

GPS Tracking Mart GV53MG

GTM Queclink GV53MG 4G GPS Tracker User Manual

Model: GV53MG | Brand: GPS Tracking Mart

1. INTRODUCTION

This user manual provides essential information for the installation, operation, and maintenance of your GTM Queclink GV53MG 4G GPS Tracker. The GV53MG is a compact, ultra-thin device designed for real-time vehicle and fleet tracking, offering advanced features such as geo-fencing, driving behavior monitoring, and secure data transmission. Please read this manual thoroughly before using the device to ensure proper functionality and safety.

2. PRODUCT OVERVIEW AND FEATURES

The GV53MG is an upgraded LTE Cat M1/NB2 version of the GV50MG, designed for broad network coverage and flexible deployment. Its compact size allows for covert and easy installation within vehicles.

Key Features:

- **LTE Cat M1/NB2 Connectivity:** Utilizes the latest low-power wide area network standards for extended coverage.
- **Compact and Ultra-Thin Design:** Facilitates covert and easy installation.
- **Digital I/Os:** Includes basic digital inputs for ignition detection and vehicle control, with an extra configurable I/O for flexible applications.
- **AES-256 Encryption:** Secures business-critical data and guards against unauthorized access.
- **Geo-Fence Capabilities:** Supports up to 20 circular and 20 polygon geo-fence regions with alarm notifications.
- **Scheduled Reporting:** Reports position and status at preset time intervals.
- **Driving Behavior Monitoring:** Detects aggressive driving behaviors such as harsh braking and

acceleration.

- **Crash Detection:** Collects accident data for reconstruction and analysis.
- **Low Power Alarm:** Alerts based on internal 3-axis accelerometer.
- **Remote Control:** Over-the-Air (OTA) control of digital outputs.
- **Internal Backup Battery:** 190 mAh Li-Polymer battery for continued operation.

Product Visuals:



Image: The GV53MG GPS tracker shown alongside a mobile phone displaying its real-time map tracking interface.



Image: The GV53MG device with its multi-colored wiring harness, indicating connection points.

Technical Specifications:

Coverage: 4G

Weight: 95g (3.35oz)

Dimension: 3.43"(L) × 2.17"(W) × 0.49"(H)
(87 × 55 × 12.5mm)

Backup Battery: Li-Polymer, 190 mAh

Charging Voltage: 5V DC

Operating Voltage: 8V to 32V DC

Operating Temperature: -30C ~ +80C

Technology: LTE

Operating Band: LTE Cat M1/NB2;

Cat M1: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B27/B28/B66/B85

Cat NB2: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85

GNSS Type: u-blox All-in-One GNSS receiver

Data Transmission: eMTC (DL) 348 Kbps, eMTC (UL) 1.08 Mbps, NB2 (DL) 121 Kbps, NB2 (UL) 150 Kbps, NB1 (DL) 74.1 Kbps, NB1 (UL) 101 Kbps

Transmit Protocol: TCP, UDP, SMS

Battery Life: 30 Hours & Up



Whats Included:



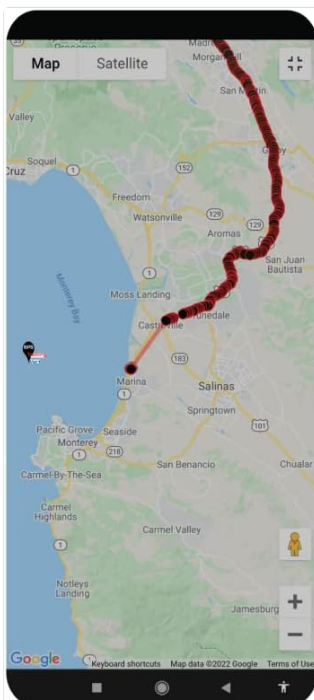
GPS Tracker



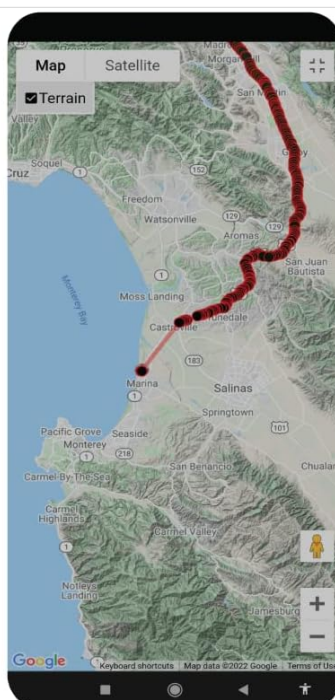
Extension Wire

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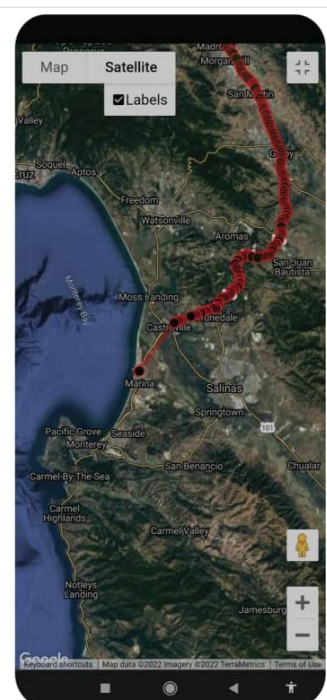
Image: A diagram highlighting key features of the GV53MG, including covert installation, cost-effectiveness, driving behavior monitoring, OTA control, scheduled reporting, geo-fences, crash detection, tow alarm, power alarm, and LED indicators.



SIMPLE MAP VIEW



MAP WITH TERRAIN VIEW



MAP WITH SATTELITE VIEW

Image: Three distinct mobile map views (Simple, Terrain, and Satellite) demonstrating the tracking interface on a smartphone.

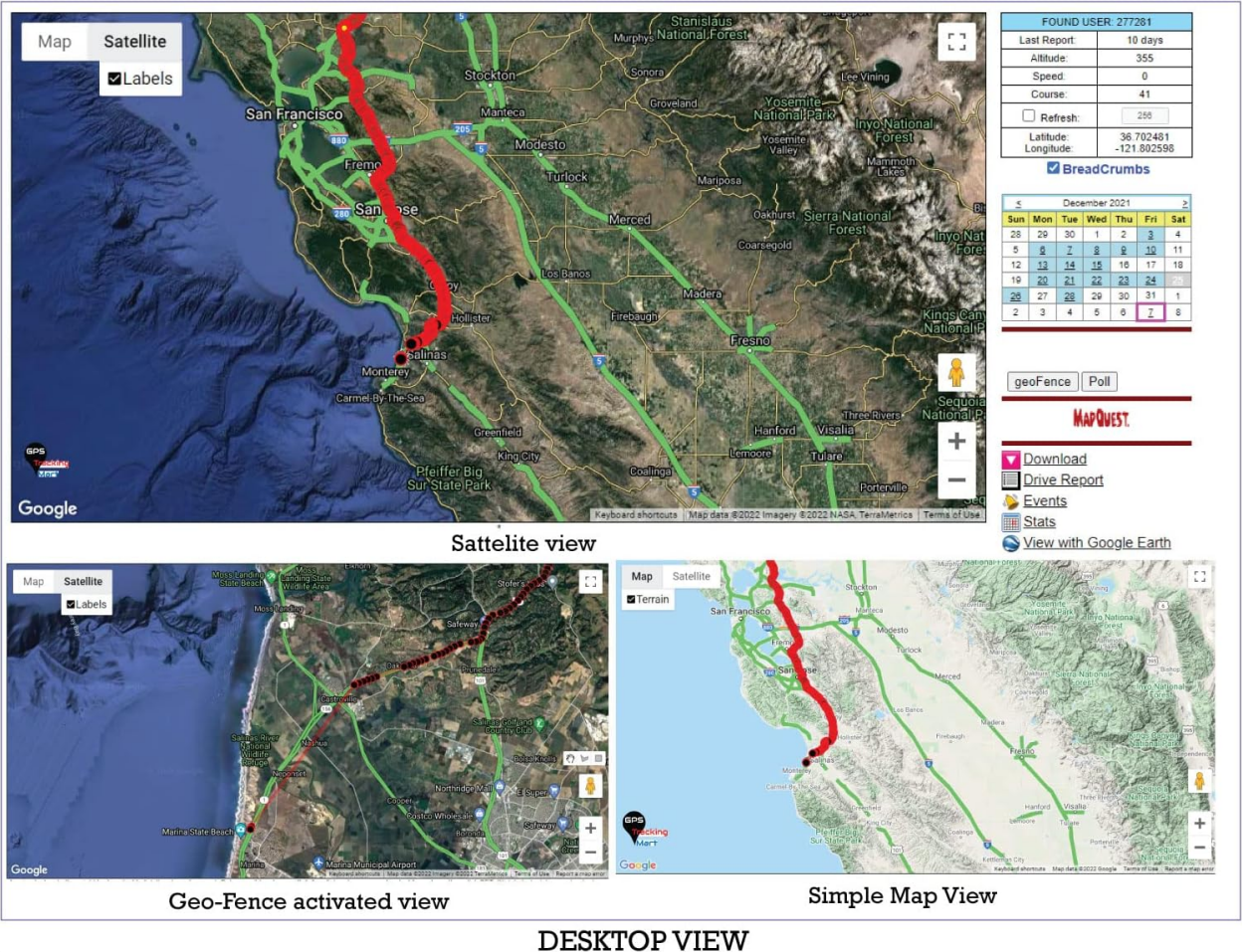


Image: Various desktop map views, including satellite, geo-fence activated, and simple map views, illustrating the comprehensive tracking platform.

3. SPECIFICATIONS

The following table details the technical specifications of the GV53MG GPS Tracker:

Category	Specification
Model Number	GV53MG
Dimensions (L x W x H)	3.43 x 2.17 x 0.49 inches (87mm x 55mm x 12.5mm)
Weight	3.35 ounces (95g)
Internal Battery	Li-Polymer 190 mAh (included)
Operating Voltage	DC 8V to 32V
Operating Temperature	-30°C to +80°C (-40°C to +85°C for storage)
LTE Cat M1 Operating Bands	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B27/B28/B66/B85

Category	Specification
LTE Cat NB2 Operating Bands	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85
Data Transmission	eMTC (DL) 300Kbps & eMTC (UL) 375Kbps
GPS Type	Qualcomm Gen 8C GNSS (u-blox All-in-One GNSS receiver)
Receiver Sensitivity (Cold start)	-148 dBm
Receiver Sensitivity (Tracking)	-159 dBm
Position Accuracy (CEP50)	< 2.5m (Autonomous)
TTFF (Open Sky) - Cold start	30s average
TTFF (Open Sky) - Hot start	1s average
Digital Inputs	One positive trigger for ignition detection
Digital Outputs	One open drain, 150 mA max drive current
Configurable I/Os	One special I/O (negative trigger digital input or open drain output)
Communication Port	One TTL UART port for upgrading and debugging
Antennas	Internal Cellular Antenna, Internal GPS patch antenna
Bluetooth	2.4 GHz, BLE compatible, -88 dBm receiver sensitivity, up to 10 dBm RF Power
Transmit Protocol	TCP, UDP, SMS
Certifications	FCC, Verizon certified



Realtime GPS Tracking Device

GPS Tracker

GV53MG

- Covert Installation
- Cost Effective
- Driving Behavior Monitoring
- OTA Control
- Scheduled Time Reporting
- Geo-Fences
- Crash Detection
- TOW Alarm
- Power Alarm
- LED Indicators

LTE Compact Vehicle tracking Tracker

- 1.Global LTE Cat M1/NB2 with 2G fallback using unique antenna solution.
- 2.Compact size for covert installation.
- 3.Ideal for a wide range of vehicle tracking applications, such as car leasing and buy here pay here (BHPH).
- 4.Easy installation using an in-line connector.
- 5.Driving Behavior Monitoring and Incident Notification.



Region	Operating Band	GNSS Type	Position Accuracy (CEP)	Certification
North America	LTE Cat M1/NB2; Cat M1: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B27/B28/B66/B85: Cat NB2: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85	u-blox All-in-One GNSS receiver	Autonomous: < 2.5m	Verizon/FCC

The GV53MG is the upgraded LTE Cat M1/NB2 version of GV50MG. It integrates the latest low-power wide area network standards and covers a broader area, making it more flexible to deploy. It is a compact, ultra-thin product allowing covert and easy installation. The product offers basic digital I/Os that can be used for ignition detection and vehicle control. An extra configurable I/O enables flexible applications. The GV53MG supports AES-256 encryption to secure business-critical data, guard against unauthorized access and ensure data integrity. The product is designed for various use cases such as auto financing, buy here pay here (BHPH), car rental and leasing, basic fleet management and stolen vehicle recovery.



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Image: A visual representation of the GV53MG's technical specifications, including dimensions and operating bands.

4. WHAT'S IN THE BOX

Upon opening your GV53MG package, you should find the following items:

- GV53MG GPS Tracker Unit
- Extension Wire Harness
- User Manual (this document)

5. SETUP AND INSTALLATION

The GV53MG is designed for covert and easy installation. For optimal performance and safety, professional

installation is recommended, especially for complex vehicle wiring.

5.1 Pre-Installation Steps:

- **Service Activation:** Before installation, ensure your tracking service is activated. Refer to the specific note/instruction insert that came with your GPS tracker for activation procedures.
- **Vehicle Compatibility:** Verify that your vehicle's electrical system is compatible with the GV53MG's operating voltage (DC 8V to 32V).
- **Location Selection:** Choose a discreet and secure location within the vehicle for installation. Ensure the location allows for good GPS signal reception (e.g., not completely enclosed by metal).

5.2 Wiring Instructions:

The GV53MG features multiple I/O interfaces for monitoring and control. The extension wire harness provides the necessary connections.

- **Power Connection:** Connect the main power wires of the device to a stable power source in the vehicle (e.g., directly to the vehicle battery or a constant 12V/24V supply). Ensure proper polarity.
- **Ignition Detection:** Connect the positive trigger digital input to the vehicle's ignition wire. This allows the device to detect when the vehicle is turned on or off.
- **Digital Outputs:** The device has one open drain digital output (150 mA max drive current) for vehicle control. This can be used for functions like remote immobilization (requires professional wiring and safety considerations).
- **Configurable I/O:** One special I/O can be configured as a negative trigger digital input or an open drain output. Consult the detailed wiring diagram provided with your device or contact support for specific applications.
- **Secure Connections:** Ensure all wire connections are secure, insulated, and protected from moisture and physical damage.

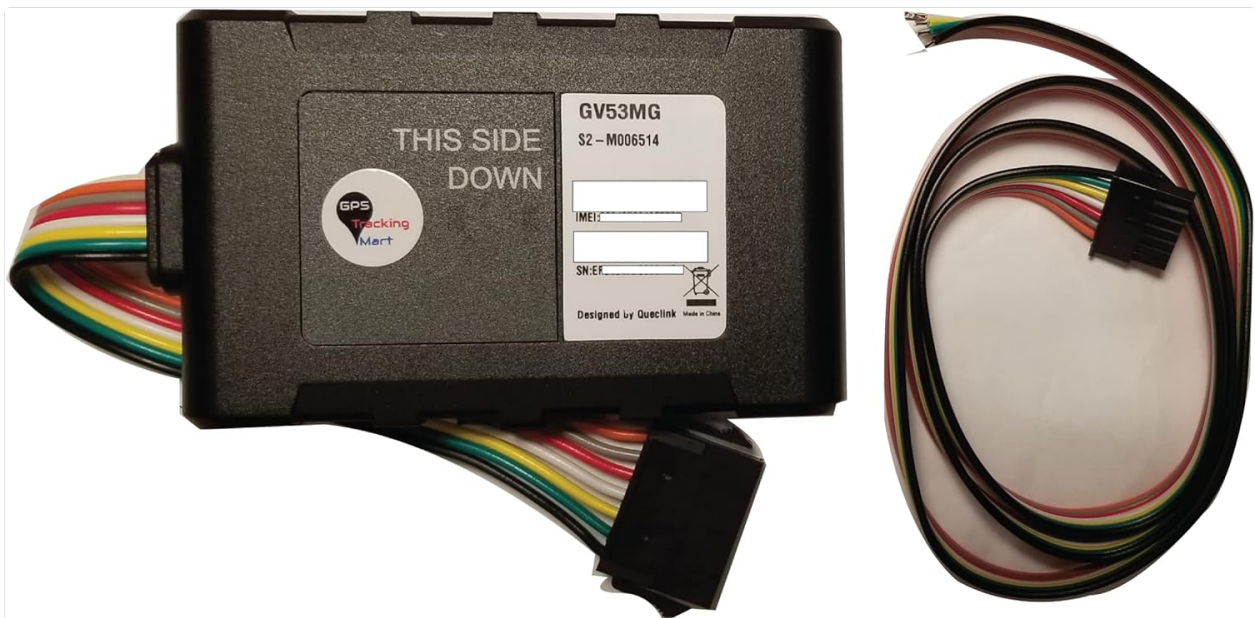


Image: A close-up of the GV53MG device with its multi-colored wiring harness connected, illustrating the various wire leads for installation.

5.3 Post-Installation:

- **LED Indicators:** Observe the LED indicators on the device (CEL and GPS) to confirm proper cellular and GPS signal acquisition. Refer to the device's quick start guide for LED status meanings.
- **Test Functionality:** After installation, test the device's tracking capabilities through your chosen tracking

platform (web or mobile app) to ensure it is reporting location and status correctly.

6. OPERATING INSTRUCTIONS

Once installed and activated, the GV53MG operates automatically to provide real-time tracking and monitoring. Access to tracking data and device controls is typically done through a web-based platform or a dedicated mobile application provided by your service provider.

6.1 Real-Time Tracking:

Log in to your tracking platform to view the current location of your vehicle on a map. The platform will display historical routes, speed, and other relevant data.

6.2 Geo-Fencing:

Create virtual boundaries (geo-fences) on the map. You will receive alerts when the vehicle enters or exits these predefined areas. This feature is useful for managing fleet operations or securing assets.

6.3 Scheduled Reports:

Configure the device to send location and status reports at specific time intervals (e.g., every 30 seconds, every 5 minutes). This helps in maintaining a detailed log of vehicle activity.

6.4 Driving Behavior Monitoring:

The integrated 3-axis accelerometer detects harsh braking, rapid acceleration, and sharp turns. This data can be used to assess driver performance and promote safer driving habits.

6.5 Crash Detection:

In the event of a collision, the device can detect the impact and collect relevant data, which can be crucial for accident reconstruction and analysis.

6.6 Alarms and Notifications:

The GV53MG supports various alarms, including:

- **Low Power Alarm:** Notifies when the internal backup battery is low.
- **Power On/Off Report:** Alerts when the device is powered on or off.
- **Special Alarm:** Configurable alarms based on digital input triggers.
- **Tow Alarm:** Detects unauthorized movement of the vehicle when ignition is off.

6.7 Remote Control (OTA):

Certain digital outputs can be controlled remotely via the tracking platform, allowing for functions like remote vehicle immobilization (if configured and safely implemented).

7. MAINTENANCE

The GV53MG is designed for reliable operation with minimal maintenance. Following these guidelines will help

ensure its longevity and performance:

- **Keep Clean:** Periodically wipe the device with a dry, soft cloth to remove dust and debris. Avoid using harsh chemicals or solvents.
- **Environmental Conditions:** Ensure the device remains within its specified operating temperature range (-30°C to +80°C). Avoid exposing it to extreme heat, cold, or direct sunlight for prolonged periods.
- **Moisture Protection:** The device is not waterproof. Protect it from water, rain, and high humidity.
- **Connection Integrity:** Periodically check the wiring connections to ensure they are secure and free from corrosion or damage. Loose connections can lead to intermittent operation.
- **Backup Battery:** The internal Li-Polymer 190 mAh battery provides backup power. It charges automatically when the device is connected to vehicle power. No user maintenance is required for the internal battery.
- **Firmware Updates:** Firmware updates may be released periodically to improve performance or add new features. These are typically performed Over-the-Air (OTA) by your service provider and do not require user intervention.

8. TROUBLESHOOTING

If you encounter issues with your GV53MG GPS Tracker, refer to the following common troubleshooting steps:

8.1 No GPS Signal / Inaccurate Location:

- **Check Device Placement:** Ensure the device is installed in a location with a clear view of the sky (e.g., under the dashboard, not deep within metal structures) to receive adequate GPS signals.
- **Verify LED Status:** Check the GPS LED indicator on the device. If it's not blinking or solid green (refer to your quick start guide for exact status), it may not be acquiring a signal.
- **Move to Open Area:** Test the device in an open area away from tall buildings, dense foliage, or underground structures that can obstruct GPS signals.

8.2 No Data Transmission / Device Offline:

- **Check Power:** Ensure the device is receiving power from the vehicle. Check the power connections and the vehicle's battery.
- **Verify Cellular LED:** Check the CEL LED indicator. If it's not indicating a stable cellular connection, there might be a network issue or SIM card problem (if applicable).
- **Service Activation:** Confirm that your tracking service subscription is active and not expired.
- **Network Coverage:** Ensure the vehicle is in an area with adequate 4G LTE Cat M1/NB2 cellular coverage.

8.3 Device Not Responding:

- **Power Cycle:** Disconnect the device from power for a few minutes, then reconnect it. This can resolve minor software glitches.
- **Check Wiring:** Inspect all wiring connections for looseness, damage, or incorrect installation.

8.4 Contact Support:

If the above steps do not resolve the issue, please contact GPS Tracking Mart customer support for further assistance. Provide your device's model number (GV53MG) and a detailed description of the problem.

9. WARRANTY AND SUPPORT




For information regarding product warranty, please refer to the documentation provided at the time of purchase or contact GPS Tracking Mart directly. Your tracking service activation includes specific instructions for support and service inquiries.




Legal Disclaimer:

By purchasing this product, the customer agrees it is his or her responsibility to use the product and/or service in accordance with local, state, and federal laws. GPS Tracking Mart Co. will not be responsible in any way the customer uses this product and/or service. GPS Tracking Mart Co. will not be responsible for any lost property, damages of any kind during the use of the product and/or service.

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Related Documents - GV53MG

<div><p>Wireless GPS Tracker</p><p>QUICK TOUR</p><p>Accurate Tracking Power standby</p><p>Please carefully read the user guide before use in order to safely get the right to operate. Product appearance, color and accessories are subject to change without prior notice to the user.</p><p>If you have any questions, you can contact us at our Email: 1760549671@qq.com</p></div>	<p>Wireless GPS Tracker QUICK TOUR - User Guide</p> <p>Quick tour and user guide for the DUTRIEUX Wireless GPS Tracker (models CY209B, CY209C), detailing its functions, product parameters, LED indicators, hardware description, setup, and various command-based settings for tracking, alarms, and modes. Includes information on APN setup and platform access.</p>
<div><p>EAGLEYES</p><p>www.eyes-tracker.com</p><p>EP00+ User Manual V2.0</p><p>Learn how to set up your new Tracker</p></div>	<p>EAGLEYES EP00+ GPS Tracker User Manual V2.0</p> <p>Comprehensive user manual for the EAGLEYES EP00+ GPS tracker. This guide provides detailed instructions on setup, activation, specifications, features, troubleshooting, and SMS commands for the EP00+ device.</p>
<div><p>PROTECTLY</p><p>GPS TRACKER</p><p>4G</p><p>P1 Instructions - Standard P20 English - User Manual</p></div>	<p>Protectly GPS Tracker User Manual</p> <p>A comprehensive user manual for the Protectly GPS Tracker, detailing its features, setup, functions, and specifications. Learn how to track, manage history, set geo-zones, send commands, and understand alarms and statistics.</p>

<div><p>4G MV77G User Manual V1.2 Lectures for all up-to-date MV77G 4G LTE Tracker</p></div>	<p>MiCODUS MV77G 4G GPS Tracker User Manual: Setup, Features, and Commands</p> <p>Detailed user manual for the MiCODUS MV77G 4G LTE GPS tracker. Covers main features, technical specifications, installation, SIM card setup, APN configuration, indicator status, functions, SMS commands, troubleshooting, and app download.</p>
<div><p>GSM/GPRS/GPS TRACKER MANUAL</p><p>Preface</p><p>Thank you for purchasing the tracker. This manual shows how to operate the device correctly and correctly. Please read it and this manual carefully before using the product. Please note that specifications and information are subject to change without prior notice in this manual. Any change will be integrated in the latest version. The manufacturer assumes no responsibility for any errors or omissions in this document.</p></div>	<p>GSM/GPRS/GPS Tracker User Manual</p> <p>Comprehensive user manual for the GSM/GPRS/GPS Tracker, detailing its specifications, setup, operation, features like geo-fencing and alerts, and troubleshooting. This guide helps users effectively utilize the device for tracking and monitoring purposes.</p>
<div><p>4G gps Tracker T3 User Manual</p><p>Preface</p><p>Thank you for purchasing the tracker. This manual shows how to operate the device correctly and correctly. Please read it and this manual carefully before using the product. Please note that specifications and information are subject to change without prior notice in this manual. Any change will be integrated in the latest version. The manufacturer assumes no responsibility for any errors or omissions in this document.</p><p>1. Summary</p><p>Warning: Based on existing GPS/GPRS network and GPS satellites, this product can</p></div>	<p>4G GPS Tracker T3 User Manual</p> <p>User manual for the 4G GPS Tracker T3, detailing its specifications, functions, notices, and commands for tracking and monitoring.</p>