Oyster Sigfox

Battery-Powered, IP67 Rated, Compact GPS Asset Tracker
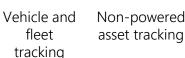
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CONNECTED DEVICES

The Oyster is a rugged, waterproof, cellular GPS tracking device designed for tracking non-powered, exposed assets where super-long battery life required on the low cost Sigfox network.

FEATURES

- Up to 5 years once daily location
- Up to 2 year detailed tracking
- IP67 water and dust proof
- Rugged, robust and low profile
- Off-the-shelf, user replaceable AA batteries
- No install required, simply "place 'n trace"
- Switch from "locate" to "track" over-the-air
- Battery status and low battery alert
- Unauthorised movement alert
- Integrated accelerometer

APPLICATIONS

Vehicle and fleet tracking

Non-powered asset tracking

Equipment locate and recovery

Trailers and mobile assets

Shipping containers and freight

Anchoring and security of assets

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MECHANICAL SPECIFICATIONS

Low-profile IP67 rugged housing	The IP67 rated housing is made of sturdy ABS/Polycarbonate plastic to survive bumps and knocks and to survive many years in the sun and weather. It's low profile together with mounting tabs and 'strap slots' allow for easy mounting.
Dimensions	L 137 x W 72 x H 30mm
Operating Temperature	-20°C to +60°C[1] 1) For operation in extreme temperatures, the Oyster must be fitted with Lithium batteries. Batteries are affected by temperature extremes and typical performance is dependent on temperature

POWER

3 x AA Batteries	The Oyster uses 3 x "AA" size 1.5V Batteries. These are readily available from retail outlets
Alkaline or Lithium	Alkaline – industrial type recommended 1.5V Lithium – provide longer life and wider temperature tolerance.
Sleep Current	10uA (micro amps)

OTHER

3-axis accelerometer	The 3-axis accelerometer allows the Oyster to 'sleep' in an ultra-low power state yet still wakeup when movement occurs. Future firmware versions will allow for harsh G-force detection (like assets being dropped or involved in accidents)

CONNECTIVITY

Sigfox Communications	The Oyster uses a high power radio transmitter/receiver that operates on the Sigfox network, and is available in variants for the various Sigfox Zones around the world.
Sigfox Regions	RCZ1 – Europe and Middle East RCZ2 – North America and Brazil RCZ4 – Australia, New Zealand, South America, Hong Kong, South East Asia
Configuration	Firmware Update performed via USB cable Parameter changes via USB cable, or over-the-air via Sigfox Downlink. Consult the integration guide for details

GPS TRACKING

GPS and Cellular Antenna	Internal GPS and Sigfox antennas tuned by RF laboratories for optimal performance.
GPS/GLONASS tracking	UBLOX MAX-M8Q GPS Module Concurrent GPS and GLONASS tracking 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 – like in a container stack!

FIRMWARE SMARTS

OTA Configuration	The Oyster can be remotely configured OTA (over the air) via downlink message
Adaptive Tracking	The Oyster can be set to use Adaptive-Tracking technology where the accelerometer and GPS data are used to intelligently work out if it is moving and to send frequent updates, and to scale the update rate down to once per day if the asset is stationary - to preserve battery life.
Sigfox Data Management	The Oyster Sigfox device manages the data plan that is configured to maximize the use of the allocated Sigfox data messages
After Hours	The Oyster can be configured to alert on after hours activity, and to use alternate logging parameters
Device Statistics	A message is sent periodically with device statistics to help keep track of battery usage, and identify GPS and vibration issues.
Accelerometer Settings	Configure accelerometer wakeup thresholds to ensure that no trips are missed, or to avoid nuisance wakeups and conserve battery life.