# DQ75 Quick start Guide

General Description

The DQ75 is a compact tracking device with built-in GPS & GSM antennas. It has a waterproof (IP67) case which houses an 1100 mAh Li-polymer back-up battery. Standby time without reporting is 280 hours, with 175 hours at 10-minute tracking intervals. Its main application is tracking vehicles, trailers, boats & other assets using the online software. For anti-theft applications, the unit can be mounted on any flat surface facing the sky. Internal placement is possible inside cabins, equipment consoles and boat lockers, providing the internal GPS antennas are not blocked by large metallic surfaces. In each case it is best to test the unit in place fixed temporarily with Velcro or similar on a short journey before connecting the power cable. More permanent fixing of the housing can be made using the screw fixing lug, 'VHB' adhesive tape or cable ties. Ensure that the power cables are routed away from moving parts, and the serial number label is on the base, with the blank cover facing the sky.

Cable Connections

DQ75 is supplied with an 8-Pin Molex connector which is used for configuration, plus an extension lead with bare ends. The Molex can be cut off to connect the wires directly, or plugged to the cable extension. Use waterproof tape or shrink-wrap sleeves if installing in a wet environment, such as boats or Jetskis.
Connect an 8-32 VDC external power source with Red (+) positive and Black (-) ground connections. This will switch on the device & charge the internal battery.
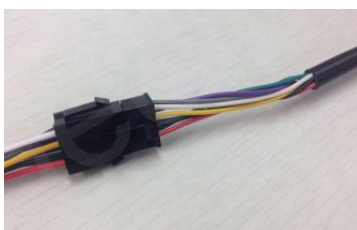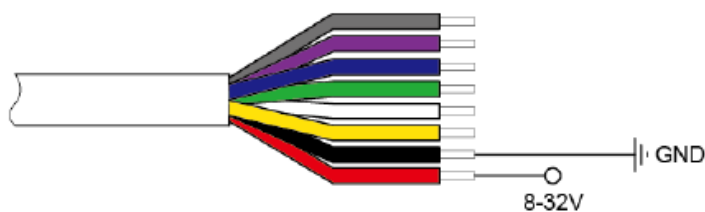
Ignition

An additional positive ignition wire (White) can be connected to indicate engine status. This is used to log accumulated 'engine hours' for service intervals & maintenance purposes. The ignition signal creates trip start/stop indications. Note that even if the ignition wire is not connected, the device map label will still indicate ignition 'active' when movement is sensed.
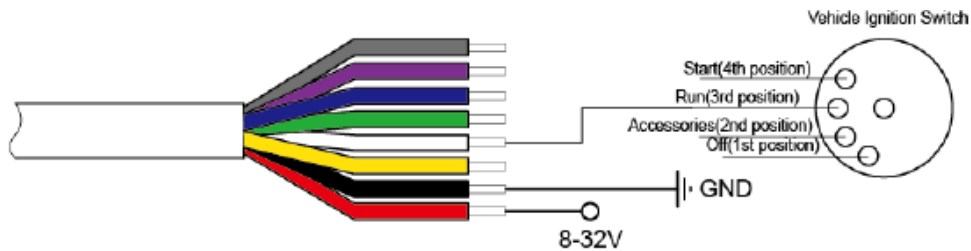
Anti-Tamper

The yellow wire is a negative digital input configured as a 'normally closed' loop. This should be connected to the supply negative (black wire). A loop between the two terminals can be extended to attach to items like Outboard Motors on boats. If the wire is cut by removing the motor, an immediate 'anti-tamper' alarm will be generated. When the loop is closed, the map label will show 'OK'
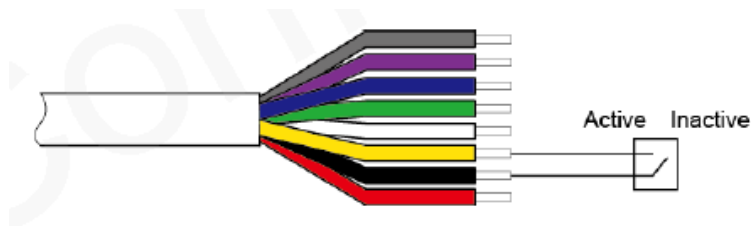
Anti Tamper	OK
Battery %	100.0
External volts	14.4

External Power

When connected to an external power source such as a vehicle/boat battery, the supply voltage will be indicated with each tracking report received, so can be used to monitor levels in real time. An alert can be set to a threshold of your own choosing. 'Power disconnect' alerts may be used to indicate the tracker has been removed during a theft attempt, in addition to anti-tamper messages.

Device Status LEDs

When powered up, the LEDs on the edge of the device will indicate 'Power', 'GSM' and 'GPS' according to the table below. The lights will automatically go out after 30 minutes to conserve battery life, except for the 'GSM' which will flash every two seconds while active. The table shows LED functions.

CEL GPS Power

LED	Device Status	LED Status
CEL (Note1)	Device is searching GSM network.	Fast flashing (Note3)
	Device has registered to GSM network.	Slow flashing (Note4)
	SIM card needs pin code to unlock.	ON
GPS (Note 2)	GPS chip is powered off.	OFF
	GPS sends no data or data format error occurs.	Slow flashing
	GPS chip is searching GPS info.	Fast flashing
	GPS chip has gotten GPS info.	ON
PWR (Note 2)	No external power and backup battery voltage is lower than 3.35V.	OFF
	No external power and backup battery voltage is below 3.55V.	Slow flashing
	External power in and backup battery is charging.	Fast flashing
	External power in and backup battery is fully charged.	ON

Tracking

DQ75 tracks at different rates depending on movement to conserve battery life. If travelling in a straight line at a constant speed, the tracking interval will be between 1-3 minutes. However, when the angle of movement (heading) or speed change, then more frequent reports will be sent to show a more accurate track on the map. When the unit stops moving, it will go into 'power save' mode until the accelerometer wakes it, and will send a default status report approximately 12 hours from the last movement or event. If the power to the unit is cut during a theft attempt, the unit will track every 3 minutes when moving until the battery is empty.

SIM card

The internal SIM card is pre-configured inside the housing which in normal use does not require to be opened. The SIM card communicates GPRS data to the Duotraq secure server and is activated at the time of install remotely by Duotraq. DQ75 is programmed to automatically seek the strongest mobile signal, providing excellent connectivity both in national & international networks. The SIM is paired with the DQ75 for security, so won't function in any other device. Any firmware updates or system improvements will be sent 'over the air' to your device.

Cellular coverage & International roaming

If there is no cellular coverage during part of a journey, DQ75 will store the GPS co-ordinates & forward them when it re-enters a network, so no trip data is lost. The roaming process is completely automatic, whether changing between any of the five UK networks or anywhere in Europe.