# OYSTER3 LoRaWAN®

All 868, 902-928MHz LoRaWAN® regions supported

Ultra-rugged battery-powered GPS asset tracking device for LoRaWAN® networks featuring 10 years battery life

108 x 86 x 30 mm (4.25 x 3.39 x 1.18 in)

### ‘Deploy Once’ Battery Life

Over 10+ years battery life on user-replaceable 3 x AA Lithium or Lithium Thionyl Chloride (LTC) batteries for extreme temperature operation

### Adaptive Tracking

Periodic or optional movement-based tracking - tracks assets throughout the day and/or when movement occurs, entering sleep mode when inactive to conserve power and data usage

### Battery Life Monitoring

Periodic battery status uplinks give a breakdown of power use

### Ultra-Rugged

Ultra-rugged and weatherproof IP68, IK07 Housing

# Connectivity

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| LoRaWAN | Highly sensitive radio transceiver is available in a single multiband device. Both 868 and 902 - 928 MHz supported |
| LoRaWAN Regions | AU915<br>AS923-1<br>AS923-2<br>AS923-3<br>AS923-4<br>EU868<br>IN865<br>KR920<br>RU864<br>US915 |

# Location

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|---|---|
| GNSS Module | Sony CXD5605 |
| Constellation | Concurrent GPS, GLONASS, Galileo, QZSS |
| Tracking Sensitivity | -147dBm cold start / -161dBm hot start |
| *Location Accuracy | ~1m 2D RMS, GPS, -130dBm |
| Low Noise Amplifier | GPSsignals are filtered and boosted by a SAW filter and low-noise amplifier (LNA) allowing operation where other units fail |
| LoRaWAN Gateway Geolocation Fallback | LoRaWAN gateway geolocation fallback when there is no GNSS(Network Specific) |

*Results vary based on real world conditions. Device configuration, installation, environmental conditions, augmentation services, and many other factors may lead to variations in positioning accuracy.

# Batteries

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| User-Replaceable Batteries | 3 x AA. Batteries not included. |
| Supported Battery Types | Alkaline<br>*Lithium (LiFeS2)<br>*Lithium Thionyl Chloride (LTC)<br>*Lithium or LTC recommended for best performance. Please dispose of Lithium batteries in a safe and responsible manner. |
| *Battery Life Estimates | Once Daily location updates – 10 years<br>**Movement-Based location updates – 2.5 years<br>Hourly location updates – 2 years |

* Battery life estimates are influenced by several factors including temperature, installation and orientation of the device, the frequency of location updates, network coverage, sensor integrations, peripherals, accelerometer settings, and more. Battery life calculators are available at support.digitalmatter.com.

** Movement-based estimates are based on 2 hours of movement, occurring 5 days a week, with default tracking parameters (location updates every 3 minutes and uploads every 30 minutes). Devices can be configured to provide more frequent location updates when the asset is in motion.

# Power

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| Input Voltage | 4-15V DC |
| Sleep Current | <10uA*<br>*Average current in lowest power configuration |
| Safety | Reverse Polarity Protection |

# Mechanics / Design

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| Dimensions | 108 x 86 x 30 mm (4.25 x 3.39 x 1.18”) |
| Weight | 180g |
| Housing | Non-branded housing for optional white-labeling |
| IP/IK Rating | Ultra-rugged and waterproof IP68 and IK07-rated housing ensures the Oyster3 LoRaWAN can withstand impact, fine dust, and brief submersion |
| Installation | Compact and concealable. Multiple installation options for covertly and easily securing the device to assets with screws, bolts, cable ties, rivets, and more. Stainless steel screws supplied. |
| Operating Temperature | -30°C to +60°C - for operation in extreme temperatures use LTC batteries |
| GPS Antenna | Internal |
| RF Antenna | Internal |
| 3-Axis Accelerometer | 3-Axis Accelerometer to detect movement |
| Diagnostic LED | Diagnostic LED indicates operation status |
| On-Board Speed & Heading | Current speed and heading is reported with each position update |

# Smarts

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| Battery Life Monitoring | Periodic battery status uplinks give a breakdown of power use |
| Geofence Alerts | The server can use device location to create geofences and alerts if an asset enters or leaves designated locations |
| Periodic or Movement-Based Tracking | Configure parameters to send updates based on set time intervals or when movement occurs. Adaptive tracking technology detects when the device is on the move and increases the update rate, providing detail when you need it while conserving battery when stationary. |
| Sleep Mode | Stationary devices enter sleep mode until movement occurs to conserve battery life and optimize data usage |
| Theft Recovery | Reduce or minimize asset loss and theft |

# Device Management

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| Flexible Configuration | Configure device parameters such as position update rate, movement and accelerometer settings, and more to fit any tracking application |
| Configuration App | Manage device firmware updates and parameters via DMLink provisioning tool. Some parameters can be changed via downlink. |

# Integration

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| Third-Party Integration | Easy integration with comprehensive documentation and a flexible and open payload format |

# Security

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| Data Security | LoRaWAN® networks use AES-128 Encryption so your data is protected |

# Warranty

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| Manufacturer's Warranty | Two-year manufacturer's warranty. Exclusions apply. |

# Certifications

Please check our knowledge base for regulatory and network certifications