

REMORA

4G Cat 1bis / 2G

Long-life and ultra-rugger battery-powered GPS and Bluetooth® gateway for global asset tracking and condition monitoring applications



Track Anywhere

Cellular 4G Cat 1bis with 2G fallback enables seamless global asset tracking and management



2G Migration plan

Operates on current 2G networks with a migration path to 4G when/if 2G networks are shut down



Connect more with Bluetooth

Bluetooth Low Energy Gateway for tagged asset management and sensor monitoring



'Deploy Once' Battery Life

10+ years on 2 x D LTC userreplaceable batteries with 'Battery Low' and 'Battery Critical' alerts



Second-by-Second Tracking

Supports aggressive and/or extended reporting requirements including highly accurate speed, run hour and odometer monitoring



Adaptive Tracking

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



Ultra-Rugged

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



Tamper Detection

Magnetic Tamper Detection

Connectivity

	Ublox LENA R8 Modem operates on all major global 4G Cat 1bis and 2G bands			
Cellular Module	Supported 4G Cat 1bis bands: B1, B2, B3, B4, B5, B7, B8, B12, B20, B28, B38, B40, B41, B66			
Bluetooth® Gateway	Bluetooth 5.2 gateway reports nearby Bluetooth tags and ensors for affordable tagged asset management and sensor monitoring			
SIM Size & Access	Internal Nano 4FF SIM			

Location

GNSS Module	Ublox LENA-R8001M10				
Constellations	Concurrent GPS/QZSS, GLONASS, Galileo, BeiDou				
Tracking Sensitivity	-148 dBm cold start / -159 dBm hot start				
*Location Accuracy	~1m CEP, GPS, -130 dBm				
GNSS Assistance	GNSS ephemeris 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 location fallback for positioning with GPS can't get a fix				

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

Power

Input Voltage	5 - 16 V DC
Sleep Current	<10uA* *Average current in lowest power configuration
Safety	Reverse Polarity Protection and Fuse Protection

Batteries

User-Replaceable Batteries	Replaceable Batteries 2 x D Cell (3.6 V per cell). Batteries not included.				
Supported Battery Types	Lithium Thionyl Chloride (LTC) *Please dispose of Lithium batteries in a safe and responsible manner				
*Battery Life Estimates	Once Daily location updates – 10+ years Movement-Based location updates – 7+ years Hourly location updates – 6+ years				

^{*}Pending full energy profiling. 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

Mechanics/Design

Dimensions	224 x 91 x 41 mm (8.82 x 3.58 x 1.61 in)					
Weight	234 g					
Housing	Non-branded housing for optional white-labelling					
IP Rating	Ultra-rugged and waterproof IP68 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.					
Operating Temperature	-30°C to +60°C					
Cellular Antenna	Internal					
GPS Antenna	Internal					
3-Axis Accelerometer	3-Axis accelerometer to detect movement, high G-force events, and more					
Diagnostic LED	Diagnostic LED indicates operation status					
Store weeks of records if device is out of cellular coverage. Storage capacity for over 2 conitinuous 30-second logging.						
On-Board Speed and Heading	Current speed and heading is reported with each position update					
Onboard Temperature	The device reports internal temperature which provides an indication of ambient temperature					

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				
Geofence Alerts	The server can use device location to create geofences and alerts if an asset enters or leaves designated locations				
Geofence Download to Device	Geofences can 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				
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 a data usage					
Tamper Alerts	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 retrieva				
Tip Detection	Define a range of angles that constitutes a 'tipped' state and configure alerts				

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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 from our cloud device management system			
Configuration App	Configurable with DM-Link provisioning tool		

Integration

CP Direct or HTTPS Webhook

Security

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

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

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New Product Introduction

PLEASE NOTE: The specifications set out in the draft data sheet are not final, are subject to change without notice and should not be relied on as anything other than an estimation of the device's anticipated specifications. A data sheet setting out the device's final specifications will be made available in due course. In the interim please contact us should you have any questions.

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