DQ55
IoT Asset Tracker

DQ55 is a compact asset tracking device designed to monitor multiple inputs for a wide range of IoT applications. Using a combination of GPS & Wi-fi, it can track assets both outdoors and inside buildings & warehouses.

* Temperature probe sold separately

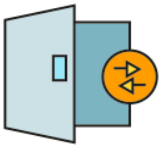
- Versatile long-term battery powered monitoring
- Rugged waterproof housing
- Multiple power options
- Operates on global low power IoT networks
- Digital and Analogue inputs for connection to a wide range of sensors
- Suitable for indoor and outdoor use

APPLICATIONS

Run hour monitoring

Temperature / cold chain

Tank levels



Door open/close

Meter pulse counting

DQ55 IoT Asset Tracker

Technical Specification

TRACKING	
GPS and Cellular Antenna	Internal GPS and cellular antennas tuned by RF laboratories for optimal performance.
GPS/GLONASS tracking	Concurrent GPS and GLONASS tracking. uBlox EVA-M8 Module. 72 channel high sensitivity receiver. -167dBM industry leading tracking performance.
AssistNow Offline	AssistNow Offline aiding data for extremely fast time-to-first-fix and performance in urban canyon environments.
Low Noise GPS Amplifier (LNA)	GPS signals are boosted by a special low-noise amplifier (LNA). This allows operation where normal units will fail to receive GPS signal.
Wi-Fi Positioning System (WPS)	DQ55 uses a Wi-Fi 'sniffer' to scan for Wi-Fi access points and the signal strength from each one. It then triangulates a position typically accurate to 100 ft / 30m in metropolitan areas. Usually in under 3 seconds, using less power than a typical GPS fix.
INPUTS AND OUTPUTS	
I^2C Interface	I^2C (inter-IC communications) is an interface commonly used in sensor modules. This allows the device to talk to a wide range of sensors including: temperature, humidity, vibration, CO_2 gas and many others.
2 x Digital Inputs	2 x Digital Inputs with configurable pull-up/down. Optimised for low power pulse counting.
1 x Digital Output	1 x switched ground digital output, easily wired up to switch external lights, relays, buzzers etc.
1 x Analogue Input	0-30 V Analogue input with auto-ranging.
FIRMWARE	
OTA Configuration	DQ55 can be remotely configured and updated OTA (over the air) from Duotraq's asset monitoring platform.
AES-256 Security	DQ55 uses bank-level AES-256 device authentication and data encryption to ensure that your data is kept private and secure.
Adaptive Tracking	Adaptive-Tracking uses the accelerometer and GPS data intelligently to send frequent updates when the device is moving and reduce to once per day when stationary to preserve battery life.

MECHANICAL SPECIFICATIONS	
Compact Housing	The IP67 rated housing is made of sturdy ABS/Polycarbonate plastic to survive bumps, knocks and years of exposure to sun and weather. Low-profile waterproof housing with multiple cable glands screws together for easy assembly and has convenient mounting tabs.
Dimensions	L 135 x W 90 x H 35mm
Operating Temperature	-20°C to +60°C* *Batteries are affected by temperature extremes and typical performance is dependent on temperature
POWER	
Line Power	5-16 V line power option
Batteries	Multiple Power Options: 3 x AA Lithium Iron Disulphide Batteries. Low-cost and User replaceable. 3 x AA Lithium Thionyl Chloride (LTC) batteries for extended temperature tolerance. User replaceable. The device can be wired into power and have batteries installed allowing DQ55 to continue operating on battery power if there is a cut to external power.
CONNECTIVITY	
SIM Size	Micro SIM (3FF) form factor
2G or 4G	The DQ55 can be manufactured for specific markets around the world.
2G Modem	2G: SARA-G350-02S-01 850/900/1800/1900 MHz
4G Modem	uBlox SARA-R410M Modem operates on all major global LTE-Cat-M1 and NB-IoT bands. These new low-power networks are specifically designed for IoT applications, providing long battery life. Supported LTE bands: 1-5, 6, 8, 12, 13, 17, 19, 20, 25, 26, 28
OTHER	
3-axis accelerometer	The 3-axis accelerometer allows DQ55 to ‘sleep’ in an ultra-low power state yet still wakeup when movement occurs.
Flash Memory	Internal memory stores up to 20,000 records ensuring that data is not lost when the device is out of range. Normally data is sent to the server immediately
Battery Meter	A coulomb counter acts as a battery meter, tracking energy consumption of the device. This allows accurate battery levels to be reported and battery life predictions.