GEMINI®
ALARM SYSTEMS

931T

INSTALLATION AND USE MANUAL

UK

CE

Made in Italy

AC 2800 Rev. 01 - 06/14

UK

TABLE OF CONTENTS

Homologation number 931T Cat 2-1:	TQA429

1.0 - PRELIMINARY ADVICE

Dear Customer, thank you for purchasing the 931T alarm system.

The following symbols are included in the present manual to emphasize important instructions or particular functions or connections:

For the user.
This sign highlights useful information.

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

USER MANUAL

2.0 - OPERATING PROCEDURE

2.1 - COMPLETE SYSTEM ARMING

Press the lock button on the vehicle original remote control; arming is confirmed by a siren chirp and a flash of the turn indicators.
The system has a 30" pre-arming delay time indicated by the LED turned ON steady.

2.2 - SYSTEM ARMING WITH SENSOR AND COMFORT EXCLUSION

To arm the system and exclude the internal volumetric protection, external sensors (infrared wireless) and comfort feature, proceed as follows:

- Make sure the system is disarmed and ignition key "OFF".
- Insert the electronic key into the specific receptacle; the LED will flash quickly.
- Close vehicle doors and press the lock button on the original remote control.
- System activation is confirmed by a low tone acoustic signal and a flash of the turn indicators.

Exclusion of sensors and comfort feature is bound to each single arming cycle.

2.3 - PASSIVE ARMING

When passive arming is configured, the system automatically arms approx. 60" after ignition is switched off and after the last door is opened and closed.
System activation is confirmed by the standard optical/acoustic signal.

If passive arming is enabled, internal sensors and comfort output (automatic window roll-up) are excluded.
Opening a door 60" before the system is armed causes the procedure to interrupt; it will resume once the door is closed.

2.4 - ARMING DELAY

During the 30" inhibition time subsequent to arming (LED ON steady), you can exit the vehicle without triggering any alarm.

2.5 - SYSTEM ARMED

After the delay time the system is armed and ready to detect any theft attempt. When the system is fully armed, the LED flashes.

2.6 - ALARM, INHIBIT TIME BETWEEN ALARMS AND ALARM CYCLES

Theft attempts are indicated by acoustic/optical signals.
An alarm event can generate up to ten 30 second alarm cycles for each input and for each arming cycle. There is a 5 second delay between each cycle.

2.7 - SYSTEM DISARMING

Press the unlock button on the vehicle original remote control. Disarming is confirmed by 2 siren chirps and 2 flashes of the turn indicators.
Five acoustic signals and five flashes of the turn indicators warn there has been an alarm condition prior to disarming (par. 2.9 lists the various alarm causes and relative LED signals).

2.8 - EMERGENCY DISARMING BY ELECTRONIC KEY

This disarming mode is used for "EMERGENCY DISARMING" (in case your remote control is lost or not working) and "TOTAL DISARMING".
Touching the electronic key to its receptable disarms and switches OFF the system which will not rearm by using the remote control.

To restore normal operation, touch the electronic key once again to its receptacle. A quick chirp and a flash of the status LED will confirm that the system has returned in normal operation mode.

2.9 - ALARM MEMORY

Five flashes of the turn indicators and five siren chirps upon disarming warn that the alarm has been triggered in your absence. To identify the last cause of alarm, turn ignition key ON and count the status LED flashes; they will indicate the last alarm detected.
The flash sequence will be repeated 3 times; to interrupt, turn ignition key "OFF".

LED FLASHES	ALARM CAUSES	ALARM CYCLES
✷✷●✷✷	Ignition attempt (+15/54)	10
✷✷✷●✷✷✷	Door opening	10
✷✷✷✷●✷✷✷✷	Bonnet opening	10
✷✷✷✷✷✷●✷✷✷✷✷✷	Volumetric or external sensor	10
● LED OFF (2 seconds) ✷ LED ON (1 second)		

3.0 - WARRANTY CONDITIONS

This product is guaranteed to be free from manufacturing defects for a period of 24 months from the installation date shown on this warranty, in compliance with Directive 1999/44/CE.
Please fill-in entirely the guarantee certificate included in this booklet and do NOT REMOVE the guarantee label from the device.
The warranty will become void if labels are missing or torn, if the installation certificate is not fully compiled or if the enclosed sale document is missing.
The guarantee is valid exclusively at authorized Gemini Technologies S.p.A. Service Centers.
The manufacturer declines any responsibility for eventual malfunctions of the device or any damage to the vehicle electrical system due to improper installation, use or tampering.
This alarm system is solely intended to be a theft-deterrent device.

4.0 - WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) DIRECTIVE

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

5.0 - 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 at 20°C**
Alarm cycle duration	**30 sec.**
Maximum positive current output when armed (+A)	**700 mA**
Maximum load of siren output	**1 A**

6.0 - PINOUT TABLES

6.1 - 20-PIN CONNECTOR

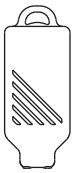
POSITION	WIRE FUNCTION	WIRE COLOUR
- 1 -	-----	-----
- 2 -	System arming signal	YELLOW-BLUE
- 3 -	System disarming signal	GREEN-BLUE
- 4 -	-----	-----
- 5 -	Door switch positive/negative input	GREEN-BROWN
- 6 -	Electronic key receptacle input	GREEN
- 7 -	Electronic key receptacle ground	BROWN
- 8 -	LED negative output	BLACK
- 9 -	LED positive output	RED
- 10 -	Ignition	BLACK marked “G”
- 11 -	CAN BUS signal (CAN-H)	LIGHT BLUE-GREY
- 12 -	CAN BUS signal (CAN-L)	LIGHT BLUE
- 13 -	Positive output with system armed (+A)	PINK
- 14 -	External sensors output	GREEN-BLACK
- 15 -	Bonnet switch negative input	GREEN
- 16 -	Hazard pulse	BLUE
- 17 -	Comfort negative output	WHITE-BLACK
- 18 -	Coded battery back-up siren or horn output	YELLOW-BLACK
- 19 -	Antenna	BLACK
- 20 -	Learning input and system arming/disarming via turn indicators	WHITE-ORANGE

WHITE-ORANGE wire must ALWAYS be connected if system is to operate through the turn indicators.

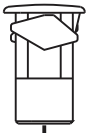
6.2 - 8-PIN CONNECTOR

POSITION	WIRE FUNCTION	WIRE COLOUR
- 1 -	Ground	BLACK marked “M”
- 2 -	-----	-----
- 3 -	Positive	BLACK marked “R”
- 4 -	Turn indicators positive output	ORANGE
- 5 -	-----	-----
- 6 -	-----	-----
- 7 -	-----	-----
- 8 -	Turn indicators positive output	ORANGE

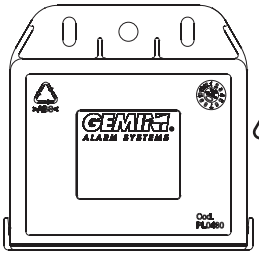
7.0 - COMPLETE WIRING DIAGRAM



ELECTRONIC KEY



RECEPTACLE



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

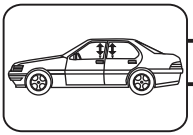
Green
Brown
Red
Black

GREEN-BLACK
External sensors output

GREEN-BROWN
Door switch positive/negative input

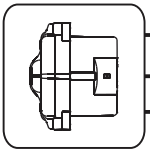
LIGHT BLUE (CAN-L)
CAN BUS signal
LIGHT BLUE-GREY (CAN-H)

WHITE-BLACK
Comfort output (negative)



YELLOW-BLUE
GREEN-BLUE
Input for system operation via the locking motors

PINK
Positive output with system armed (+A)

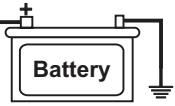


BLACK marked R (+30)
BLACK marked M (negative)
BLACK marked L

YELLOW-BLACK
Coded battery back-up siren, additional siren or output for vehicle horn

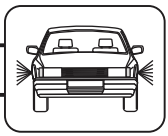
BLUE
Hazard pulse

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



BLACK marked "M"
GROUND

ORANGE
ORANGE
Turn indicators

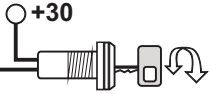


WHITE-ORANGE
Input for system operation via the turn indicators

OPTIONAL
Bonnet switch

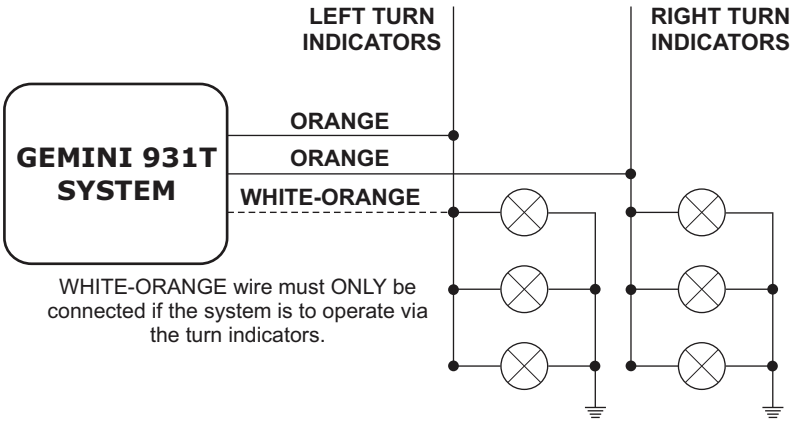
GREEN

+30
BLACK marked "G"
Ignition

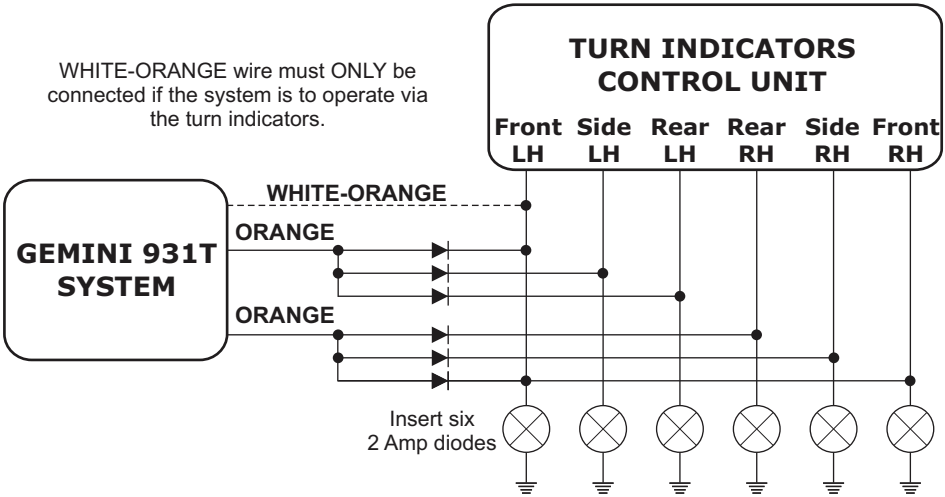


8.0 - WIRING DIAGRAMS FOR TURN INDICATORS

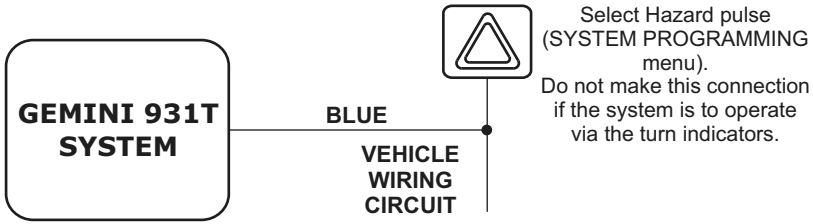
8.1 - STANDARD CONNECTIONS



8.2 - CONNECTIONS FOR VEHICLES WITH SEPARATE LINES



8.3 - CONNECTION TO HAZARD SWITCH



9.0 - CENTRAL LOCKING CONNECTIONS TO ARM/DISARM THE SYSTEM

The 931T system can operate in various modes according to the vehicle on which it is installed and the available connections (refer to the vehicle installation specifications).
The alarm system can be managed via the vehicle CAN BUS line and operate in combination with the the turn indicator flashes and/or the door locking motors.The system automatically manages the different arming/disarming signals.

The various arming modes are listed below and the connections indicated in the following paragraphs.

- Arming via CAN BUS line.
- Arming via locking motors.
- Arming via turn indicator flashes.
- Arming via turn indicator flashes and locking motors.
- Arming via turn indicator flashes, locking motors and CAN BUS line.

9.1 - CONNECTIONS AND MANAGEMENT VIA CAN BUS LINE

System arming/disarming and alarms being managed via CAN, only connect the alarm CAN BUS wires to the vehicle CAN line (see available diagrams at: www.gemini-alarm.com (private area).

9.2 - CONNECTIONS TO LOCKING MOTORS

System arming/disarming connections must be made to the vehicle locking motors (polarity inversion).

9.3 - CONNECTIONS TO TURN INDICATORS

If the turn indicators lock/unlock flashes are identical, connect the door lock motors.

If the turn indicators flash when unlocking with the car mechanical key, do not make this connection.

To arm/disarm the system, connect the WHITE-ORANGE wire to a wire of the turn indicators.

9.4 - COMBINATION CONNECTION

This type of connection allows the system to operate via the CAN BUS line with the turn indicators or the door lock motors or both.

The system will automatically manage the different lock/unlock signals according to the selected configuration and connections.

10.0 - VEHICLE CODE PROGRAMMING

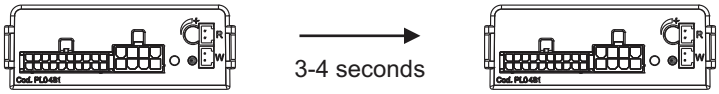
If the system is to be managed via CAN BUS line, it must be configured according to the vehicle on which it is to be installed.
Here below is an example illustrating the configuration procedure. In this case the code used is 1-0-3 which hypothetically corresponds to a "FIAT XXXXX".

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

The system 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 are no optical warnings, the procedure is simply interrupted.
In either case, repeat the entire procedure.

Connect the harness 20-way connector to the alarm 20-way connector.
Press and hold the button shown below until the LED lights up.

Release the button, the LED switches off.

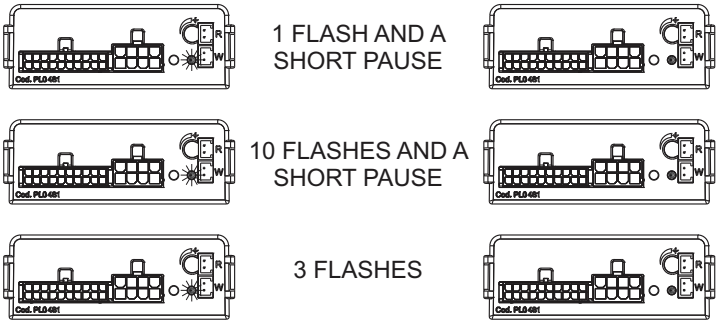


After 3/4 seconds, the LED starts flashing.
Press the button at the 1st flash which corresponds to number "1".

After 4 seconds, the LED starts flashing again.
Press the button at the 10th flash which corresponds to "0".

After another 4 seconds, the LED flashes one last 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 (1-0-3).



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

11.0 - LEARNING OF TURN INDICATORS FLASHES

In order to arm/disarm through the turn indicators, the system must learn the vehicle lock (arm) and unlock (disarm) flashes.

Connect the WHITE-ORANGE wire to the turn indicators and proceed as follows:

- Disconnect the 8-way harness connector from the 8-way alarm connector.
- Turn ignition key “ON”.
- Connect the 8-way harness connector to the 8-way alarm connector; the LED turns ON steady.
- Turn ignition key OFF.
- Close all doors and press the lock button on the original remote control.
- When the turn indicators stop flashing, a high-pitch acoustic signal confirms the arming flashes have been learnt.
- Press the unlock button on the original remote control.
- When the turn indicators stop flashing, 2 high-pitch audio signals confirm the disarming flashes have been learnt.

To cancel the programming of the turn indicators reset the system (see chapter 17.0).

12.0 - SYSTEM PROGRAMMING

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

FEATURES	DEFAULT STATUS	LED FLASHES
‘*Exclusion*’ of arm/disarm optical signals	Disabled	✷
‘*Exclusion*’ of arm/disarm acoustic signals	Enabled	✷✷
System passive arming	Disabled	✷✷✷
Battery back-up coded siren	Enabled	✷✷✷✷
Door input - positive	Disabled	✷✷✷✷✷
Negative output during alarm cycle	Disabled	✷✷✷✷✷✷
For Gemini only - Turn ignition key	Disabled	✷✷✷✷✷✷✷

A lack of power during electrical system maintenance, will not affect the system configuration.
Be aware that every key turn disables the selected feature and moves to the next one until the programming procedure is completed. The procedure must be carried out entirely.
Programmable features are briefly described below while the programming instructions are illustrated in the next paragraph.

12.1 - OPTICAL SIGNALS

Arming/disarming with optical signals (default setting => optical signals ON).

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

12.2 - ACOUSTIC SIGNALS

Arming/disarming with acoustic signals (default setting => acoustic signals OFF).

12.3 - PASSIVE ARMING

The system will automatically arm 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 and it resumes when the door is closed.

12.4 - ENABLING OF SIREN (ART. 7725T) OUTPUT

This feature enables communication between the alarm system and the coded siren (ref. 7725T).

12.5 - DOOR SWITCH POLARITY SELECTION

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

12.6 - NEGATIVE OUTPUT SELECTION (DURING ALARM) FOR HORN OR ADDITIONAL SIREN

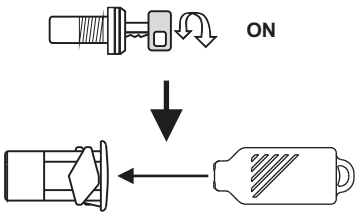
If configured, this feature arms the output for the siren (continuous tone) or for the horn (intermittent tone). (Default setting => siren).

Cannot be selected if the feature relative to the coded auxiliary siren (7725T) is activated.

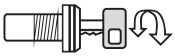
13.0 - SYSTEM PROGRAMMING EXAMPLE

Here below is an example that illustrates the steps to follow to modify the programmable features. As mentioned before, **every key rotation disables** the features, while the **electronic key enables** them. When ignition is turned ON or OFF or the electronic key is touched to its receptacle, a high or low pitch signal sounds and the LED flashes according to table 12.0.

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

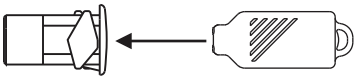


Two acoustic signals (a high and a low-pitch sound) and two flashes of the turn indicators confirm that the system is in programming mode.



Turn ignition “OFF” and then back “ON” to disable the feature.
A low-pitch signal will confirm the operation.
The LED will flash according to the selected feature (from 1 to 7).

OR



Insert the electronic key once in its receptacle to activate the feature.
A high-pitch signal will confirm the operation.
The LED will flash according to selected feature (from 1 to 7).

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

14.0 - ADDING NEW DEVICES

To carry out the operation successfully, make sure the required electrical connections (bonnet switch and ignition) are complete.

To activate the procedure proceed as follows:

- With the system disarmed, open the bonnet and leave it open.

The following operations must be carried out within 4 seconds otherwise the procedure is invalidated.

- Turn ignition key “ON-OFF”-“ON-OFF”-“ON-OFF”-“ON”; on the 4th turn, leave it “ON”.
- To confirm it has entered in learn mode, the system gives 2 acoustic signals (1 high and 1 low-pitch signal), 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.

- Insert the electronic key into the receptacle; each time a device is learned a high-pitched signal sounds and the status LED turns OFF briefly.
- Repeat this procedure to learn other devices.
- Turn ignition key “OFF”; the end of the procedure is confirmed by a low-pitch signal, the turn indicators flash once and the status LED turns OFF.

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

15.0 - DELETING PROGRAMMED DEVICES

To carry out the operation successfully, make sure the required electrical connections (bonnet switch and ignition) have been made.

All devices stored in the system memory can be erased; to clear memory proceed as follows:

- With the system disarmed, open and keep opened the vehicle bonnet.

The following operations must be carried out within four seconds otherwise the procedure is invalidated.

- Turn ignition key “ON-OFF”-“ON-OFF”-“ON-OFF”-“ON”; on the 4th turn, leave it “ON”.
- To confirm it has entered in delete mode, the system gives 2 acoustic signals (a high and a low-pitched signal), the turn indicators flash once and the LED turns ON.
- Close the bonnet and keep it closed (approx. 8 sec.) until the devices are completely deleted.

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

- The status LED turns OFF when the devices have been deleted; turn ignition key “OFF”.
- The end of the procedure is confirmed by 1 long low-pitched acoustic signal.

16.0 - ULTRASONIC VOLUMETRIC PROTECTION

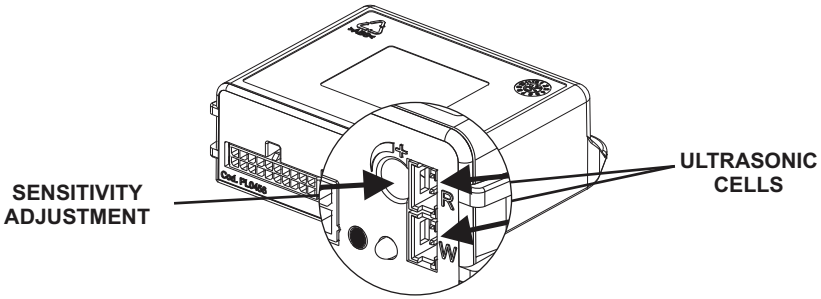
16.1 - CONNECTION AND POSITIONING

Insert the WHITE connector in the “W” marked socket and the RED connector in the “R” marked socket (see figure below).
Install the transducers of 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.

16.2 - SENSOR ADJUSTMENT

To check the sensitivity level proceed as follows:

- With the alarm system disarmed, roll down the front window approx. 20 cm.
- Adjust the trimmer at a medium setting.
- Close all doors, bonnet and boot and arm the system.
- During the arming inhibit 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 sensitity level is too high or too low, readjust the trimmer and repeat the above procedure.



17.0 - SYSTEM RESET

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

To reset the system proceed as follows:

- Disconnect the alarm power supply.
- Short-circuit the RED and BLACK wires of the 2-pin LED connector.
- Power the system; 4 acoustic signals and 4 flashes of the turn indicators will confirm the operation.
- Remove the previously created short-circuit; the status LED lights up steady.
- Turn ignition key “ON”; reset is confirmed by an aucoustic signal and the wailing of the siren for approx. 3 seconds.
- Turn ignition key “OFF”; the LED will turn off. There are no acoustic signals.

Gemini permanently fitted aftermarket equipment must be installed by qualified and authorised installers.
Thatcham recommends to its insurer members that the installations of certified products within the aftermarket are registered with an independent installation registration system which can be accessed by insurance companies.
Thatcham administers the Thatcham Recognised Installer scheme, on behalf of the British motor insurance industry, providing independent registration of installations to vehicle owners.
Details of the Thatcham Recognised Installer scheme can be found at www.thatcham.org.
To ensure consumers insurance cover is not adversely affected it is highly recommended that all installations are carried out by Thatcham recognised installers and that all installs are registered providing the vehicle owner with a Thatcham recognition of installation for presentation to insurers.

Thatcham recommends to its insurer members that the installations of certified products within the aftermarket are registered with an independent installation registration system which can be accessed by insurance companies.
If seeking insurer recognition for the fitment of this product it is likely that the installation will have to be carried out by a Thatcham recognised installer.
A full list of Thatcham recognised installers is available at www.thatcham.org.

AVS

GEMINI ALARM SYSTEMS

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