G120

CELLULAR 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 behaviour 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 Rechargeable 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®, Weigand Interface or RFID readers for Driver ID and Access Control

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

In-Cab Alerts
Built-in Buzzer for in-cab alerts

Remote Immobilisation
Immobilisation option to safely disable assets remotely

CONTACT US FOR MORE INFORMATION OR PRICING
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Connectivity

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

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	8-45 VDC (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
Intelligent Power Management	Device enters sleep mode when vehicle is inactive to prevent battery drain
Sleep Current	<2 mA
Backup Battery	1100 mAh LiPo internal backup battery pack

Mechanics / Design

Dimensions	125 x 65 x 30 mm
Weight	250 g
Housing	ABS Polycarbonate Plastic
Installation	24 Pin Connector provided as standard
Operating Temperature	-30°C to +60°C (connected to external power) 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.
GPS Antenna	Internal
Cellular Antenna	Internal
RF Antenna	Internal

Mechanics / Design *(continued)*

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
On-Board Speed & Heading	The device continuously monitors speed and heading direction, allowing for over-speed alerts as well as updates on speed and heading changes
On-Board Temperature	The device reports internal temperature and prevents the internal battery charging in extreme temperatures. Internal temperature provides an indication of ambient temperature but may not always be precise.

Interfaces

Analogue Inputs	1 x 0-30V Analogue Input Auto Ranging, 12-bit ADC 0-5V range: 1.22mV precision 0-30V range: 7.32mV precision
Digital Inputs	6 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
Digital Outputs	2 x Switched Ground Digital Outputs Easily wired up to switch external lights, relays, buzzers, etc Can be used to immobilize a vehicle
Ignition	1 x dedicated ignition digital input 0-48V DC – 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 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 analyse 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 reader, 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 & Behaviour	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 travelled 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-cellular-coverage) worker safety monitoring *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 travelled (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 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
Device Management Platform	Manage, monitor, configure, debug, update, and restart devices remotely from our cloud-based device management system
Configuration App	Configurable with DMLink provisioning tool

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

Warranty	Two-year manufacturer's warranty PLUS additional two-year half price replacement Home of IoT warranty

Certifications

Please contact us for a full list of compliance specifications and documentation for your region	FCC, ISED, Bluetooth® Certified, CE (Doc)

Optional Iridium Edge® Module

Manufacturer's website: www.digitalmatter.com