

# G70

## Cellular 2G or LTE-M / NB-IoT

Rugged and robust vehicle, trailer, or heavy equipment tracking device with inputs/outputs, remote immobilization for fleet management, equipment monitoring, driver ID, theft recovery, and more



### Real-Time Tracking

High-precision GNSS wired tracking device



### Inputs/Outputs

1 x Ignition Digital Input, 3 x Digital Inputs, 1 x Analog Input, 1 x Switched Ground Digital Output



### Backup Battery

Internal Backup Battery in case of loss of power or tampering



### Driver ID

Configure iButton®, TTL, or Wiegand inputs for Driver ID Readers



### Driver Behavior

Run hour monitoring, accident and rollover detection, speeding, harsh braking and cornering, and more



### Remote Immobilization

Immobilization option to safely disable vehicles and equipment remotely



### Ultra-Rugged

Weatherproof and ultra-rugged IP67 Housing

# Connectivity & Location

## 2G Version

|                      |  |
|----------------------|--|
| Module               | Quectel MC60 850/900/1800/1900 MHz   |
| Constellation        | Concurrent GPS / GLONASS / Galileo   |
| Channels             | 99 Channel High Sensitivity Receiver   |
| Tracking Sensitivity | -167dBm industry-leading tracking performance  |
| SIM Size & Access    | Internal Micro 3FF SIM   |
| GNSS Assistance      | GNSS almanac and ephemeris 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 |

## LTE-M / NB-IoT Version

|                      |   |
|----------------------|---|
| Cellular Module      | Nordic nRF9160 Modem operates on all major global LTE-M and NB-IoT bands.<br><br>Supported LTE bands:<br>LTE-M (Cat-M1): B1, B2, B3, B4, B5, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B66<br>NB-IoT (Cat-NB1/NB2): B1, B2, B3, B4, B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B66 |
| GNSS Module          | uBlox EVA-M8Q   |
| Constellation        | Concurrent GPS / GLONASS / Galileo / BeiDou   |
| Channels             | 72 Channel High Sensitivity Receiver  |
| Tracking Sensitivity | -167dBm industry-leading tracking performance   |
| SIM Size & Access    | Internal Micro 3FF SIM  |
| GNSS Assistance      | GNSS almanac and ephemeris 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   |

# 2G and LTE-M / NB-IoT Versions

The following technical specs are shared across both versions of the G70 unless otherwise stated

## Power

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|--|---|
| Input Voltage                            | 8-36V DC (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                        | <b>2G</b><br>≈250mA when moving<br>+ ≈60mA while internal battery charging<br><br><b>LTE-M / NB-IoT</b><br>≈50mA when moving<br>+ ≈60mA while internal battery charging             |
| Intelligent Power Management             | Device enters sleep mode when vehicle is inactive to prevent battery drain  |
| 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                   | TBD  |
| Housing                  | Ultra-Rugged IP67 Housing  |
| 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             | 10 wire harness<br>1m Length   |
| Operating Temperature    | -30°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. |
| Cellular Antenna         | Internal   |
| GPS Antenna              | Internal   |
| 3-Axis Accelerometer     | 3-Axis Accelerometer to detect movement, high G-force events, and more   |
| Diagnostic LED           | Diagnostic LED indicates 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.   |
| On-Board Speed & Heading | The device continuously monitors speed and heading, 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

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|---------------------|--|
| Analog Inputs       | 1 x Analog input. 0-40V  |
| Digital Inputs      | <p>3* x Digital Inputs with configurable pull up/pull down<br/>0-48V DC input range</p> <p>On/Off thresholds:<br/>Pull-up enabled: low at 0.4V, high at 1.9V<br/>Pull-down enabled: low at 0.8V, high at 2.2V</p> <p>Can be used for pulse counting<br/>*Digital Input 3 pin shared with Driver ID. Cannot be used in conjunction with Wiegand or TTL readers.</p> |
| Digital Outputs     | <p>1 x Switched Ground digital output - 2A max<br/>Easily wired up to switch external lights, relays, buzzers, etc<br/>Can be used to immobilize a vehicle</p>   |
| Ignition            | <p>1 x dedicated ignition digital input 0-48V DC - 2.2V on/off threshold<br/>Can be used as a digital input if not required</p>  |
| TTL Interface       | Serial interface used to connect a Digital Matter RFID reader for Driver ID (requires external 5V power source)  |
| Wiegand             | Enables easy integration with a variety of Driver ID card types and readers or keypads   |
| 1-Wire® or iButton® | 1-Wire® or iButton® can be used to read Driver ID tags. Readers available to suit multiple card formats.   |

# Smarts

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|-------------------------------|--|
| 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 reader, iButton®, or Wiegand interface for Driver ID, access control, and logbooking  |
| 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   | <p>Geofences can be downloaded directly to the device from Telematics Guru for enhanced location-based actions and alerts.</p> <p><b>2G</b> - Maximum of 20 Geofences with up to 30 points per geofence<br/><b>LTE-M/NB-IoT</b> - Maximum of 500 Geofences with up to 100 points per geofence</p>  |
| 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   |
| 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 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   |

## Smarts (continued)

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|                     |   |
|---------------------|---|
| 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 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                                   |

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## Device Management

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| 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 Device Management Platform 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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| Manufacturer's Warranty | Two-year manufacturer's warranty |
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## Certifications

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| Please visit our knowledge base for a full list of compliance specifications and documentation for your region | Coming Soon |
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**Warning:** Please dispose of the unit correctly. Risk of explosion if the device is exposed to extreme high temperatures or fire.