

**NEW**

# BARRA EDGE

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

Lowest-cost battery-powered indoor/outdoor  
asset tracker for LTE-M/NB-IoT networks



149 x 51 x 21 mm (5.9 x 2 x 0.8 in)

**Indoor/Outdoor**

GNSS, Wi-Fi AP MAC Address Scanning, and Cell Tower location for seamless indoor/outdoor asset management

**'Deploy Once' Battery Life**

10+ years on 2 x AA user-replaceable batteries with 'Battery Low' and 'Battery Critical' alerts

**Cloud-Based Location**

Position calculations are handled in the cloud (versus on-device) for substantial power savings

**Adaptive Tracking**

Tracks assets when they're on the move and enters sleep mode when stationary to conserve energy

**Magnetic Activation & Tamper Detection**

Magnetic switch for activation and Tamper Detection

**Slim & Ultra-Rugged**

Compact and waterproof housing ensures the device can withstand impact, fine dust, and brief submersion

# Connectivity

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|                   | Nordic nRF9160 Modem operates on all major global LTE-M and NB-IoT bands   |
| Cellular Module   | Supported LTE bands:<br><b>LTE-M (Cat-M1):</b> B1, B2, B3, B4, B5, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B66<br><b>NB-IoT (Cat-NB1/NB2):</b> B1, B2, B3, B4, B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B66 |
| SIM Size & Access | Internal Nano 4FF SIM<br>eSIM Ready ( <i>MOQs apply</i> )  |

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# Location

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|-------------------------|---|
| Chipset                 | Semtech LR1110  |
| Environment             | Indoor/Outdoor  |
| GNSS Scanning           | Concurrent GPS/BeiDou   |
| Wi-Fi Location Scanning | Indoor asset location using Wi-Fi access point scanning   |
| Cell Tower Location     | Cell tower fallback for positioning when there is no GNSS or Wi-Fi signal   |
| Cloud-Based Solver      | Asset location is calculated in Digital Matter's <a href="#">Location Engine</a>  |
| *Location Accuracy      | ~5m-80m with GNSS scanning in open areas<br>~10m-100m with Wi-Fi in urban areas<br>~250m-1km Cell Tower Geolocation - dependent on number of nearby towers<br><br>Results vary depending on real world conditions |
| Low Noise Amplifier     | GPS signals are filtered and boosted by a SAW filter and low-noise amplifier (LNA) allowing operation where other units fail  |
| GNSS Assistance         | GNSS almanac data for greater sensitivity and position accuracy   |

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\*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.

# Power

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| Input Voltage | 2.2 - 3.6V   |
| Sleep Current | <10uA*<br>*Average current in lowest power configuration |

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# Batteries

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| User-Replaceable Batteries | 2 x AA. Batteries not included.  |
| Supported Battery Types    | Alkaline<br>Lithium (LiFeS2) – recommended for best performance<br>*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 – 5 years<br>Hourly location updates – 3 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](http://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.

# Mechanics/Design

|                       |  |
|-----------------------|--|
| Dimensions            | 149 x 51 x 21 mm (5.9 x 2 x 0.8 in)  |
| Housing               | Non-branded housing for optional white-labelling   |
| IP/IK Rating          | Ultra-rugged and waterproof IP68 and IK07-rated housing ensures the Barra 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. |
| Magnetic Switch       | Magnetic switch enables quick activation and tamper detection  |
| Operating Temperature | -30°C to +60°C   |
| Cellular Antenna      | Internal   |
| GPS Antenna           | Internal   |
| Wi-Fi Antenna         | Internal   |
| 3-Axis Accelerometer  | 3-Axis accelerometer to detect Movement and High-G events  |
| Diagnostic LED        | Diagnostic LED indicates operation status  |
| Flash Memory          | Internal flash memory stores approximately 1400 records if device is out of cellular coverage  |
| Speed and Heading     | Scanning technology used on the Barra Edge does not return speed and heading   |
| Onboard Temperature   | The device reports internal temperature which provides an indication of ambient temperature  |

## Smarts

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| 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  |
| Geofence Alerts         | The server can use device location to create geofences and alerts if an asset enters or leaves designated locations  |
| Impact Detection        | Configure impact-detection alerts when G-forces are exceeded by a user-defined threshold   |
| Magnetic Activation     | Magnetic switch can be used to activate the unit – meaning SIM cards and batteries can be pre-installed, simplifying deployment  |
| Rotation Counting       | Keeps a count of the number of rotations of the device about the Z axis  |
| 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        | Magnetic switch 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  |

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## 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 |
| Device Management Platform | Manage, monitor, configure, debug, update, and restart devices remotely from our cloud-based device management system                    |
| Configuration App          | Configurable with DM-Link provisioning tool  |

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## Integration

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| Third-Party Integration | TCP Direct or HTTPS Webhook |
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## Security

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

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Manufacturer's Warranty

Two-year manufacturer's warranty. [Exclusions apply.](#)

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# Certifications

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Please check our knowledge base for [regulatory and network certifications](#)

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