

Eagle

Cellular 2G, 3G or LTE-M / NB-IoT

Rugged and robust datalogger with GPS and Bluetooth® Gateway featuring an impressive array of inputs/outputs and sensor interfaces



Real-Time Tracking

High-precision GPS/GLONASS tracking device



Bluetooth Gateway

Bluetooth® 5.0 Gateway for tagged asset management and sensor monitoring



Battery-Powered or Wired

Flexible Power Options – 4 x C Alkaline or LTC Batteries or wired to permanent power



Inputs/Outputs

2 x Analog Inputs, 3 x Digital Inputs, 2 x Switched Ground Digital Outputs, 2 x 4-20mA Inputs



Interfaces

I²C, SDI-12 and RS-485 Interface



Ultra-Rugged

Weatherproof and ultra-rugged IP67 Housing

Connectivity

2G	2G: SARA-G350-02S-01 850/900/1800/1900 MHz
3G (MOQs apply)	uBlox SARA-U201 modem offering 3G with 2G fallback 3G: UMTS/HSPA, 800/850/900/1900/2100 MHz 2G: GSM Quad-band, 850/1900, 900/1800 MHz
LTE-M / NB-IoT	uBlox SARA-R410M Modem operates on all major global LTE-M and NB-IoT bands Supported LTE bands: 1*, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 26*, 28 (*roaming bands)
Bluetooth® 5.0 Gateway	Bluetooth 5.0 gateway reports nearby Bluetooth® tags and sensors for affordable tagged asset management and sensor monitoring
SIM Size & Access	Internal Micro 3FF SIM

Batteries

User-Replaceable Batteries	4 x C
Supported Battery Types	Alkaline Lithium Thionyl Chloride (LTC) *Please dispose of Lithium batteries in a safe and responsible manner

Location

Module	uBlox EVA-M8
Constellation	Concurrent GPS / GLONASS
Channels	72 Channel High Sensitivity Receiver
Tracking Sensitivity	-167dBm industry-leading tracking performance
GNSS Assistance	GNSS almanac data for greater sensitivity and position accuracy
Low Noise Amplifier	GPS signals are boosted by a unique low-noise amplifier (LNA) allowing operation where other units fail

Power

Input Voltage	Flexible Power Options: 5 - 16V DC (max) 4 x C Cell Battery holder fitted Screw terminals for line power
Sleep Current	<10uA* *Average current in lowest power configuration
Backup Battery	If line power is connected and batteries are also installed, device will fall back to the 4 x C cells if external power is disconnected

Mechanics / Design

Dimensions	183 x 145 x 40 mm (7.2 x 5.7 x 1.57")
Weight	296 g (10.44 oz) 564 g (19.89 oz) with batteries
Housing	ABS Polycarbonate Plastic
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	Multiple installation options for covertly and easily securing the device to assets with screws, bolts, cable ties, rivets, and more. Caters for a number of cable glands (2 fitted as standard) to allow for waterproof cable entry to the housing.
Operating Temperature	-20°C to +60°C For operation in extreme temperatures, the device must be fitted with LTC Batteries
GPS Antenna	Internal
Cellular Antenna	The Eagle has a U.FL connector on the PCB that connects to an internal cellular sticker antenna as standard. This offers the option of installing an external antenna if maximum range is required.
RF Antenna	Internal
3-Axis Accelerometer	3-Axis Accelerometer to detect movement, high G-force events, and more
Diagnostic LED	Diagnostic LED signifies operation status
Flash Memory	Store weeks of records if device is out of cellular coverage. Storage capacity for over 10 days of continuous 30-second logging

Interfaces

Analog Inputs	2 x 0-30V Analog Inputs, Auto Ranging, 12-bit ADC 0-5V range: 1.22mV precision 0-30V range: 7.32mV precision
Digital Inputs	3 x digital inputs with configurable pull-up/down 0-48V 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 Can be used for pulse counting.
Digital Outputs	2 x Switched Ground digital outputs Easily wired up to control external devices and circuits, for example to turn a lighting tower on/off
Ignition	Digital inputs can be used as an ignition input to log run hours
I ² C	I ² C (inter-IC communications) is an interface commonly used in sensor modules
RS-485	RS485 interface supported in hardware. Requires firmware integration to connect to other sensors and devices

Interfaces *(continued)*

SDI-12	Features SDI-12, commonly used in agricultural sensors and measurement devices for soil moisture probes, temperature, electrical conductivity (EC) of soils, water levels/pressures, other SDI-12 probes and sensors.
Switched Power Out	Used to control the 3.3V power to external sensors and peripherals. Load limited and short circuit protected
Switched Sensor Power	Sensor Power (Vout) Used to control the battery power to external sensors and peripherals. Load limited and short circuit protected. Output voltage is the same as supply voltage. Current limited to between 570 and 850mA
4-20mA inputs	2x 4-20mA The 4-20mA inputs can be used to interface to current loop sensors. 0.025mA precision

Smarts

Auto-APN	Auto-APN allows the device to analyze the SIM card and select the correct APN details from a list that is pre-loaded in the device's firmware.
Battery Life Monitoring	Built-in Battery Meter for monitoring battery use and remaining life predictions
Environmental Monitoring	Interface with a range of sensors such as temperature, humidity, moisture, depth, and more
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 from Telematics Guru for enhanced location-based actions and alerts. Maximum of 100 Geofences with up to 100 points per geofence.
Impact Detection	Configure impact-detection alerts when g-forces are exceeded by a user-defined threshold
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.
Preventative Maintenance	Set reminders based on distance traveled and run hours to reduce maintenance and repair costs
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
Theft Recovery	Switch to Recovery Mode in the case of theft or loss to activate real-time tracking for asset retrieval

Device Management

Flexible Configuration	Configure device parameters such as position update rate, movement and accelerometer settings, and more to fit any tracking application
OEM Server	Manage, monitor, configure, debug, update, and restart devices remotely from our cloud-based device management system

Integration

Third-Party Integration

TCP Direct or HTTPS Webhook

Security

Data Security

Military-level AES-256 Encryption from device to OEM Server to protect the integrity and confidentiality of telematics data.

Data forwarded to third-party systems is sent via HTTPS for end-to-end security.

Warranty

Manufacturer's Warranty

One year manufacturer's warranty

Certifications

LTE-M / NB-IoT - Bluetooth® Certified, CE (Doc)

2G - Bluetooth® Certified, CE (Doc)
