



Falcon Protector Tracking System

Product Overview

The Falcon Protector is a GPS and GSM tracking device which is specially developed and designed for vehicle tracking.

With the latest SIFR III GPS module and SIM300 GSM module it has excellent sensitivity and stable performance and can get an accurate GPS fix even in remote places.

The Falcon Protector has the following features:

Tracking via SMS
Current location report
Tracking by time interval
SOS panic button
Geo-fencing alert
Speeding alert
Low battery alert
Power cut alert

Technical Specification

Power Supply +9V to +35V / 1.5A
Backup Battery 850mAh
Dimension 115mm x 60mm x 21mm
Installation Dimension 115mm x 79mm x 21mm
Weight 145g
Operating temperature -20° to 55° C
Humidity 5% to 95% Non-condensing
Frequency GSM 900/1800/1900Mhz
GPS Chipset latest GPS SIRF-Star III chipset
GPS Sensitivity -158Db
GPS Frequency L1, 1575.42 MHz
C/A Code 1.023 MHz chip rate
Channels 20 channel all-in-view tracking
Position Accuracy 10 m, 2D RMS
Velocity Accuracy 0.1 m/s
Time Accuracy 1 us synchronized to GPS time
Default datum WGS-84
Reacquisition 0.1 sec. average
Hot start 1 sec. average
Warm start 38 sec. average
Cold start 42 sec. average
Altitude Limit 18,000 m (60,000 feet) max.
Velocity Limit 515 m/second (1000 knots) max.
LEDs to show working status.
SOS button

Getting Started

This section will describe how to install and set up your Tracker

Hardware and Accessories



GPS Main unit



GPS Antenna

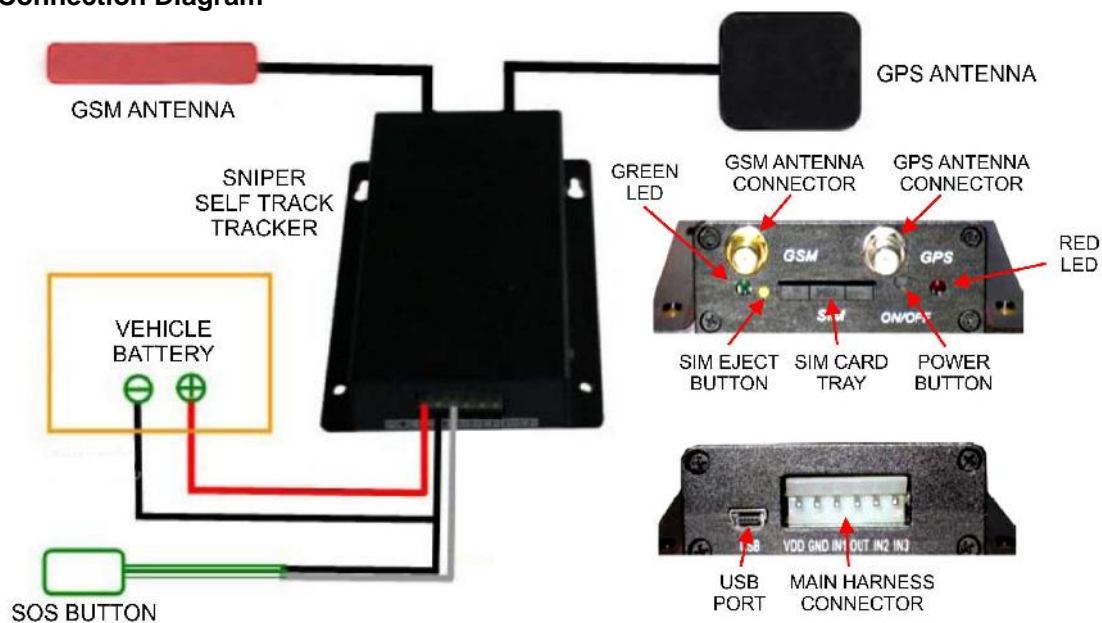


GSM Antenna



Wiring harness

Connection Diagram



LED Indicators

Red LED – GPS Status

Flash every 0.1 second: The unit is being initialised

Flash on 0.1 second, off 3 seconds: Has a GPS fix.

Flashing on for 1 second and off for 2 seconds: Has no GPS fix

Green LED – GSM Status

On: Call is incoming or outgoing

Flash every 0.1 second: The unit is being initialised

Flash on 0.1 second, off 3 seconds: Connected to GSM network

Flashing on for 1 second and off for 2 seconds: Not connected to GSM network

Power button

Used to switch the Falcon Protector on or off.

SOS button

Press the button to send an SOS alarm to the number programmed for SOS messages.

MINI USB socket

Used to upgrade the firmware.

SIM slot

Put the SIM card in the tray and insert the tray with the SIM facing down.

GSM antenna connector

Connect the GSM antenna to this plug.

GPS antenna connector

Connect the GPS antenna to this plug.

Screw slots

Four screws are used to fix the tracker to the vehicle.

Wiring Harness

Red: Positive 9V-35V input, eg. Battery positive terminal or fusebox.

Black: Ground, eg. battery negative terminal or vehicle body.

White: Negative trigger input connected to SOS button.

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Connection and Installation

Read this manual before using your Falcon Protector and check if all parts are included in the packaging box.

Ensure that your Falcon Protector has a working SIM installed.

- Check that the SIM has not run out of credit (test the SIM in a phone to make sure it can send and receive SMS).
- Check that the SIM Lock code is turned off.

Before inserting SIM card, turn the power to the Falcon Protector off.

Install the SIM Card

- Remove the SIM card tray by pressing the yellow eject button with a pen
- Put the SIM card in the tray
- Insert the SIM card tray into the tracker with the SIM card facing down

Antenna connection

- Connect the GSM antenna to the GSM socket
- Connect GPS antenna to the GPS socket

The GPS antenna is used to receive satellite signals. It should be fixed to face the sky and should not be covered or shielded by any objects containing metal, such as a metallic tinted or heated windscreen.

Find a suitable place inside the car for installing the main unit. All wiring connections must be firm and reliable and the joints should be soldered and wrapped with insulating tape tightly.

Once the Falcon Protector has been installed press the power switch to switch it on and check the status LEDs are flashing, see the previous page for the meaning of the status LEDs.

Programming the tracker

To program and operate the Falcon Protector you should send a text message to the trackers mobile number. The messages start with W and then the password followed by the command number and any options.

In this guide we are using the default password of 000000 (6 zeroes) in the examples. The first thing you should do is change this password as follows.

Change the Password

SMS command: W*****,001,#####

Description: Change user password

Instructions:

1. ***** is the user password, the default is 000000 (6 zeros).
2. ##### is new password, **the password should be 6 digits.**

Example (change the password to 123456):

W000000,001,123456

Set the SOS number

SMS command: W*****,003,F,1,T

Description: This is the number that will receive the SMS alarms and the SOS alarm when the SOS button is pressed.

Instructions:

F=0 : SOS alarm disabled (Default)

F=1 : SOS alarm enabled, send an SMS alarm message when the button is pressed.

T: Phone number to receive the SOS alarm, maximum 16 digits

Example (set SOS number to 07712345678):

W000000,003,1,1,07712345678

Low power alarm

SMS command: W*****,004,X

Description: Send a message to the SOS number when the trackers power is running low.

Instructions: X is preset voltage value

X=0 : Low power alarm disabled

X=1 : Send an alarm if the power is low

Example: W000000,004,1

Over speed alarm

SMS command: W*****,005,XX

Description: Send a message to the SOS number if the vehicle speed exceeds a preset speed limit.

Instructions: XX is preset speed value

XX=00 : Over speed alarm disabled

XX=01 to 20 : Send a message when the vehicle goes over this speed (Unit: 10 kph)

Example: W000000,005,08

Send a message when the vehicle speed exceeds 80 kph.

Geo-fencing alarm

SMS command: W*****,006,XX

Description: Sends a message to the SOS number when the vehicle goes out of a specified area. The area is a radius from the vehicles current position when the Geo-fencing command is set.

Instructions: XX sets the radius of the square.

XX=00: Disable the geo-fencing alarm

XX=01: Set the geo-fence radius to 30m

XX=02: Set the geo-fence radius to 50m

XX=03: Set the geo-fence radius to 100m

XX=04: Set the geo-fence radius to 200m

XX=05: Set the geo-fence radius to 300m

XX=06: Set the geo-fence radius to 500m

XX=07: Set the geo-fence radius to 1000m

XX=08: Set the geo-fence radius to 2000m

Example (set the geofence to a 500m radius from the vehicles current location):

W000000,006,06

When the tracker moves out of this area it will send a message to the SOS number.

Reset to factory settings

SMS Command: W*****,990,099###

Description: This will reset all settings (except for the password) back to the factory default.

Instructions: Turn the tracker off and then back on, press the SOS button five times and the red LED will turn on, then send the command to the tracker (within 120 seconds).

NB: ### is the ending character and is required in the text message.

Example: W000000,990,099###

Tracking the vehicle

You can track the vehicle in a number of ways as described below.

Get a position report with longitude, latitude and speed

SMS command: W*****,000

Description: When the tracker receives this command it will reply with the vehicle latitude, longitude and speed, eg. *Latitude = 22 32 36.63N Longitude = 114 04 57.37E, Speed = 2.6854Km/h, 2008-12-24,01:50*

Example:

W000000,000

Get a position report with a Google maps link

SMS command: W*****,100

Description: When the tracker receives this command it will reply with a link for viewing the trackers location on Google maps.

eg. <http://maps.google.com/maps?f=q&hl=en&q=22.540103,114.082329&ie=UTF8&z=16&iwloc=addr&om=1>

Select the link on your smartphone to view the location on Google Maps.

Example:

W000000,100



Call the tracker to get a position report with longitude, latitude and speed

Call the trackers number from the authorised phone and then hang up, the tracker will reply with the vehicle latitude, longitude and speed, eg. *Latitude = 22 32 36.63N Longitude = 114 04 57.37E, Speed = 2.6854Km/h, 2008-12-24,01:50*

Auto tracking

SMS command: W*****,002,XXX

Description: Send an SMS with the location at a preset interval.

Instructions:

1. XXX is time interval in minutes
2. Set XXX to 000 stop auto tracking

Example (to send the location every 30 minutes):

W000000,002,030

Viewing the location on Google Earth or Google Maps

Download Google Earth from <http://earth.google.com/> or use Google Maps at <http://maps.google.com>

Input the latitude and longitude that you receive from the tracker by SMS and click the search button.

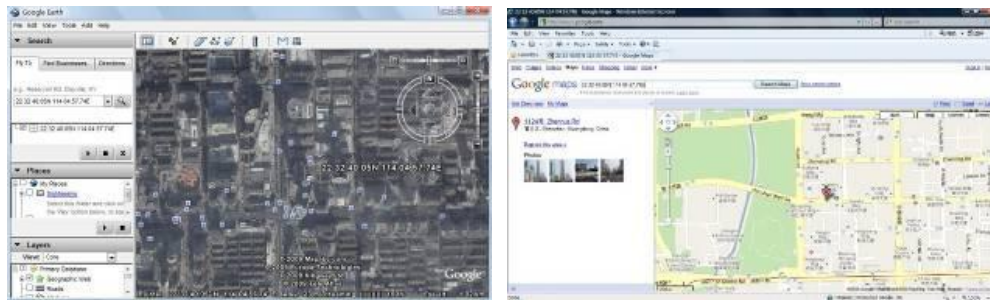
Example:

When you receive: Latitude = 22 32 40.05N Longitude = 114 04 57.74E

On Google Earth or Google Maps enter as: 22 32 40.05N 114 04 57.74E



Click search to view the location:



Additional wires for optional immobiliser relay or trigger inputs:

