

# G150

Global Cellular 4G LTE Cat 1bis / 2G (GSM)  
Optional Iridium Satellite Hybrid Connectivity

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



## Global Connectivity

Connect almost anywhere in the world with a cellular network with 4G Cat 1bis and 2G (GSM) fallback.



## Out-of-Coverage Tracking

Fit the G150 Global with an optional Iridium Edge® Module to track assets in remote areas outside of cellular coverage.



## Real-Time Tracking

The G150 remains continuously connected to GPS signals while on the move for real-time asset tracking.



## Onboard Geofencing

Geofences can also be downloaded directly to the device for enhanced location-based actions and alerts.



## Bluetooth® Gateway

Bluetooth® 5.2 Gateway for affordable tagged asset management and sensor monitoring applications.



## CAN Bus Transceiver

Gain additional vehicle data direct from the CAN Bus digital communications system.



## Inputs/Outputs

1 x Ignition Digital Input  
4 x Digital Inputs  
1 x Analog Input  
2 x Switched Ground Digital Outputs  
1 x Switched Power Out  
1 x RS-232 Interface



## Driver ID Options

Configure Bluetooth®, iButton®, RFID Readers, or Wiegand for Driver ID, Access Control, and Logbooking. Built-in Buzzer for in-cab alerts.



## Driver Safety & Behaviour

Monitor speeding, harsh acceleration, braking, cornering, idling, and more to improve safety and prevent unnecessary wear on vehicles.



## Crash & Rollover Detection

Configure accident and rollover alerts triggered by extreme changes in velocity and orientation of vehicles.



## Remote Immobilisation

Digital outputs can be connected to a relay to enable remote immobilization of vehicles in the case of theft, abuse, or unauthorized usage.



## Large Backup Battery

Very Large Internal Rechargeable Backup Battery in case of loss of power or tampering.



## Ultra Rugged & Weatherproof

Ultra-rugged and waterproof IP68 and IK08-rated housing with GORE® vent ensures the device can withstand impact, fine dust, and brief submersion.

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## Connectivity

LTE-M / NB-IoT	Ublox LENA R8 Modem operates on all major global 4G Cat 1bis and 2G bands Supported bands: <b>2G GSM:</b> 900, 1800, 1900, 850 <b>4G LTE Cat 1bis:</b> 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 sensors
SIM Size & Access	Internal Nano 4FF SIM

## Location

GNSS Module	Ublox LENA-R8001M10
Constellation	Concurrent GPS/QZSS, GLONASS, Galileo, BeiDou
Tracking Sensitivity	-167dBm GPS industry-leading tracking performance
Location Accuracy*	~1.0m CEP, GPS, -130dBm <small>*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.</small>
GNSS Assistance	GNSS almanac 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 when GPS can't get a fix

## Power

Input Voltage	8 – 33 Vdc (max)
High-Performance Automotive Power Supply	Stringent power 'load dump' tests are conducted to ensure operation in the harshest automotive electrical systems. Built-in self-resetting fuse makes installation simple and safe.
Operating Current	~25 – 50 mA when moving ~100 – 250 mA battery charging
Intelligent Power Management	Device enters sleep mode when vehicle is inactive to prevent battery drain
Sleep Current	<50 uA (no peripherals supplied and battery fully charged)
Backup Battery	3500 mAh LiPo internal rechargeable battery

## Mechanics / Design

Dimensions	180 x 119 x 39 mm
Housing Material	Non-branded nylon-glass
IP/IK Rating	Ultra-rugged and waterproof IP68 and IK08-rated housing ensures the device can withstand impact, fine dust, and brief submersion
GORE® Vent	Allows for pressure equalization while protecting against water and dust ingress
Installation	Device supplied with one 10-wired harness (1m) For pin out and further details, see <a href="#">G150 Harness Definition</a>

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## Mechanics / Design *(continued)*

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
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 25 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, allowing for over-speed alerts as well as 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	4 x digital inputs with configurable pull-up/down 0 - 48V DC input range On/Off thresholds: Pull-up enabled: low at 1.2V, high at 1.5V Pull-down enabled: low at 1.8V, high at 2.2V
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 with configurable pull-up/down 0 - 48V DC input range Pulled-down in hardware: low at 1.8V, high at 2.2V
RS-232	Can be used to connect Iridium Edge® Module or interface with controllers and other sensors
*CAN Bus Transceiver	Compatible with ISO 11898-2 High Speed CAN Physical Payer standard transceivers 3.3V standard CANP and CANN, 16V maximum <small>* Firmware support for the CAN interface is not yet available. Peripherals can be considered for integration upon request.</small>
Switched Power Out	Outputs are either 5V (external power connected) or Vbatt (no external power) Max Current: 400 mA The G150 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	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, 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.

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## 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	Bluetooth® (coming soon), 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. Use the buzzer to alert drivers of these actions.
Flexible Input Monitoring	Interface with a range of devices and switches for seatbelt detection, duress and panic buttons, lights, in-cab warning buzzers, and more
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
On-Board Geofencing	The server can use device location to create geofences and alerts if an asset enters or leaves designated locations. Geofences can also be downloaded directly to the device for enhances location-based actions and alerts. Maximum of 750 geofences with up to 100 points per geofence.
Out-of-Cellular-Coverage Tracking	Fit the G150 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
Lone Worker Safety	Interface a variety of duress pendants to enable man-down alerts for lone worker safety monitoring
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

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## Integration

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Third-Party Integration

TCP Direct or HTTPS Webhook

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## Security

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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.

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## Warranty

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Warranty

Two-year manufacturer's warranty PLUS additional two-year half price replacement IOTrack warranty

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## Certifications

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Please see the Digital Matter knowledge base for device certifications

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## Optional Iridium Edge® Module

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For more details see manufacturer's website [Digital Matter](#) and device page [G150](#)

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