# Oyster2

## Battery-Powered, IP67 Rated, Compact GPS Asset Tracker



The Oyster2 is a rugged, waterproof, cellular GPS tracking device designed for tracking non-powered, exposed assets where super-long battery life is essential.

The device works on 4G Cat-M1/NB-IoT networks, and can be fitted with Lithium-Thionyl-Chloride (LTC) batteries, for extended temperature tolerance.

The innovative battery meter allows precise battery level monitoring and accurate battery life predictions.

FEATURES
- 4G Cat-M1/NB-IoT Modem
- Up to **1 year** once-hourly updates
- Up to **7 years** once-daily updates
- IP67 water and dust proof
- Rugged, robust and low profile
- Multiple battery options: off-the-shelf replaceable AA batteries or LTC batteries
- No install required, simply "place 'n trace"
- Switch from "locate" to "track" over-the-air
- Battery meter for accurate battery monitoring
- Unauthorised movement alert
- Integrated accelerometer

## APPLICATIONS

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| 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 |

## MECHANICAL SPECIFICATIONS

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| **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 138 x W 72 x H 30mm |
| **Operating Temperature** | -20°C to +60°C[1]<br><br>1) Board and housing - For operation in extreme temperatures, the Oyster2 must be fitted with LTC batteries. Batteries are affected by temperature extremes and typical performance is dependent on temperature |

## POWER

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| **3 x AA Batteries** | 3 x AA Batteries |
| **Input Voltage** | 16V Max |
| **Battery Options** | User replaceable batteries, multiple options:<br><br>Lithium Iron Disulphide<br>Readily available, low cost Lithium Iron Disulphide batteries can be fitted.<br><br>Lithium Thionyl Chloride (LTC)<br>The device can be fitted with LTC batteries. LTC batteries offer higher capacity, lower rates of early failure and extended temperature tolerance. |

## OTHER

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| **Flash Memory** | Sufficient memory to store many weeks of 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.<br>There is the capacity for geo-fences to be loaded into flash memory and used for alerting on the device. |
| **3-axis accelerometer** | The 3-axis accelerometer allows the Oyster2 to 'sleep' in an ultra-low power state yet still wakeup when movement occurs.<br>The accelerometer allows for High G-Force event detection (like assets being dropped or involved in accidents). |
| **Battery Meter** | A coulomb counter acts as a battery meter, tracking the energy consumption of the device. This enables an accurate battery percentage to be reported.<br>The battery meter also allows accurate battery life predictions. Simply deploy the device in your application with the desired settings. The energy usage will be reported, enabling you to extrapolate to determine the battery life time. |

## CONNECTIVITY

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| **SIM Size** | Micro (3FF) size cellular SIM card |
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| **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 great battery life.<br>Supported LTE bands:<br>1-5, 6, 8, 12, 13, 17, 19, 20, 25, 26, 28 |

## GPS TRACKING

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| **GPS and Cellular Antenna** | Internal GPS and cellular antennas tuned by RF laboratories for optimal performance. |
| **GPS/GLONASS tracking** | UBLOX EVA-M8<br>Concurrent GPS and GLONASS tracking<br>72 channel high sensitivity receiver<br>-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

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| **OTA Configuration** | The device can be remotely configured and updated OTA (over the air). Device management is performed from Digital Matter's OEM Server device management platform. |
| **Text Message Setup** | The device can be sent text messages to set the APN, server and other details |
| **Recovery Mode** | The device can be remotely switched into Recovery Mode which switches the device to do live tracking and reporting – so that you can get your asset back! |
| **G-Force Events** | The 3D accelerometer allows for harsh G-force detection (like assets being dropped or involved in accidents). |
| **Geo-Fences** | The Oyster2 has the capacity to hold hundreds of geo-fences that can be downloaded to it from the server and updated Over-The-Air. This information can be used to implement geo-fence based alerting on the device, or to set alternate logging parameters when inside a geo-fence. |

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| **Adaptive Tracking** | The Oyster2 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. |
| **AES-256 Security** | The Oyster2 uses bank-level AES-256 device authentication and data encryption to ensure that your data is kept private and secure. |
| **After Hours** | The device can be set to alert on after-hours activity, and to use alternate logging parameters |

## CERTIFICATIONS

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| **Certifications** | Telstra Certified 4G Modem |

www.homeofiot.com.au