled	✷✷✷✷✷
Optical pulse signals	Enabled	✷✷✷✷✷✷
Double pulse unlock*	Disabled	✷✷✷✷✷✷✷

*** Applicable only to control units labeled 13 or higher (see chapter 8.6).**

A lack of power during electrical system maintenance, will not affect the programming.
The procedure must always be carried out entirely.
A key rotation disables the selected function and moves to the next option until the programming procedure is completed.

8.1 - OPTICAL SIGNALS

This function activates flashing of turn indicators during arming (1) and disarming (2) of alarm system.

If the vehicle already has optical lock/unlock signals, the turn indicators alarm flashes should be disabled.

8.2 - AUDIO SIGNALS

This function activates acoustic signals during arming (1) and disarming (2) of alarm system.

8.3 - PASSIVE ARMING

This function arms the system 60" after ignition is switched OFF and the last door is opened and closed.
If a door is opened during this lapse of time, the procedure is interrupted; it resumes when the door is closed.

8.4 - DOOR SWITCH POLARITY SELECTION

This function modifies the alarm input signal (positive or negative) according to the signal generated by the door switch.

8.5 - OPTICAL PULSE SIGNALS/SELF-POWERED SIREN

This function activates the optical signals according to the connection made.
NB - Only for vehicles where hook-up is to the Hazard warning lights button.

Optical signals activated by connection to the Hazard button ONLY turn ON during an alarm condition.
The alarm BLUE wire MUST be connected to the Hazard switch.
In this case, do not connect the alarm ORANGE wires to the turn indicator wires.

If this function is disabled, under normal operating conditions, the BLUE wire carries a negative signal while there will be a lack of negative during an alarm cycle.

8.6 - DOUBLE PULSE UNLOCK

(Applicable only to control units labeled 13 or higher)

If this feature is enabled, 2 unlocking pulses will be supplied to unlock all doors at the same time.
This is useful in case separate actions are required to open the driver door and then the other doors.
When this feature is turned ON, the lock/unlock pulse time is 0,5 sec. instead of 1,5 sec.

DOUBLE PULSE UNLOCK QUICK ACTIVATION (ALTERNATIVE TO METHOD DESCRIBED IN PARAGRAPH 8.6, "SYSTEM PROGRAMMING")

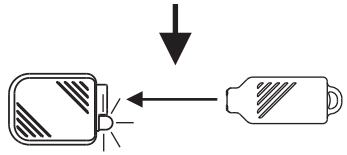
- Disconnect the alarm system power supply and ground the green/black wire.
- Connect the alarm system power supply; 3 short high tone signals will confirm operation.
- Remove the green/black wire from ground.

NB: To reset the feature to the default setting, repeat all the above steps; 1 low-tone signal (bop) will confirm the operation.

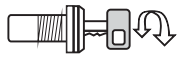
9.0 - SYSTEM PROGRAMMING EXAMPLE

Here below is an example that illustrates the various steps to modify the programmable functions.
As mentioned before, every key rotation disables the functions, while the electronic key enables them.
When ignition is turned ON or OFF or the electronic key is touched to its receptacle, 2 different acoustic signals sound (a short and a long one) and the LED flashes according to table in chapter 9.0.

With the alarm system disarmed, turn ignition key "ON" and touch the electronic key to its receptacle.



Two acoustic signals (a high and a low pitched sound) and two flashes of the turn indicators indicate that the system has entered in programming mode.



Turn ignition key "OFF" and then back "ON" to disable the function.
A low-pitched sound confirms the operation.
The LED flashes according to the selected function (from 1 to 7).

OR

Touch the electronic key once to its receptacle to enable the function.
A high-pitched sound confirms the operation.
The LED flashes according to the selected function (from 1 to 7).

In both cases, system moves on to the next function.
Repeat steps above to enable or disable other functions.
When the last function is programmed (either with the electronic key or the ignition key), in addition to the confirmation tone, the system gives 2 low-pitched sounds, 1 high-pitched sound and the turn indicators flash twice.
These last 2 signals indicate the end of the programming procedure.

10.0 - LEARNING NEW DEVICES

To carry out the operation successfully, make sure the required electrical connections (bonnet switch and ignition) are complete.
If there is no bonnet switch, ground the GREEN wire (20-pin connector, pos. 15).

Storing memory is for 55 devices.
If an extra device is added, it automatically deletes the first device stored in memory.

To activate the code-learning mode proceed as follows:
• With the system disarmed, open the vehicle bonnet and keep it opened or ground the GREEN wire.

The following “ON-OFF” operations must be carried out within 4 seconds otherwise the procedure is invalidated.

• Turn ignition key “ON-OFF”-“ON-OFF”-“ON-OFF”-“ON”.
• At the 4th rotation, leave it “ON”.

To confirm it has entered in learn mode, the system gives 2 acoustic signals (a high and a low-pitched sound), the turn indicators flash once and the LED turns ON.

Do not close the bonnet otherwise all previously programmed devices will be erased as described in the next paragraph.

• The system is ready to receive the device codes.
• Depending on which device is to be stored in memory, press one of the buttons on the remote control, insert the electronic key into its receptacle, make the magnetic contact transmit (bring contact and magnet together and then move apart), press the button on the opening detector, make the infrared sensor transmit (see sensor instructions) or see wireless hyper-frequency sensor instructions.
• A short acoustic signal will confirm learning of a device.
• Repeat this same procedure to learn other devices.
• Turn ignition key “OFF”.
• To confirm the end of the procedure, the alarm gives a low-pitched sound signal, the turn indicators flash once and the status LED turns OFF.
• Close the bonnet or remove the GREEN wire from ground (bonnet switch).

11.0 - DELETING DEVICES

To carry out the operation successfully, make sure the required electrical connections (bonnet switch and ignition) are complete.
If there is no bonnet switch, ground the GREEN wire (20-pin connector, pos. 15).

All devices previously programmed in the system memory can be deleted.
To clear memory proceed as follows:
• With the system disarmed, open the vehicle bonnet and keep it opened or ground the GREEN wire.

The following “ON-OFF” operations must be carried out within 4 seconds otherwise the procedure is invalidated.

• Turn ignition key “ON-OFF”-“ON-OFF-ON”-“OFF-ON”.
• At the 4th rotation, leave it “ON”.
• To confirm it has entered in delete mode, the system gives 2 acoustic signals (a high and a low-pitched sound), the turn indicators flash once and the LED turns ON.
• Close the bonnet or remove the GREEN wire from ground (bonnet switch).

To clear the memory, leave the bonnet closed for at least 8 seconds.

If the bonnet is opened before 8 seconds, the devices will not be deleted.

• The LED will switch OFF when the devices have been deleted.
• Turn ignition key “OFF”.
• A long low-pitched sound signal confirms the end of the clearing procedure.

12.0 - ULTRASONIC VOLUMETRIC PROTECTION

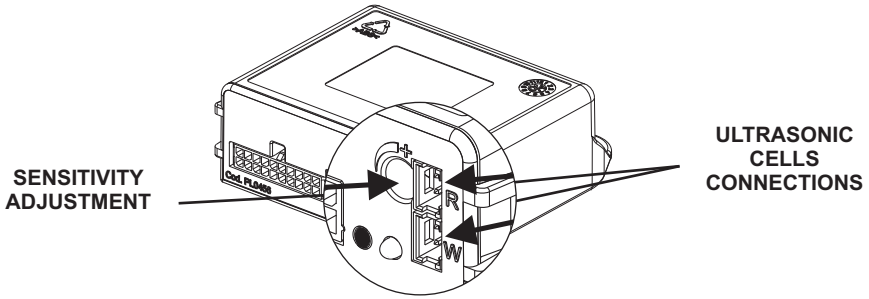
12.1 - CONNECTIONS AND POSITIONING

Insert the WHITE connector in the “W” marked socket.
Insert the RED connector in the “R” marked socket.
Install the transducers for the ultrasonic sensors on the top part of the windshield internal pillars, away from the air vents and point them towards the center of the rear window.

12.2 - SENSOR ADJUSTMENT

To check the sensors sensitivity level proceed as follows:

- With the alarm system disarmed, roll down the front window about 20 cm.
- Set the trimmer to an intermediate position (medium sensitivity).
- Close all doors, bonnet and boot and arm the system.
- During the system neutral arming time introduce an object in the cabin through the window and move it around; the status LED will turn off to signal a presence.
- If the sensitivity level is too high or too low, readjust the trimmer and repeat the above procedure.



13.0 - SYSTEM RESET

By activating the following procedure, the system returns to the factory default state. This procedure must therefore only be used in case of need, before programming the system or auto-learning the turn indicators flashes.

To reset the system proceed as follows:

- Disconnect the system.
- Short-circuit the RED and BLACK wires of the 2-pin LED connector.
- Connect the system; once the alarm system is powered, 4 acoustic signals will sound and the turn indicators will flash 4 times.
- Remove the previously created short-circuit; the status LED lights up steady.
- Turn ignition key “ON”; reset is confirmed by an acoustic signal and the wailing of the siren for about 3 seconds.
- Turn ignition key “OFF”. The LED turns OFF and there are no acoustic signals.

14.0 - TECHNICAL SPECIFICATIONS

Power supply	12 Vdc
Current absorption @ 12Vdc with system armed and LED flashing	15 mA
Working temperature range	-30°C to +70°C
Turn indicators relay contact capacity	8 A to 20°C
Engine immobilizer relay contact capacity	8 A to 20°C
Alarm cycle duration	30 sec.
Maximum positive current output when armed (+A)	700 mA
Maximum load of siren output	1 A

15.0 - WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT DIRECTIVE (WEEE)

The present device does not fall within the scope of Directive 2002/96EC on Waste Electrical and Electronic Equipment (WEEE) as specified in art. 2.1 of L. D. No. 151 of 25/07/2005.