

# Oyster Sigfox

Battery-Powered, IP67 Rated, Compact GPS Asset Tracker



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.

## 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

## 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

## 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<sup>1</sup>  
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

**Flash Memory** Sufficient memory to store over 25,000 records. Normally data is sent to the server immediately but if the device is out of range there is space to ensure no data is lost. A future firmware version will allow for geo-fences to be loaded into the flash memory of the device and used for geo-fence alerting on the device.

**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

<b>OTA Configuration</b>	The Oyster can be remotely configured OTA (over the air) via downlink message
<b>Adaptive Tracking</b>	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.
<b>Sigfox Data Management</b>	The Oyster Sigfox device manages the data plan that is configured to maximize the use of the allocated Sigfox data messages
<b>After Hours</b>	The Oyster can be configured to alert on after hours activity, and to use alternate logging parameters
<b>Device Statistics</b>	A message is sent periodically with device statistics to help keep track of battery usage, and identify GPS and vibration issues.
<b>Accelerometer Settings</b>	Configure accelerometer wakeup thresholds to ensure that no trips are missed, or to avoid nuisance wakeups and conserve battery life.

