



# All 868, 902-928MHz LoRaWAN® regions supported

Robust and ultra-rugged LoRaWAN® vehicle and heavy equipment tracking device with inputs/outputs for fleet management, equipment monitoring





#### GPS/GLONASS

High-precision GPS/GLONASS tracking device



#### **Ultra-Rugged**

Weatherproof and ultra-rugged IP67 Housing



#### **Backup Battery**

Internal Backup Battery in case of loss of power or tampering



#### Inputs/Outputs

1 x Analog Inputs, 2 x Digital Inputs, 1 x Switched Ground Digital Output, 1 x Ignition Digital Input



#### **Run Hour Monitoring**

**On-Device Odometer Readings** 

# Connectivity

LoRaWAN	Highly sensitive radio receiver is available in 868 or 902 - 928 MHz versions	
LoRaWAN Regions	AU915	
	AS923-1	
	AS923-2	
	AS923-3	
	EU868	
	IN865	
	KR920	
	RU864	
	US915	

## Location

Module	uBlox EVA-M8
Constellation	Concurrent GPS / GLONASS
Channels	72 Channel High Sensitivy Receiver
Tracking Sensitivity	-167dBM industry-leading tracking performance
*Location Accuracy	~2.0m CEP, 50%, 24 hours static, GPS, SBAS, -130dBm, > 6SVs
Low Noise Amplifier	GPS signals are boosted by a unique low-noise amplifier (LNA) allowing operation where other units fail
LoRaWAN Gateway Geolocation Fallback	LoRaWAN gateway geolocation fallback when there is no GNSS

### Power

Input Voltage	8-36V DC (max).
Self-Resetting Fuse	Built-in self-resetting fuse makes installation simple and safe. Stringent automotive power "load dump" tests are conducted to ensure operation in the harshest electrical systems.
Operating Current	~25/50mA when moving ~150mA battery charging
Sleep Current	<1mA
Backup Battery	1100mAh LiPo internal backup battery pack

# **Mechanics / Design**

Dimensions	125 x 80 x 25 mm (4.92 x 3.15 x 0.98")
Weight	170 g (6.00 oz)
Housing	Ultra-Rugged Nylon Glass
IP Rating	IP67 rated housing ensures device can withstand fine dust, high-pressure spray, submersion for 30 mins in 1m of water, and extreme temperatures
Installation	7 wire harness 1m Length

# Mechanics / Design (continued)

Operating Temperature	-20°C to +60°
GPS Antenna	Internal
3-Axis Accelerometer	3-Axis Accelerometer to detect movement
Diagnostic LED	Diagnostic LED signifies operation status

### Interfaces

Analog Inputs	1 x O-30V Analog Input, Auto Ranging, 12-bit ADC O-5V range: 1.22mV precision O-30V range: 7.32mV precision
Digital Inputs	2 x digital inputs with configurable pull-up/down O-48V DC input range On/Off thresholds: Pull-up enabled: low at 0.8V, high at 1.0V Pull-down enabled: low at 2.0V, high at 2.4V
Digital Outputs	1 x Switched Ground digital output Can be toggled via downlink
Ignition	1 x dedicated ignition digital input 0-48V DC 5V on/off threshold

### **Smarts**

Geofence Alerts	The server can use device location to create geofences and alerts if an asset enters or leaves designated locations
Run Hour Monitoring	Calculate run hours and distance traveled (odometer) to understand and optimize asset utilization

# **Device Management**

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 a USB configuration cable and app. Some param- eters can be changed via downlink.

# Integration

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

Data Security

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

### Warranty

Manufacturer's Warranty

One year manufacturer's warranty

### Certifications

Please contact us for a full list of CE (Doc) compliance specifications and documentation for your region.

\* Positioning 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.