

# G120

Cellular 2G or LTE-M / NB-IoT  
Optional Iridium Satellite

GPS tracking device and Bluetooth® Gateway with optional Iridium Satellite for out-of-coverage tracking with inputs/outputs, RS-232 Interface, and remote immobilization for fleet management, driver ID, driver safety and behavior monitoring, remote worker safety, theft recovery, and more



## Real-Time Tracking

High-precision GPS/GLONASS tracking device wired to vehicles or equipment



## Backup Battery

Internal Backup Battery in case of loss of power or tampering



## Bluetooth Gateway

Bluetooth® 5.0 Gateway for tagged asset management and sensor monitoring



## Inputs/Outputs

1 x Analog Input, 6 x Digital Inputs, 2 x Switched Ground Digital Outputs, 1 x Ignition Digital Input, Switched Power Out



## RS-232 Interface

RS-232 Interface to connect optional Iridium Edge® Module or interface with controllers and sensors



## Driver ID

Configure iButton®, RFID readers and Wiegand Interface for Driver ID



## Driver Behavior

Accident and rollover detection, speeding, harsh braking, and more



## In-Cab Alerts

Built-in Buzzer for in-cab alerts

## Connectivity

|                        |  |
|------------------------|--|
| 2G                     | 2G: SARA-G350-02S-01<br>850/900/1800/1900 MHz  |
| LTE-M / NB-IoT         | uBlox SARA-R410M Modem operates on all major global LTE-M and NB-IoT bands<br>Supported LTE bands:<br>1*, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 26*, 28<br>(*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   |

## 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       | 8-45V 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<br>~150mA battery charging   |
| Sleep Current       | <2mA  |
| Backup Battery      | 1100mAh LiPo internal backup battery pack   |

## Mechanics / Design

|                       |  |
|-----------------------|--|
| Dimensions            | 125 x 65 x 30 mm (4.92 x 2.56 x 1.18")   |
| Weight                | 250 g (8.82 oz)  |
| Housing               | ABS Polycarbonate Plastic  |
| Installation          | 24 Pin Connector provided as standard  |
| Operating Temperature | -20°C to +60°C (connected to external power)<br>At < 0°C and > +40°C the internal backup battery will not be charged as a safety precaution due to the dangers associated with charging batteries at extreme temperatures. |

## Mechanics / Design *(continued)*

|                      |  |
|----------------------|--|
| GPS Antenna          | Internal   |
| Cellular Antenna     | Internal   |
| 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                |
| Internal Buzzer      | Internal buzzer fitted for audible alerts for speeding, harsh driving, driver ID reminders, error conditions, input feedback, and other events |

## Interfaces

|                     |   |
|---------------------|---|
| Analog Inputs       | 1 x 0-30V Analog Inputs,<br>Auto Ranging, 12-bit ADC<br>0-5V range: 1.22mV precision<br>0-30V range: 7.32mV precision   |
| Digital Inputs      | 6 x digital inputs with configurable pull-up/down<br>0-48V DC input range<br>On/Off thresholds:<br>Pull-up enabled: low at 0.8V, high at 1.0V<br>Pull-down enabled: low at 2.0V, high at 2.4V   |
| Digital Outputs     | 2 x Switched Ground Digital Outputs<br>Easily wired up to switch external lights, relays, buzzers, etc<br>Can be used to immobilize a vehicle   |
| Ignition            | 1 x dedicated ignition digital input 0-48V DC<br>5V on/off threshold  |
| RS-232              | Can be used to connect Iridium Edge® Module or interface with controllers and other sensors   |
| Switched Power Out  | Outputs are either 5V (external power connected) or Vbatt (no external power) Max Current: 400mA<br>The G120 can provide power to external peripherals, eliminating the need for additional external power supplies   |
| TTL Interface       | Serial interface used to connect a Digital Matter RFID reader for Driver ID   |
| Wiegand             | The G120's Wiegand Interface enables easy integration with a variety of RFID card types and readers. Existing employee access badges or IDs can be used with a Wiegand reader for driver ID, permission-based actions, and theft prevention, eliminating the hassle of issuing additional ID cards or fobs. |
| 1-Wire® or iButton® | 1-Wire® or iButton® can be used to read Driver ID tags. Readers available to suit multiple card formats   |

# 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  |
| Accident & Rollover Detection     | Configure accident and rollover alerts triggered by extreme changes in velocity and orientation of vehicle or equipment. Second-by-second GPS data is saved on the device's flash memory, with a capacity of approximately 2 hours of data. In the event of an accident, a subset of the data (60 seconds before / 10 seconds after) is uploaded to the server automatically (if configured) or can be requested manually for a detailed reconstruction of the incident. |
| Driver ID Options                 | RFID, iButton® or Wiegand interface for Driver ID, access control, and logbooking. Wiegand interface supports many third-party readers to read nearly any ID card type.  |
| Driver Safety & Behavior          | Monitor speeding, harsh acceleration, braking, cornering, idling, and more to improve safety and prevent unnecessary wear on vehicles  |
| 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 750 Geofences with up to 100 points per geofence.   |
| GPS Jamming Detection             | GPS Jamming or Interference can be detected and alerted on   |
| In-Vehicle Alerts                 | Can be wired up to external buzzers or lights for in-vehicle alerts  |
| Lone Worker Safety                | Interface a variety of duress pendants to enable man-down alerts for lone worker safety monitoring   |
| Out-of-Cellular-Coverage Tracking | Fit the G120 with an optional Iridium Edge® Module using the RS232 connection to track assets in remote areas outside of cellular coverage   |
| Preventative Maintenance          | Set reminders based on distance traveled and run hours to reduce maintenance and repair costs  |
| Real-Time Tracking                | Device remains continuously connected while on the move for real-time asset tracking   |
| Remote Worker Safety              | Interface a variety of duress pendants to enable man-down alerts for remote (out-of-coverage) worker safety monitoring<br>*Requires Iridium Edge® Module   |
| Remote Immobilization             | Digital outputs can be connected to a relay to enable remote immobilization of vehicles and equipment in the case of theft, abuse, or unauthorized usage   |
| Run Hour Monitoring               | Calculate run hours and distance traveled (odometer) to understand and optimize asset utilization  |
| Sensor Monitoring                 | Interface with a range of devices and switches for seatbelt detection, duress and panic buttons, lights, in-cab warning buzzers, and more  |
| Tamper Alerts                     | Instant alert if the device is removed from your asset or disconnected from its power source   |
| 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

---

Please contact us for a full list of compliance specifications and documentation for your region.

**LTE-M / NB-IoT** - FCC, ISED, Bluetooth® Certified, CE (Doc)  
**2G** - Bluetooth® Certified, CE (Doc)

---