Solar Gateway

LTE-M (Cat-M1)/NB-IoT with Bluetooth®, GPS

Long-Range, battery powered Bluetooth® Gateway capable of scanning hundreds of assets at once. Equipped with a Solar Panel for durable, long lasting, no touch deployments. Ability to hardwire if desired.

Solar Panel sized based on application

7.1 x 4.7 x 1.5 in (180 x 119 x 39 mm)

Use Cases

Parking Lot Monitoring

Gather data in expansive outdoor areas with just one Solar Gateway. Easily monitor parking lots, events and other areas with no power or networks with ease.

Carts and Non-Powered Assets

Instantly monitor the utilization and on-premise whereabouts of your equipment. No Wi-Fi or wires needed. Can manage asset inventory, location and utilization depending on the number of HD Gateways deployed.

Technical Specifications

Bluetooth® 5.2 Gateway allows up to **1,000** tagged assets to be scanned by a single Solar Gateway.

Cellular communication means no Wi-Fi or wires. Data can be sent directly to 3rd party applications.

Up to 450 ft range, depending on selected sensor and environmental factors.

Solar Powered, LiPo rechargeable battery allows high scan rates and extra long battery life, up to 7 years with very frequent scans and uploads.

Connectivity

LTE-M / NB-IoT (supports roaming between networks)	Nordic nRF9160 Modem operates on all major global LTE-M and NB-IoT bands. Supported LTE bands: LTE-M (Cat-M1): B1, B2, B3, B4, B5, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B66 NB-IoT (Cat-NB1/NB2): B1, B2, B3, B4, B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B66
Bluetooth® 5.2 Gateway	Bluetooth BGM240PA22VNA3 module scans nearby Bluetooth tags and sensors for affordable tagged asset management and sensor monitoring. **Gateway range influenced by sensors used, Gateway location and environmental interference.**

Location

GNSS Module	Nordic nRF9160 internal GPS
Constellation	Concurrent GPS
*Location Accuracy	~1m 2D RMS, GPS, -130dBm
GNSS Assistance	GNSS almanac and ephemeris data for greater sensitivity and position accuracy
Low Noise Amplifier	GPS signals filtered and boosted by a low-noise amplifier (LNA) allowing operation where other units fail

* 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.

Power

Input Voltage	5-28V DC (max)
Safety	Reverse Polarity Protection and Self-Resetting Fuse Protection
External Power Source	Compatible with Solar Panel and Direct Current, Mains power for flexible deployments and extra long battery life.

Batteries

Rechargeable Battery	3500 mAh LiPo rechargeable battery
*Battery Life Estimates	Once Daily location update and Bluetooth Scan Interval– 10 years Daily Location updates and 4x per hour Bluetooth Scan Interval – 5 years

* Battery life estimates are influenced by several factors including temperature, installation and orientation of the device, the frequency of location updates and sensor data uploads, gateway scan intervals and more. STG will advise optimal setup conditions to maximize battery life based on the application.

Mechanics / Design

Dimensions	7.1 x 4.7 x 1.5 inches (180 x 119 x 39 mm)**
Weight	1 lbs. (430g)
Housing	Black, glass filled nylon
IP/IK Rating	Ultra-rugged and waterproof IP68 and IK07-rated housing can withstand impact, fine dust, and brief submersion.
Operating Temperature	-22 F to 140 F (-30°C to +60°C)
Diagnostic LED	Diagnostic LED indicates operation status and push button for testing/resetting
Flash Memory	Store **months** of records if device is out of cellular coverage. Storage capacity for over 20 days of continuous 30-second logging.
Onboard Temperature	The device reports internal temperature which provides an indication of ambient temperature but may not always be precise

**solar panel specifications are provided seperately and sized based on desired application and mounting surface.

Smarts

Battery Life Monitoring	Battery Meter with “Battery Low” and “Battery Critical” alert levels
Geofence Alerts	QuickTrack Platform can use device location to create geofences and alerts if an asset enters or leaves designated locations.
Onboard Parameters	Can pre-provision for conditional uploads, scan rate changes and task management, even if out of cellular coverage.
Tagged Asset Scans	Bluetooth scan interval can be adjusted over-the-air to accommodate different tracking applications.

Integration

Third-Party Integration	TCP Direct or HTTPS Webhook

Security

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.