GEMINI
®
ALARM SYSTEMS

933MHW ALARM SYSTEM

INSTALLER AND USER MANUAL

(UK)

CE

Made in Italy

Rev.02 - 03/24

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1.0 - INTRODUCTORY NOTE

Dear customer, thank you for choosing this GEMINI product designed and manufactured in Italy specifically for recreational vehicles.

This new generation CAN BUS alarm system has been implemented with a 2.45GHz transceiver and ZigBee wireless technology with anti-jamming reliability.

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 are used throughout the manual to emphasize important instructions or special information:

> **For the user.**
> This sign highlights useful information.

> **For the installer**.
> This sign indicates that the system will operate according to the selected connections and programming or it simply provides useful setup instructions.

2.0 - REMOTE CONTROL DESCRIPTION

> If the required connections have been made, the arming/disarming buttons can be used to lock/unlock the vehicle doors.

BUTTON 1:
TOTAL SYSTEM ARMING
(+ door lock)

BUTTON 2:
SYSTEM DISARMING
(+ door unlock)

BUTTON 3:
PARTIAL ARMING
(door lock + sensor exclusion)

**Remote control
P/N 738NW**
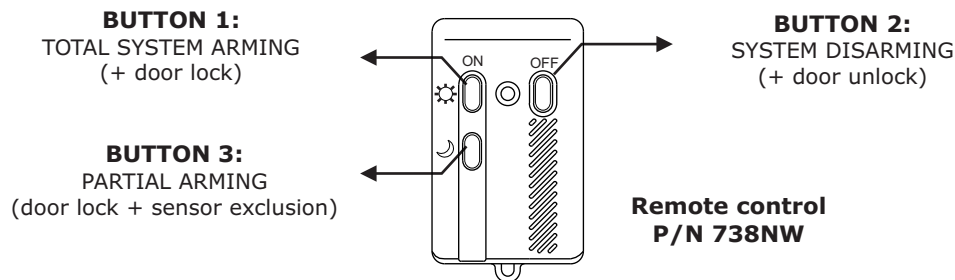
If the LED blinks 3 times at the press of a button, the battery is weak and must be replaced as follows:
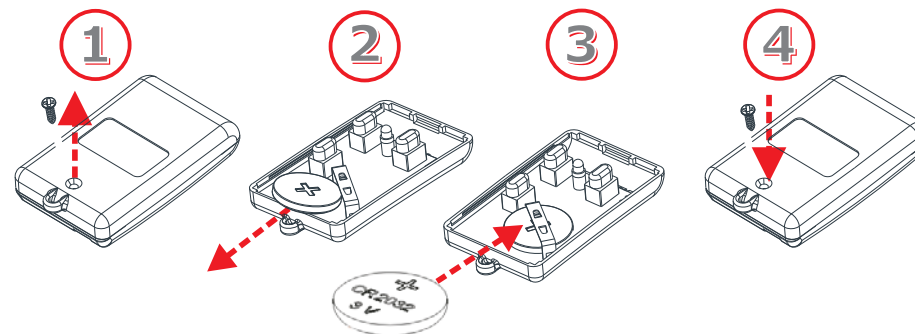
> Use only CR2032 batteries. Risk of explosion if battery is replaced by an incorrect type. Discard used batteries properly in special dedicated containers.

USER MANUAL

3.0 - OPERATING INSTRUCTIONS

3.1 - SYSTEM TOTAL ARMING

Press the lock button on the vehicle remote control or button "**1**" on the Gemini remote control; system arming is confirmed by a Beep (selectable feature).
NB: The system has a 30 sec. arming delay during which the LED is ON steady.

3.2 - SYSTEM PARTIAL ARMING

To arm the system without arming interior protection press button "**3**" on the Gemini remote control. System arming is confirmed by a Bop (selectable feature).

On the following vehicles, volumetric protection can be excluded via the vehicle original remote control:

> • FIAT DUCATO '11 ›
> • FORD TRANSIT '14 ›
> • RENAULT MASTER '10 ›

To exclude interior protection via the vehicle original remote control, proceed as follows:
 • Lock the vehicle via the vehicle original remote control.
 • Wait at least 5 sec., **but before the end of the arming delay**, and press the lock button again.
 • Exclusion is confirmed by 1 Bop.
NB: THIS CONFIRMATION TONE CANNOT BE EXCLUDED.

> Exclusion is bound to each single arming cycle, the sensors will be reset upon next arming.

3.3 - PASSIVE ARMING

If passive arming mode is enabled, the system automatically arms approx. 60 sec. after ignition is switched OFF and the last door is opened and closed.
Arming is confirmed by a Beep (selectable feature).

> When the system passively arms, interior protection is excluded.
> Opening a door during the 60-sec. passive-arming countdown will cause the procedure to interrupt; it will resume once the door is closed.

3.4 - ARMING DELAY

There is a 30 sec. delay from the time the system is armed to allow you to leave the vehicle without triggering an alarm: it will be signaled by the LED powered ON steady.

3.5 - SYSTEM ARMED

After the arming delay the system is fully armed and ready to detect any alarm event. The LED will start flashing to confirm the armed status.

3.6 - ALARM, NEUTRAL TIME BETWEEN ALARMS AND ALARM CYCLES

Alarm events are signaled by acoustic signals. After an alarm event, there is a 5 sec. pause period before another alarm can be triggered.
Each alarm event can generate up to 10 cycles for each input and for each arming cycle. One alarm cycle lasts for 30 sec.

3.7 - SYSTEM DISARMING

Press the unlock button on the vehicle original remote control or button "**2**" on the Gemini remote control; disarming is confirmed by 2 Beeps (selectable feature).
If an alarm has occurred while the system was armed, 5 Beeps will be heard upon disarming.

3.8 - ALARM MEMORY

The LED memory allows to identify the last alarm event signaled by 5 Beeps upon disarming.

Turn ignition key ON, the status LED will flash a number of times to indicate what triggered the alarm system (see table below).

The flash sequence is repeated 3 times; to interrupt turn ignition key OFF.

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

4.0 - CONNECTOR PINOUTS

20-PIN CONNECTOR

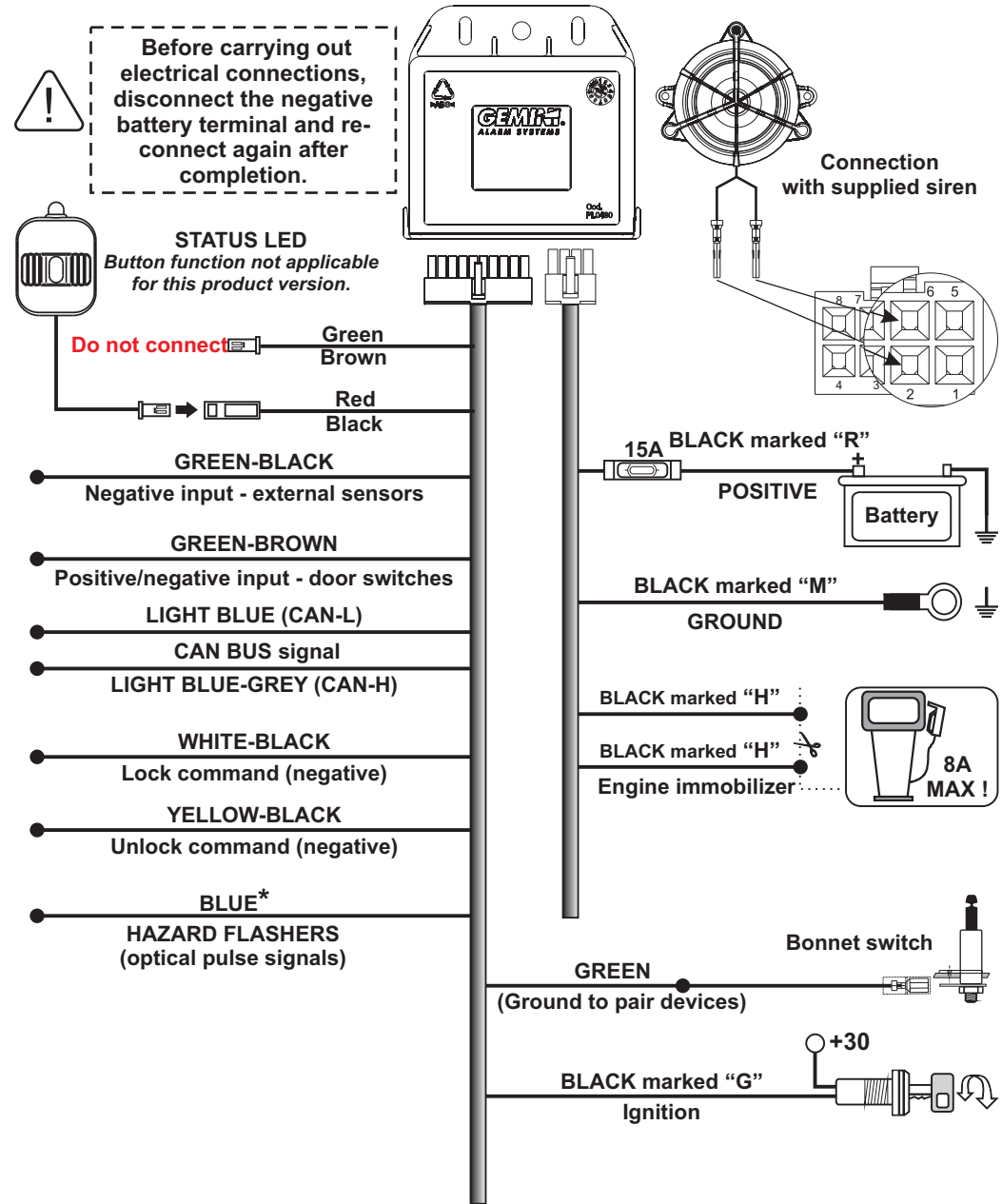| POSITION	WIRE FUNCTION	WIRE COLOUR
- 1 -	-----	-----
- 2 -	-----	-----
- 3 -	-----	-----
- 4 -	-----	-----
- 5 -	Positive/negative input - door switches	GREEN-BROWN
- 6 -	*DO NOT CONNECT*	GREEN
- 7 -	*DO NOT CONNECT*	BROWN
- 8 -	LED negative output	BLACK
- 9 -	LED positive output	RED
- 10 -	Ignition	BLACK marked "G"
- 11 -	CAN BUS (CAN-H) signal	LIGHT BLUE-GREY
- 12 -	CAN BUS (CAN-L) signal	LIGHT BLUE
- 13 -	-----	-----
- 14 -	Negative input - external sensors	GREEN-BLACK
- 15 -	Negative input - bonnet switch (for pairing purposes)	GREEN
- 16 -	Optical pulse signals (Hazard flashers)	BLUE
- 17 -	Lock command (1.5 sec.* negative lock pulse when pressing remote control button "1" or "3")	WHITE-BLACK
- 18 -	Unlock command (1.5 sec.* negative unlock pulse when pressing remote control button "2")	YELLOW-BLACK
- 19 -	-----	-----
- 20 -	-----	-----

* If the "Double pulse unlock" feature is enabled (par. 8.4), lock/unlock pulse time will be 0.5 sec. instead of 1.5 sec.

8-PIN CONNECTOR

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

For complete information regarding connections, please refer to the vehicle specific wiring diagram (available diagrams can be downloaded from the restricted area of our website: www.gemini-alarm.com

Before carrying out electrical connections, disconnect the negative battery terminal and re-connect again after completion.

Connection with supplied siren

STATUS LED
Button function not applicable for this product version.

Do not connect — Green / Brown

Red / Black

GREEN-BLACK
Negative input - external sensors

GREEN-BROWN
Positive/negative input - door switches

LIGHT BLUE (CAN-L)
CAN BUS signal
LIGHT BLUE-GREY (CAN-H)

WHITE-BLACK
Lock command (negative)

YELLOW-BLACK
Unlock command (negative)

BLUE*
HAZARD FLASHERS (optical pulse signals)

15A **BLACK marked "R"**
POSITIVE
Battery

BLACK marked "M"
GROUND

BLACK marked "H"
BLACK marked "H"
Engine immobilizer
8A MAX !

Bonnet switch

GREEN
(Ground to pair devices)

+30

BLACK marked "G"
Ignition

*BLUE wire: Optical signals activated by connection to the Hazard switch **ONLY** turn ON during an alarm condition.

6.0 - VEHICLE CODE PROGRAMMING

The system must be configured according to the specific vehicle on which it is to be installed.
To help you understand the coding procedure, the following example shows how to configure a vehicle with code **1-0-3** (which hypothetically corresponds to a "FIAT XXXXX").

> ⚠ The list of available vehicles and corresponding codes is included in the alarm packaging.
> Up-to-date information is available in the restricted area of our website.

> ⚠ The vehicle code must range between 100 and 235 otherwise the LED on the unit blinks repeatedly and the procedure is interrupted. The previously entered 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 entire procedure.

Plug the harness connectors into the alarm corresponding sockets.
Press and hold the button shown below until the LED lights up.
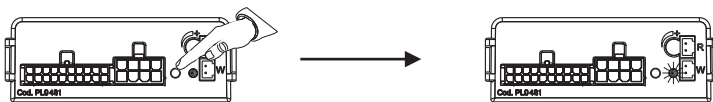
Release the button, the LED will switch OFF.
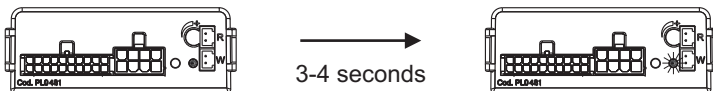
3-4 seconds

After 3 to 4 seconds, the LED will start flashing; count the flashes.
In this case press the button at the 1st flash which corresponds to the code 1st digit "**1**".

1st FLASH → Press

After a short pause, the LED will start flashing again.
Press the button at the 10th flash which corresponds to the 2nd digit "**0**".

10th FLASH → Press
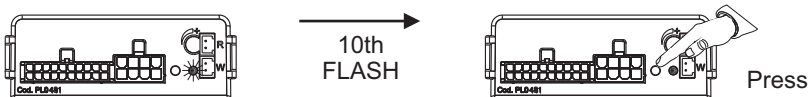
After another 4 seconds, the LED will flash for the third and last time.
Press the button at the 3rd flash which corresponds to the 3rd digit "**3**".

3rd FLASH → Press

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

 1 FLASH +
1 SHORT PAUSE

 10 FLASHES +
1 SHORT PAUSE

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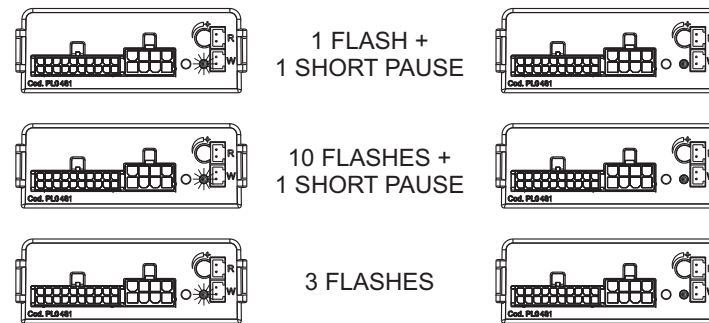
Press the vehicle remote control lock/unlock buttons to make sure the alarm system works properly.
If needed, disconnect the 8-pin connector and reconnect it after a few seconds.

7.0 - CONNECTIONS TO ARM/DISARM THE SYSTEM

The alarm system can work via CAN BUS (with the vehicle original remote control) and via the Gemini remote control (P/N 738NW).

> ➡ **During an alarm event the system cannot be disarmed via the Gemini remote control but only with the vehicle original remote control.**

7.1 - OPERATION VIA CAN BUS

Since arming/disarming and alarms are managed via the CAN BUS line, only the alarm CAN wires need to be connected to the vehicle CAN wiring (see available diagrams in the restricted area of our website).

7.2 - OPERATION VIA THE GEMINI REMOTE CONTROL

This connection allows to arm/disarm the system and lock/unlock the vehicle doors via the Gemini remote control (see wiring diagram).

For vehicle specific information, see available installation guidelines in the restricted area of our website.

8.0 - SYSTEM PROGRAMMING

The programming procedure must be carried out entirely by pressing the "ON" or "OFF" button to scroll through the features.

The table below applies to the factory settings, accessing the programming procedure will reset the features to their initial settings.

NB: A lack of power will not affect the programming.

	SELECTABLE FEATURE	DEFAULT SETTING	LED FLASHES
1	*For Gemini only*	*Key OFF/ON*	✳
2	**Arming/disarming acoustic signals**	**Enabled**	✳✳
3	**System passive arming**	**Disabled**	✳✳✳
4	**Door input - positive**	**Disabled**	✳✳✳✳
5	**Double pulse unlock**	**Disabled**	✳✳✳✳✳

8.1 - ACOUSTIC SIGNALS

Acoustic signals (Beeps) to confirm system arming/disarming operations.

8.2 - PASSIVE ARMING

If passive arming mode is enabled, the system will automatically arm 60 sec. after ignition is switched OFF and the last door is opened and closed. Opening a door during the 60-sec. passive arming countdown will cause the procedure to interrupt; it will resume once the door is closed.

8.3 - DOOR SWITCH POLARITY SELECTION

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

8.4 - DOUBLE PULSE UNLOCK

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.

DOUBLE PULSE UNLOCK QUICK ACTIVATION:

  - Disconnect the alarm and ground the Green/Black wire.
  - Connect the alarm power supply; 3 Beeps will confirm operation.
  - Remove the Green/Black wire from ground.

NB: To reset the default setting, repeat the above steps; a Bop will confirm the operation.
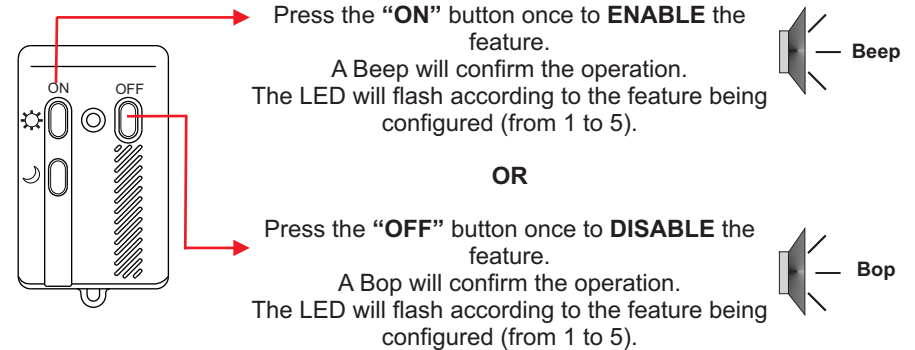
9.0 - SYSTEM PROGRAMMING EXAMPLE

Press the "ON" button to enable the features and the "OFF" button to disable them.

To enter in programming mode proceed as follows:

• With the alarm system disarmed, turn ignition key ON.
• Wait approx. 2 sec. for the LED to light up.
• While the LED is ON, press remote control **"ON"** button.

A Beep and a Bop will confirm the system is in programming mode.

Press the **"ON"** button once to **ENABLE** the feature.
A Beep will confirm the operation.
The LED will flash according to the feature being configured (from 1 to 5).

OR

Press the **"OFF"** button once to **DISABLE** the feature.
A Bop will confirm the operation.
The LED will flash according to the feature being configured (from 1 to 5).

In both cases, the system moves on to the next feature.
Repeat the above steps to enable or disable the other features.
When the last feature is configured, in addition to the confirmation tone, 2 Bops and a Beep will confirm the end of the programming procedure.

10.0 - PAIRING NEW DEVICES

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

⚠ Storing memory is for 60 devices. Adding an extra device will automatically delete the first device stored in the alarm memory.

To enter in pairing mode proceed as follows:
• With the system disarmed, open the vehicle bonnet and keep it opened or ground the GREEN wire.

⚠ The "ON-OFF" cycles must be carried out within 15 sec. otherwise the procedure is invalidated.

• Cycle ignition key 4 times within 15 sec. ("**ON-OFF**"-"**ON-OFF**"-"**ON-OFF**"-"**ON**") ending the cycle with the key in the "**ON**" position.
• A Beep and a Bop will confirm the system is in learn mode. The LED will power ON steady.

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

The system is ready to receive the device codes.

1. Depending on which device is to be paired:
• **Remote control:** Press one of the buttons twice in a row;
• **Magnetic contact:** Make it transmit twice (bring contact and magnet together and then move apart);
• **Opening detector:** Press the button twice;
• **Inclination sensor:** Take out the battery and reinsert to pair the device (see par. 13.0).

2. A Beep will confirm the device has been paired.

3. Repeat this same procedure to learn other devices.

4. Turn ignition key OFF.

5. A Bop will confirm the end of the procedure and the status LED will power OFF.

6. Close the bonnet or remove the GREEN wire from ground (bonnet switch).

11.0 - DELETING PROGRAMMED DEVICES

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

To clear the alarm memory proceed as follows:
• With the system disarmed, open the vehicle bonnet and keep it opened or ground the GREEN wire.

⚠ The "ON-OFF" cycles must be carried out within 15 sec. otherwise the procedure is invalidated.

• Cycle ignition key 4 times within 15 sec. ("**ON-OFF**"-"**ON-OFF**"-"**ON-OFF**"-"**ON**") ending the cycle with the key in the "**ON**" position.
• A Beep and a Bop will confirm the system is in delete mode. The LED will power ON steady.
• 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 power OFF to confirm the memory has been cleared.
• Turn ignition key OFF.
• A Bop will confirm the end of the procedure.

12.0 - ULTRASONIC VOLUMETRIC PROTECTION

### 12.1 - CONNECTIONS AND POSITIONING

Insert the WHITE connector in the "W" marked socket and the RED connector in the "R" marked socket (see figure below).
Install the cells, inside the cabin, in the top corners of the windshield pillars, away from the air vents and point them towards the center of the rear window.

12.2 - SENSITIVITY ADJUSTMENT

To check the sensor sensitivity level proceed as follows:
 • With the alarm system disarmed, roll down the front window approx. 20 cm.
 • Set the trimmer to an intermediate position (medium sensitivity).
 • Close all doors, bonnet and boot and arm the system.
 • During the arming delay 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.

SENSITIVITY ADJUSTMENT

ULTRASONIC CELLS CONNECTIONS
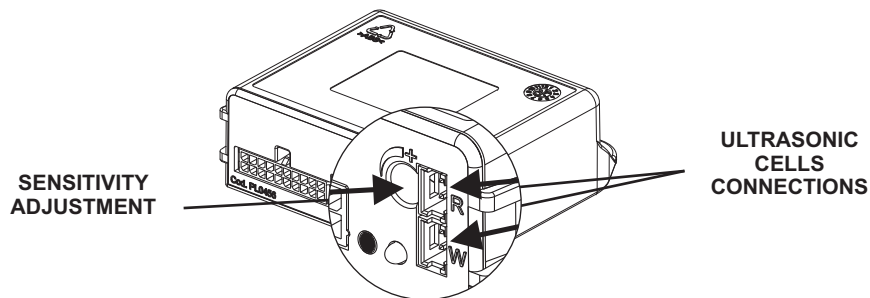
13.0 - WIRELESS WINDOW INCLINATION SENSOR 330W

This wireless inclination sensor which integrates a 2.45GHz radio transceiver is compatible with the Gemini 933MHW and 932MHW security systems (see par. 10.0 "PAIRING NEW DEVICES").

OPERATION:
The inclination sensor is designed to detect break-in attempts through caravan push-out windows or swing up hatch doors. It is easy to install with the supplied double-sided adhesive tape, just press onto the window pane to protect.
Once installed and paired, the sensor starts monitoring the window inclination angle. After approximately 10 seconds of inactivity, the sensor records the detected position and a quick flash of the LED will confirm the registration.
The sensor will then constantly compare the recorded initial position with subsequent readings and, if there is a deviation of at least 3 degrees, it will set off an alarm. A quick flash of the LED will confirm that an alarm has been triggered.
After an alarm has been set off, the sensor will wait for a 10-second period of inactivity before recording a new position.

BATTERY REPLACEMENT:

⚠ Use only CR2450 batteries. Risk of explosion if battery is replaced by an incorrect type.
Discard used batteries properly in special dedicated containers.

To remove the plastic cover from its base, insert a small screwdriver into the side notch and lightly pry open. Carefully remove the old battery and insert a new one with the positive side (+) facing upwards as indicated. Replace the sensor cover and make sure that it snaps shut.

PUSH-BUTTON FOR GEMINI USE ONLY
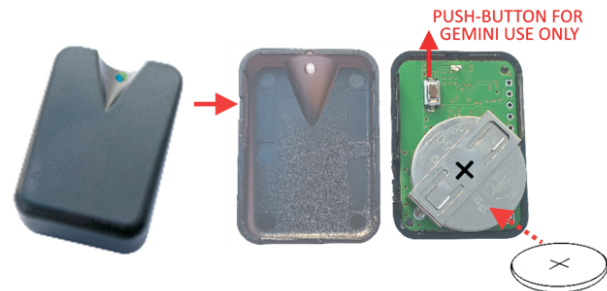
14.0 - SYSTEM RESET

⚠ A system reset will return the device to the factory settings.
This procedure must therefore only be used in case of need.

To reset the system proceed as follows:

 • Disconnect the alarm.
 • Short-circuit the RED and BLACK wires of the 2-pin LED connector.
 • Connect the alarm; 4 Beeps will confirm the alarm is powered.
 • Remove the previously created short-circuit; the status LED will light up steady.
 • Turn ignition key ON; reset is confirmed by a Beep and the wailing of the siren for approx. 3 sec.
 • Turn ignition key OFF.
 • The LED will power OFF to confirm the end of the procedure.

15.0 - TECHNICAL SPECIFICATIONS

Power supply	**12Vdc**
Current draw (system armed and LED flashing)	**15mA @ 12Vdc**
Operating temperature range	**-30°C => +70°C**
Engine immobilizer relay contact capacity	**8A @ 20°C**
Alarm cycle duration	**30 sec.**

16.0 - WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT

The present device falls within the field of application of the current WEEE Directive. The crossed-out wheeled bin symbol on the equipment or on its packaging indicates that the product, at the end of its useful life, must be discarded separately from other waste to allow adequate treatment and recycling.

The user must therefore take the equipment, at the end of its useful life, to an appropriate waste collection facility.