Hawk®
ALARM • IMMOBILISER

HA - GPS 01

MANUAL

ISO 9001 QS 9000 FC CE

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**THIS INSTRUCTION MANUAL IS IMPORTANT.
PLEASE READ IT BEFORE INSTALLING THE UNIT.**

HAWK
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Introduction

GPS Accuracy

GPS is the most widely used global positioning technology. Originally developed by the US Department of Defence, GPS is used for many different applications including, offshore ocean navigation, direction finding, exploration and vehicle locating. Without Selective Availability, GPS is accurate to within a radius of 6.3 meters of a location (95% of the GPS points fall within this radius).

There are inherent limitations to wireless communications and the Global Positioning System (GPS).

The HAWK HA-GPS-01 uses industry standard cellular wireless communications networks (cellular) to communicate with vehicles. Therefore, vehicles must be within cellular coverage to communicate. Cellular networks currently cover approximately 95% of populated Europe.

The GPS transceiver in the onboard device must have a direct line of sight with three or more of the 24 satellites in the GPS constellation to provide accurate location information. Underground parking garages, concrete enclosures and urban canyon are some instances when the direct line of sight may be obstructed.

Satellites are in a 12-hour orbit at 12,000 miles above the earth. There are 24 satellites in the system and generally there are at least 5 satellites orbiting overhead at any one time. The HA-GPS-01 Series relies on the signal from multiple satellites to determine its location on earth. The satellite signal is received via the combination GPS / Cellular antenna built within HA-GPS-01 Series.

W*hen powered the unit will search for satellite acquisition. The first time the unit is powered this unit may take up to 25 minutes or longer. Thereafter, when the unit in regular use, satellite acquisition should be shorter.*

Feature & Functions

- Support SMS & GPRS orientation.
- Sealed & rain proof
- Remote Arm / Disarm
- Remotely stop vehicle by phone (immobiliser)
- Vibration alarm (Via SMS command)
- Main power cut alarm
- Low power alarm
- Built in Battery backup (approx 10 minutes)
- Google link to show vehicle position in map by phone (Apple, Win7 or Android Phones)

Technical Specification

GPS Specifications:	Power Specifications:

Reception Mode:	12 channels in parallel	Power Voltage:	DC 6-12v
Frequency:	1575.42 Mhz C/A	Current:	<35mA
Sensitivity:	-159dBm	Largest Transient Current	300mA
Accuracy:	<10 Meters (in open field)	Sleep Mode:	<10mA
Data Update:	1Hz Continuous update	Capacity:	450mA
GPS Position time:	Cold boot @ 38 seconds, warm boot @ 10 seconds	Standard	053037
System restart time:	15 seconds		
Work temperature	-20 C - +70 C	I/O port	4
Humidity	20% ~ 80%	Unit Volume	60x46x24 (mm)
Support press	70-100Kpa	GSM Frequency :	850/900/1800/1900 Mhz
Waterproof Grade:	IPX-5	Unit Weight Approx	100g
Battery Backup	450mA	-	-

HAWK TRACKING INSTALLATION GUIDE

General Safety

This installation manual covers the installation of the HA-GPS-01 Series. This manual is for the professional and novice installer and should be used to ensure a safe and functional install of the HA-GPS-01 Series. The following information should be noted with respect to operating the HA-GPS-01 Series in various environments, since the cellular transceiver component works through RF (Radio Frequency). Vehicles Equipped with Airbags

Vehicles Equipped with Airbags

• DO NOT place objects, including communication equipment, in the area over the airbag or in the air bag deployment area.

• If the communications equipment is improperly installed and the airbag inflates, this could cause serious injury.

• Contact the vehicle manufacturer's corporate headquarters, if necessary, for specific airbag information for the vehicle.

• DO NOT run cables under the area reserved for the driver's feet.

SIM Card Installation & Removal

Your HA-GPS-01 may come with pre-installed with a Pay as you go SIM card. Note the mobile number on the Pay as you go Mobile SIM packaging. This is the number you will SMS commands to. Keep this number secret as it adds another level of security. You have to top up supplied card in order to activate the
SIM card.

Should you supply your own SIM card, be sure to delete all phone book entries, messages & check that the 4- digit SIM pin number is disabled before installation into the HA-GPS-01.

Installation of the SIM Card

Equipment required:

- No 1. Philips head screw driver
- Manual dexterity

1. Open the main case.
2. Using a fingernail, slide the SIM card retainer toward the 'open' direction.
3. Noting orientation, remove and / or replace the SIM card as required.
4. Slide the SIM card retainer back to the 'locked' position, securing the SIM card.
5. **Once the SIM card is installed, connect the white 2 pin plug.**
6. Close the main case and refit the 4 x Philips screws.

Installation of the main unit

Basic Tools Needed for Installation

- Metric and standard socket set
- Screwdriver set
- Side cutters, wire cutters
- Knife or box cutter
- Wire strippers
- Hand Crimper for insulated terminals
- Pliers
- Electrical tape
- Automotive upholstery or trim remover
- Flashlight or trouble light
- Cordless drill with accessories
- Assorted common bit set
- Digital Multi meter

It is strongly recommended that a Digital Multi meter be used when probing electrical systems in the vehicle to avoid any damage to computers or airbag systems.

- The HA-GPS-01 may be installed in any type of 12-volt vehicle.
- To get optimum GPS signal function make sure to install the main unit with the front part facing the sky. (See Fig. 1)
- Any metallic objects between the antenna and the satellites will degrade the signal and reduce the overall performance. The GPS signals will travel through the clear glass but will be reduced if window has any metallic coating or tint applied.
- Some examples of mounting locations include under the dash above the knee bolster, under the centre console, on motorcycle under the seat.
- Secure the HA-GPS-01 to the vehicle using supplied double sided tape. Ensure that HA-GPS-01 and associated cabling is fixed securely, away from the engine, exhaust and other sources of heat.

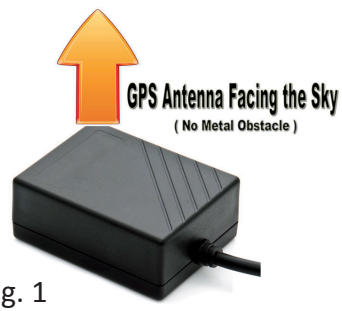


Fig. 1

Connecting the Wiring Harness

Do not connect RED wire to battery until all other wirings connected.

Note: 1: Install HA-GPS-01 according to the below steps & sequences.

During Installation do not turn on the device, i.e. do not connect to power until all other wiring done.

When main unit power is connected, system will initial for 60 seconds.

Note 2: When you change SIM card or detach the unit, disconnect RED wire from the battery positive terminal and disconnect 2 pin white plug from the main control box then remove the SIM card.

Do not remove or install SIM card when there is power supply!!!

Main Harness

Stand Alone
(Not connected to HAWK Alarm System)

3 Pin - Plug	Red	12 Volts Constant Positive connect with 10amp fuse (not supplied)
	Black	Negative (-)
	Yellow	**Do Not Connect**

4 Pin - Plug	Black	Negative (-)
	Brown	S.O.S button Negative trigger (optional)
	White	**Do Not Connect**
	Green	Immobiliser positive output (+)

Connected to Hawk Motorcycle Alarm

3 Pin - Plug	Red	12 Volts Constant Positive connect with 10amp fuse (not supplied)
	Black	Negative (-)
	Yellow	**Do Not Connect**

4 Pin - Plug	Black	Negative (-)
	Brown	S.O.S button Negative trigger (optional)
	White	HAWK Motorcycle Data Input (-) Connect to White wire of X50/60 Alarm
	Green	Immobiliser positive output (+)

Connected to Hawk Car Alarm

3 Pin - Plug	Red	12 Volts Constant Positive connect with 10amp fuse (not supplied)
	Black	Negative (-)
	Yellow	HAWK Car Alarm Data Input (+) Connect to Alarm White wire of Siren output

4 Pin - Plug	Black	Negative (-)
	Brown	S.O.S button Negative trigger (optional)
	White	**Do Not Connect**
	Green	Immobiliser positive output (+)

The following wires require connection to the vehicle wiring harness.

- Constant Power wires (red) 12v DC when the key is removed from the ignition, or direct connection to battery positive terminal. Connect with 10amp fuse (not supplied).
- Ground wire (black) to a metal surface, or direct to battery negative (-) terminal.
- A good ground connection must be established for the HA-GPS-01 to operate properly. Resistance to ground is the main cause of failure.
- Ensure the location you choose for your ground connection is made of metal not plastic.
- Scrap away any paint on the vehicle ground to make a clean mounting surface.

Connecting the Starter Disable Feature:

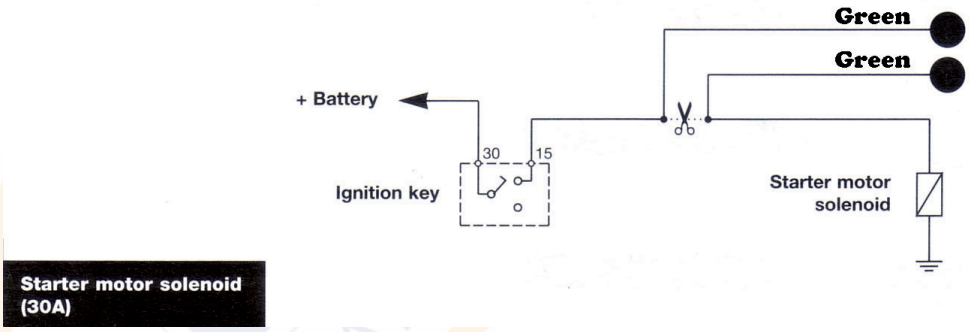
The wire harness containing the starter wire may be located on either side of the steering column.

Using a Digital Multi meter probe the wire you suspect to be the starter wire. This wire will have a +12VDC present only when the ignition switch is in the (START/CRANK) position.

1. Cut the starter wire in a location that allows easy access to both ends for stripping and adding a crimp connector. Strip each end with wire strippers.

2. Place the key in the ignition switch and rotate to the start position. If the correct wire has been cut the motor will not crank. Use a digital multi meter to determine which of the two stripped wires has a +12VDC present in the START/CRANK position (normally the wire that leads to the ignition switch)

See below for example of immobiliser installation diagrams:



Starter motor solenoid (30A)

1. 2 x Green Immobiliser Circuit (see above)

2. Connect White wire of Immobiliser socket to Green wire of 4 pin connector of GPS System

3. Connect Yellow wire of Immobiliser socket to Negative (-) Permanent

SMS Configuration Commands

The HA-GPS-01 will only acknowledge and execute 'correctly formatted' SMS (Text) commands. Commands that are received and processed successfully will be acknowledged with a status SMS (Text) message (only to the mobile number set by the user, see below).

SMS (Text) commands may be sent to the HA-GPS-01 from any mobile phone. Note however, that the HA-GPS-01 will only ever send acknowledgement to the mobile phone number set by the user.

All SMS commands are in ***uppercase letters.***

Incorrectly formatted commands or those with an incorrect PIN number will be ignored and deleted.

To set the mobile number to which the HA-GPS-01 sends acknowledgements and alerts.

123456*Aphone number*B*

E.g. if your mobile number was: 07950123456, you type 123456*A07950123456*B*

HA-GPS-01 replies back 'Set AB number OK'

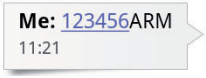
Please note: Factory default pin number is 123456

1) **To change pin number**. Your pin number must be 6 digits. For example to change pin number from 123456 to333666, send the following SMS command

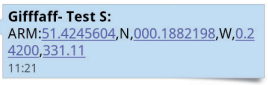
Command: **123456PSW333666**

2) **ARM Command**: Arms the HA-GPS-01

Command: **123456ARM**



HA-GPS-01 replies back 'ARM with longitude and latitude'



3) **Disarm Command**: Disarms the HA-GPS-01

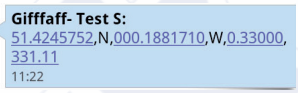
Command: **123456DSM**

HA-GPS-01 replies back 'DisARM with longitude and latitude'

4) **To Track the vehicle**

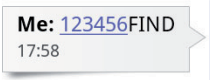
Command: **123456TRK**

HA-GPS-01 replies back with
latitude and longitude and Vehicle Status



5) **Find the vehicle via Smart Phone** (Iphone, Windows 8 or Android phones)

Command: **123456FIND**

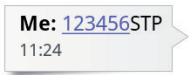


Send the above command to HA-GPS-01 tracker and you will receive a SMS with http link; Click on the SMS link to access Google map.

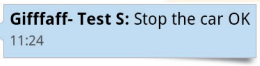
6) Stop the vehicle {immobilise} (starter disable feature wired)

Disable your vehicle's starter if it is stolen. The next time your vehicle's ignition is turned off and then on, it will not start.

Command: **123456STP**



HA-GPS-01 replies ' Stop the car OK'

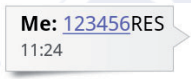


Make sure the vehicle is stationery when using the 'Stop the vehicle' command. Commercial Electronics will not accept any responsibility or liabilities for misuse.

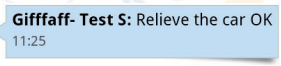
7) To enable engine after using the 'Stop the vehicle' command.

Once it is secure to do so, enable your vehicle's starter from its disabled state.

Command: **123456RES**

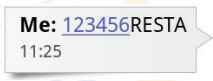


HA-GPS-01 replies 'Relieve the car OK'

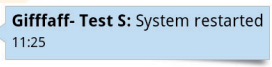


8) Restart the HA-GPS-01 tracker.

Command: **123456RESTA**



HA-GPS-01 replies 'System restarted'



9) Reset HA-GPS-01 tracker to factory default including pin numbers, setting etc

Command: **123456RESET**

HA-GPS-01 replies 'System reset'

In order to conserve battery power, HA-GPS-01 tracker goes into sleep mode within 10 minutes after turned on.

If any alarm event occurs, HA-GPS-01 tracker will send SMS text alert to your phone.

HA-GPS-01 tracker can be awaken by either pressing optional S.O.S button or sending below SMS command.

123456STR

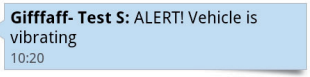
Text Alerts sent to your mobile – you will receive a SMS within moments of any warning or low battery event.

If the HA-GPS-01 tracker system is connected to HAWK X-50/60 Motorcycle alarm or HAWK Car Alarm. HAWK HA-GPS-01 will send automatic SMS warning without having to 'ARM' the tracker system.

Text Alerts for HAWK Tracker not connected to HAWK Car or X50/60 Motorcycle Alarm (Stand alone).

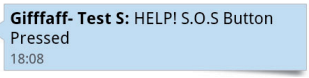
In the event of HA-GPS-01 tracker internal shock sensor activated with ARM command.

ALERT! Vehicle is vibrating



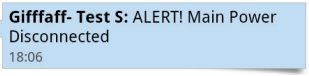
In the event of optional S.O.S button pressed.

HELP! S.O.S Button pressed



In the event of power disconnected.

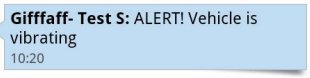
ALERT! Main power Disconnected



Text Alerts for HAWK Tracker connected to HAWK Car Alarm.

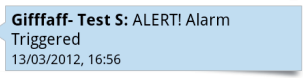
In the event of HA-GPS-01 tracker internal shock sensor activated with ARM command.

ALERT! Vehicle is vibrating



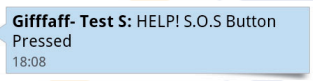
In the event of HAWK car alarm triggered.

ALERT! Alarm Triggered



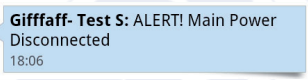
In the event of optional S.O.S button pressed.

HELP! S.O.S Button pressed



In the event of power disconnected.

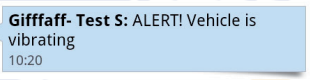
ALERT! Main power Disconnected



Text Alerts for HAWK Tracker connected to HAWK X-50/60 Motorcycle Alarm.

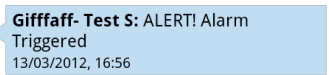
In the event of HA-GPS-01 tracker internal shock sensor activated with ARM command.

ALERT! Vehicle is vibrating



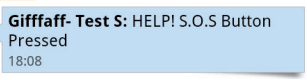
In the event of HAWK X-50/60 Motorcycle alarm triggered.

ALERT! Alarm Triggered



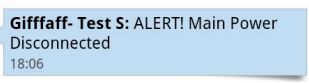
In the event of optional S.O.S button pressed.

HELP! S.O.S Button pressed



In the event of power disconnected.

ALERT! Main power Disconnected



Troubleshooting

When powered the unit will search for satellite acquisition. The first time the unit is powered this unit may take up to 25 minutes or longer. Thereafter, when the unit in regular use, satellite acquisition should be shorter.

General Considerations

Wireless Coverage Area:

Wireless technology is required to access the HAWK HA-GPS-01 GPS vehicle tracking system. The HAWK HA-GPS-01 GPS vehicle tracking system utilizes the broadest coverage area networks.

There are areas within Europe that have not yet been included in the wireless coverage area. If a vehicle travels out of coverage, or is in a poor coverage area, communication with that vehicle is unavailable until it returns to the coverage zone. From time to time, poor coverage areas (“holes”) occur even in fully developed areas, thereby limiting system performance.

GPS Drift, Urban Canyon:

GPS is a satellite based positioning system providing the greatest coverage available, but there are still some circumstances that can hinder the performance of the system. The GPS Main box must have a direct line of sight to the satellites. If the path is blocked or obstructed by underground parking lots, or the shadow of tall buildings, it can affect the GPS receiver. What typically occurs in this case is the system will recognize that it is not receiving a clear GPS signal, and will report the last known clear location of that vehicle.

Tampering with the Unit - Human Intervention:

If the unit is tampered with - antennas (GPS or cellular) or wires disconnected, or the unit completely removed, the functionality of the system will be jeopardized.

However, steps can be taken to prevent this from occurring. Upon installation, the components should be hidden, making the system difficult to detect and tamper with.

Hardware

This section provides detailed instructions to assist in identifying the root cause of issues related to the HAWK HA-GPS-01 vehicle tracking system or associated accessories.

- The HAWK HA-GPS-01 vehicle tracking system equipment has no serviceable parts.

The following lists potential issues that may be encountered when testing the HAWK HA-GPS-01 vehicle tracking system equipment, and provides recommendations on resolution.

HA-GPS-01 will not respond to SMS commands

- Possible causes; HA-GPS-01 outside of GSM coverage
- HA-GPS-01 SIM Card out of credit or not activated
- Incorrect PIN number sent with command
- Mobile number entered incorrectly when activating the phone
- SIM Card PIN is active – Remove SIM card, put in a mobile and disable SIM PIN
- No power to HA-GPS-01 – check fuse or battery connections

Vehicle starts when "Disabled":

If the vehicle engine starts when the "Vehicle Disabled" feature is selected, the wrong wire may have been chosen in the vehicle. Confirm the right wiring in the vehicle has been selected.

Vehicle engine will not start:

If the vehicle engine cranks over, or the starter solenoid makes a clicking sound, the issue is normally related to the vehicle and not the HAWK HA-GPS-01 GPS.

Notes

NON-TRANSFERABLE HARDWARE LIMITED WARRANTY

Commercial Electronics promises to the original purchaser that the GPS automotive tracking unit (the Product), excluding accessories, purchased and installed from a Commercial Electronics authorised dealer is free from defects in materials or workmanship under normal use and conditions for a period of one year.

Should the Product be determined defective during the applicable warranty period, the Product will be repaired or replaced with a new or comparable reconditioned part(s), at option. To obtain warranty service, the Product must be returned to a Commercial Electronics authorised dealer along with proof of purchase and installation, evidenced by the original Product purchase receipt.

Note: This warranty does not cover labour costs for the removal and reinstallation of the Product. This warranty does not cover subscriber agreements or failure of services provided under the terms of the subscriber agreement, or failure of GPS satellite transmission or cellular network function. Purchaser is required to enter separate subscriber contracts in order to receive these services. **IN ORDER FOR THIS WARRANTY TO BE VALID, YOUR PRODUCT MUST BE DELIVERED WITH PROOF OF PURCHASE AND PROOF OF INSTALLATION BY AN AUTHORISED COMMERCIAL ELECTRONICS DEALER. ALL PRODUCTS RECEIVED BY COMMERCIAL ELECTRONICS FOR WARRANTY REPAIR WITHOUT PROOF OF COMMERCIAL ELECTRONICS DEALER INSTALLATION WILL BE DENIED.**

This warranty is non-transferable and does not apply to any Product that has been modified or used in a manner contrary to its intended purpose, and does not cover damage to the Product caused by installation or removal of the Product. This warranty is VOID if the product has been damaged by improper maintenance, accident or unreasonable use, negligence, acts of God, neglect, improper service or other causes not arising out of defect in materials or construction. This warranty does not cover the elimination of externally generated static or noise, or the correction of antenna problems or weak GPS reception, damage to software, accessories or vehicle electrical systems, cosmetic damage or damage due to negligence, misuse, abuse, failure to follow operating instructions, accidental spills or customer applied cleaners, damage due to environmental causes such as floods, airborne fallout, chemicals, salt, hail, windstorms, moisture, lightning or extreme temperatures, damage due to accidents, road hazards, fire, theft, loss or vandalism, damage due to improper connection to equipment of another manufacturer, modification of existing equipment, faulty installation or use of a Product which has been opened or tampered with for any reason or which has been damaged due to alteration or service performed by anyone other than Commercial Electronics.

EXCEPT AS STATED HEREIN, ALL WARRANTIES INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY ARE EXPRESSLY EXCLUDED TO THE MAXIMUM EXTENT ALLOWED BY LAW, AND COMMERCIAL ELECTRONICS NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY LIABILITY IN CONNECTION WITH THE SALE OF THE PRODUCT. COMMERCIAL ELECTRONICS HAS ABSOLUTELY NO LIABILITY FOR ANY AND ALL ACTS OF THIRD PARTIES INCLUDING ITS LICENSED DEALERS OR INSTALLERS. IN NO EVENT WILL COMMERCIAL ELECTRONICS BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFITS), BY PURCHASING THIS PRODUCT, THE CONSUMER AGREES AND CONSENTS THAT ALL DISPUTES BETWEEN THE CONSUMER AND COMMERCIAL ELECTRONICS SHALL BE RESOLVED IN ACCORDANCE WITH LAW OF ENGLAND & WALES UK.