Oyster2

Battery-Powered, IP67 Rated, Compact GPS Asset Tracker

digital MATTER
CONNECTED DEVICES

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 2G or 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
- 2G or 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

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

www.digitalmatter.com

MECHANICAL SPECIFICATIONS

Low-profile IP67 rugged housing	Fitted with the updated "Rugged Housing", which was designed after extensive testing and customer feedback of the original. IP67 rated and made of ultra tough Nylon Glass to survive bumps and knocks and to survive many years in the sun and weather. Reinforced in key areas around the mounting and screw holes to be unbreakable. It's low profile together with mounting tabs allow for easy mounting.
Dimensions	L 108 x W 86 x H 31mm
Operating Temperature	-20°C to +60°C[1] 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

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

OTHER

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. 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. 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. 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

SIM Size	Micro (3FF) size cellular SIM card
2G or 4G	The Oyster2 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 great battery life. Supported LTE bands: 1*, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26*, 28 (* roaming bands)

GPS TRACKING

GPS and Cellular Antenna	Internal GPS and cellular antennas tuned by RF laboratories for optimal performance.
GPS/GLONASS tracking	UBLOX EVA-M8 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 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.

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

Certifications	Telstra Certified 4G Modem