GL53MG User Manual

EGPRS/LTE Cat-M1/LTE Cat-NB2/GNSS Tracker

TRACGL53MGUM001

Version: 1.00

Driving Smarter IoT

www.queclink.com

Document Title	GL53MG User Manual
Version	1.00
Date	2021-02-07
Status	Release
Document Control ID	TRACGL53MGUM001

Queclink Confidential

General Notes

Queclink offers this information as a service to its customers, to support application and engineering efforts that use the products designed by Queclink. The information provided is based upon requirements specifically provided to Queclink by the customers. Queclink has not undertaken any independent search for additional relevant information, including any information that may be in the customer's possession. Furthermore, system validation of this product designed by Queclink within a larger electronic system remains the responsibility of the customer or the customer's system integrator. All specifications supplied herein are subject to change.

Copyright

This document contains proprietary technical information which is the property of Queclink Wireless Solutions Co., Ltd. The copying of this document, distribution to others, and communication of the contents thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of a patent grant or registration of a utility model or design. All specifications supplied herein are subject to change without notice at any time.

Contents

Queclink Confidential

Table Index

Queclink Confidential

Figure Index

Queclink Confidential

0. Revision History

Version	Date	Author	Description of Change
1.00	2021-06-30	Wokky Lin	Initial

Queclink Confidential

1. Introduction

GL53MG is a waterproof GNSS tracker powered by internal battery. The device is ideal for lot management and other tracking applications. Its built-in Bluetooth can be used for data transmission. It supports LTE Cat M1/NB2 network.

1.1. Reference

SN	Document Name	Remark
[1]	GL53MG @Track Air Interface Protocol	The air protocol interface between GL53MG and backend server.

Table 1: Protocol Reference

Queclink Confidential

2. Product Overview

2.1. Appearance

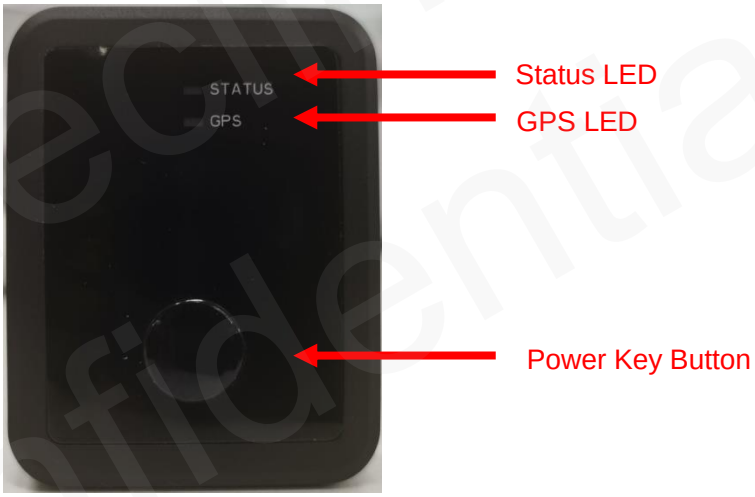


Figure 1: Appearance of GL53MG

Queclink Confidential

2.2. Parts List

Name	Picture
GL53MG Tracker	64.6mm*51.0mm*20.9mm
Double-sided Adhesive Sheet (for mounting the device)	
GL53MG UART Cable 0.5M (Optional)	
GL53MG USB Cable 0.5M (Optional)	

Table 2: Parts List

3. Getting Started

3.1. Install a SIM Card

Step 1: Remove the top cover.

Step 2: Put the SIM card into the SIM card holder. Press down on the SIM card slightly to make it slide into the slot.

Step 3: Place the top cover on the bottom cover. Make sure that the seal ring is in place.

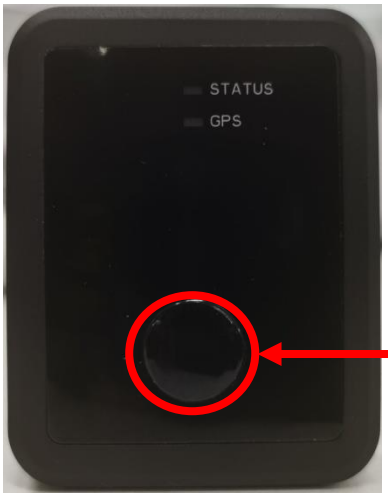
Step 4: Turn over the device and tighten the screws with screw cushion until there is no gap between two covers.

3.2. Turn On/ Off the Device

There are two methods to turn on GL53MG:

Method One: Switch the battery on.

Method Two: Long press the power key button for more than 3 seconds if battery is already on and device is off.



To turn off (<*Function Key Mode*> needs to be set to 1), long press the power key button for more than 3s.

3.3. UART Interface

There is a UART interface on GL53MG used to connect to GL53MG UART Cable 0.5M. UART is used for configuration. The UART interface and USB interface use the same physical interface.

3.4. USB Interface

GL53MG has one USB interface which uses the same physical interface as UART interface. It is used for firmware download and MCU firmware download.

3.5. Indicator Light

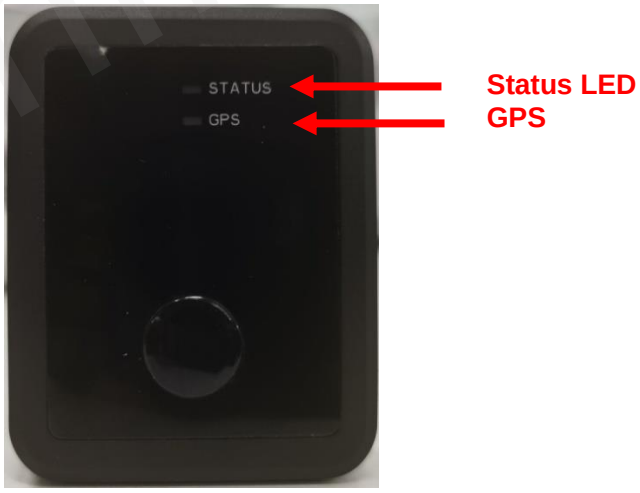


Figure 2: GL53MG LEDs

LED	Device Status	LED Status

Status LED (Green)	The device is searching for network.	Fast flashing
	The device has been registered on network.	Slow flashing
	SIM is locked by PIN.	Solid on
	The device is not registered on network.	Solid off
	The button is pressed to check the device status.	Solid on (indicating the device is working)
GPS LED (Blue)	GPS is in the process of position fixing.	Fast flashing
	GPS is on and GPS gets fix information.	Slow flashing
	GPS is off.	Solid off

Table 3: Definition of Device Status and LED Status

Note:

Fast flashing: 60ms on/780ms off.

Slow flashing: 60ms on/1940ms off.

The LEDs will be on about 5 minutes after power on. After that, they will always be off.

Queclink Confidential

4. Troubleshooting and Safety Information

4.1. Troubleshooting

Trouble	Possible Reason	Solution
After the device is turned on, the Status LED always flashes quickly.	The signal is too weak. The device isn't registered to the network.	Please move the device to a place with good network coverage.
Messages cannot be reported to the backend server over the network.	APN is not right.	Ask the network operator for the right APN.
	The IP address or port of the backend server is wrong.	Make sure the IP address for the backend server is an identified address in the internet.
There is no response from UART when the device is configured by using UART.	The port is not ready or the device is not powered on.	Please check the port and the device to ensure they are working properly.
The device cannot get GNSS fix.	The GNSS signal is weak.	Move the device to a place under open sky.
		It is better to make the side with antenna face the sky.

4.2. Safety Information

- Please do not disassemble the device by yourself.
- Please do not put the device in an overheated or too humid place, and avoid exposure to direct sunlight. Too high temperature will damage the device or even cause battery explosion.
- Please do not use GL53MG on an airplane or near medical equipment.

Queclink Confidential

This device complies with part 15 of the FCC rules . Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help
- This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.