MANTA FUSION

Cellular LTE-M (Cat-M1) / NB-IoT

- High-performance, high-precision Indoor/Outdoor GPS tracking device
- Powered by 3 x AA user-replaceable batteries with 10+ years battery life
- Indoor/Outdoor location based on True GNSS, Wi-Fi Access Point, and Cell Tower scanning data
- Bluetooth® 5.2 Gateway for tagged asset management and sensor monitoring
- Intelligent power management with cloud-based location solving and low battery alerts

'Deploy Once' Battery ife

Indoor/Outdoor Location

Future Proof 4G/5G Connectivity

Ultra-Rugged and Waterproof

Highly Configurable

White-Label Ready

Asset Visibility & Recovery

Monitor asset location and movement, with option to activate real-time tracking in case of loss or theft.

Asset Utilization

Measure the operational hours of asset to optimize utilization and reduce downtime.

BLE Tag & Sensor Monitoring

Integrate with any third-party Bluetooth accessory for customizable sensor and condition monitoring.

Adaptive Tracking

Automatically adapt reporting rate when asset is mobile or stationary to conserve battery life.

Geofence Alerts

Receive notification if asset enters or exits designated locations.

Impact, Tip & Rotation

Configure alerts for high impacts (g-force), asset tipping, or rotations.

Track Longer with Industry-Leading Battery Life

Location Updates	1 x Daily	1 x Hourly	Movement-Based**
Estimated Battery Life*	10+ Years	4 Years	5 Years

LOGISTICS | EQUIPMENT | BINS & CONTAINERS | RETURNABLES | LEASING | MINING | AGRICULTURE

* 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.

** Devices can be configured to provide more frequent location updates when the asset is in motion. Movement-based estimates are based on 2 hours of movement daily, 5 days a week.

Connectivity

Cellular LTE-M (Cat-M1) / NB-IoT	Nordic nRF9160 Modem operates on all major global LTE-M and NB-IoT bands. Supported LTE bands: LTE-M (Cat-M1): B1, B2, B3, B4, B5, B8, B12, B13, B14, B18, B19, B20, B25, B26, B28, B66 NB-IoT (Cat-NB1/NB2): B1, B2, B3, B4, B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B66
Bluetooth®	Bluetooth 5.2 gateway reports nearby Bluetooth tags and sensors for affordable tagged asset management and sensor monitoring.
SIM Size and Access	Internal Nano 4FF SIM

Location

GNSS (Outdoor)

GNSS Module	Sony CXD5612
Constellations	Concurrent GPS, GLONASS, Galileo, BeiDou, QZSS
GNSS Assistance	GNSS almanac data for greater sensitivity and position accuracy.
Low Noise Amplifier	GPS signals are filtered and boosted by a SAW filter and low-noise amplifier (LNA) allowing operation where other units fail.
Cell Tower Location	Cell tower fallback for positioning when there is no GNSS or Wi-Fi signal.
Location Accuracy*	GNSS: ~1m CEP Cell Tower Fallback: ~250m-1km. Dependent on number of nearby towers.

Wi-Fi Scanning (Indoor)

Secondary Module	Semtech LR1110
Wi-Fi Positioning	Indoor asset location using Wi-Fi access point scanning (device does not connect to Wi-Fi).
Cloud-Based Solver	Asset location is calculated in Digital Matter's Location Engine.

Location Accuracy*	Wi-Fi Scanning: ~10m-100m with Wi-Fi in urban areas.

* Positioning accuracy specifications are provided by the GNSS module supplier and reflect ideal conditions. Device configuration, installation, environmental conditions, augmentation services, and many other factors may lead to variations in positioning accuracy.

Power

User-Replaceable Batteries	3 x AA. Batteries not included. Widely available at most hardware or retail locations.
Supported Battery Types	Lithium or Lithium Thionyl Chloride (LTC) Battery selection is very important. Please dispose of Lithium batteries in a safe and responsible manner.
Battery Life Estimates*	Once Daily location updates – 10+ years Movement-Based location updates** – 5+ years Hourly location updates – 4+ years
Sleep Current	<10uA Average current in lowest power state.

* Battery life estimates are influenced by several factors including temperature, installation and orientation of the device, battery selection, 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 trip 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 which will impact battery life.

Mechanics / Design

Dimensions	154 x 66 x 21 mm (6.1 x 2.6 x 0.83 in)
Device Weight	170 g with Energizer Ultimate Lithium batteries.
Housing	Non-branded nylon glass housing is suitable for white labeling.
IP/IK Rating	Ultra-rugged and waterproof housing ensures the device 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 provided.
External Magnet	Removal of magnet enables quick activation and tamper detection.
Temperature Range	Operating: -30°C to +60°C Recommended Storage: 10°C to 30°C, Humidity 30%. Store in a cool, dry place.

Cellular Antenna	Internal
GPS Antenna	Internal
Wi-Fi Antenna	Internal
3-Axis Accelerometer	3-Axis Accelerometer to detect movement, high G-force events, and more.
Diagnostic LED	Diagnostic LED indicates operation status.
Flash Memory	Store weeks of records if device is out of cellular coverage.
Onboard Speed and Heading	Current speed and heading is reported with each position update.
Onboard Temperature	Provides ambient temperature but may not be suitable for precise temperature logging purposes.

Smarts

Adaptive 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.
Battery Life Monitoring	'Battery Low' and 'Battery Critical' alert levels.
Geofencing	The server can use device location to create geofences and alerts if an asset enters or leaves designated locations. Geofences can also be downloaded directly to the device for enhanced location-based actions and alerts**.**
Impact Detection	Configure impact-detection alerts when G-forces are exceeded by a user-defined threshold.
Magnetic Activation	Removal of the magnet can be used to activate the unit, enabling the pre-provisioning of SIM cards and batteries.
Rotation Counting	Keeps a count of the number of rotations of the device.
Run Hour Monitoring	Capture run hours based on movement to understand and optimize asset utilization.

Sleep Mode	Stationary devices enter sleep mode until movement occurs to conserve battery life and optimize data usage.
Tamper Detection	External magnet provides an alert if the device is removed from your asset.
Theft Recovery	Switch to Recovery Mode in the case of theft or loss to activate real-time tracking for asset retrieval.
Tip Detection	Define a range of angles that constitutes a 'tipped' state and configure alerts.

Device Management

Flexible Configuration	Configure device parameters such as position update rate, movement, and accelerometer settings, and more to fit any tracking application.
Device Management Platform	Manage, monitor, configure, debug, update, and restart devices remotely.
Configuration App	Configurable with DM-Link provisioning tool.

Integration

Third-Party Integration	TCP Direct or HTTPS Webhook.
API	Command and configure the device via rich API functionality.

Security

Data Security	Military-grade AES-256 Encryption from device to Device Manager to protect the integrity and confidentiality of your data. Data forwarded to third-party systems is sent via HTTPS for end-to-end security.

Warranty

Two-year manufacturer's warranty. Exclusions apply.