GB100CG User Manual

GSM/GPRS/LTE CAT1/GNSS Tracker

TRACGB100CGUM001

Version: 1.00

Driving Smarter IoT

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Contents

Table Index

Figure Index

0.Revision History

Version	Date	Author	Description of Change
1.00	2023-10-19	Nancy Yin	Initial

1.Introduction

The GB100CG is an enhanced version of the battery-mounted GB100 Series, integrating LTE CAT1 technology. Besides its compact and IP67 waterproof design, GB100CG installation is easy on various types of vehicles with a two-wire connection. The product provides capabilities including driver behavior monitoring, crash detection, mileage recording, BLE connectivity, well-suited for insurance applications and connected car service. The @Track protocol supports a wide variety of reports including emergency, geo-fence boundary crossings, driving behavior, low battery and scheduled and compressed GNSS position.

1.1.Reference

Table 1: GB100CG Protocol Reference

SN	Document Name	Remark
[1]	GB100CG @Track Air Interface Protocol	The air protocol interface between GB100CG and the backend server.

2.Product Overview

2.1.Appearance

Figure 1: Appearance of GB100CG

2.2.Interface Definition

The GB100CG has a 2-PIN power cable. The description of the 2-PIN power cable is shown below:

Figure 2: GB100CG 2-PIN Power Cable

Table 2: Description of 2-PIN Power Cable

Index	Description	Remark
1	Black[GND]	Power and digital ground
2	Red[PWR]	External DC power input, 8-32V

3.Get Started

3.1.Parts List

Table 3: Parts List

Name	Picture
GB100CG Locator	
Data_Cable_M_V4 (Optional)	

3.2.Open the Case

Remove the screws on the four corners with the screwdriver, then insert the opener into the gap of the case as shown below, and push the opener up until the case is unsnapped.

Figure 3: Open the Case

Note: During the process of opening the case, keep the label surface of the device horizontally facing down to avoid the battery falling off.

3.3.Close the Case

Firstly, make sure the silicon rubber seal ring is in the gap of the front case. Secondly, put the power cable holder in the rubber groove of the rear case. Place the cover on the bottom in the position as shown in the following figure. Press the cover until it snaps (press the LTE antenna side first) and tighten the screws on the four corners with the screwdriver.

Figure 4: Close the Case

3.4.Install the SIM Card

Open the case and ensure the unit is not powered. Slide the holder left to open the SIM card. Insert the SIM card into the holder as shown below with the gold-colored contact area facing down. Take care to align the cutting mark. Close the SIM card holder. Close the case.

Figure 5: Install the SIM Card

3.5.Power Connection

GND (PIN1)/PWR (PIN2) are the power input pins. The input voltage range for this device is from 8V to 32V. The device is designed to be installed in vehicles that operate on 12V/24V vehicle without the need for external transformers.

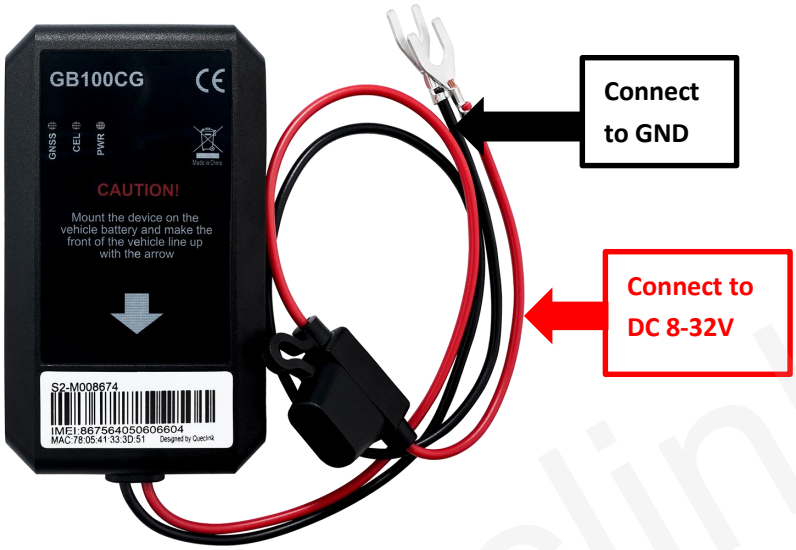

Figure 6: Typical Power Connection

Note: Do not connect any external cables to the GB100CG device.

3.6.LED Status

GB100CG has three status LED lights that are GNSS LED, CEL LED and PWR LED.

Table 4: Definition of Device Status and LED

LED	Device Status	LED Status
CEL (Green)	Device is searching GSM network.	Fast flashing
	Device has been registered on the GSM network.	Slow flashing
	SIM card needs pin code to unlock.	ON
GNSS (Blue)	GPS chip is powered off.	OFF
	GPS sends no data or data format error occurs.	Slow flashing
	GPS chip is searching GPS information.	Fast flashing
	GPS chip has got GPS information.	ON
PWR (Red)	No external power and internal battery voltage is lower than 0%.	OFF
	No external power and internal battery voltage is lower than 20%.	Slow flashing
	External power is connected and internal battery is charging.	Fast flashing
	External power is connected and internal battery is fully charged.	ON

Figure 7: GB100CG LED on the Case

Note:

1. CEL LED, GNSS LED, and PWR LED will be turned off after 30 minutes by default, but it can be changed by configuration.
2. Fast flashing: About 100ms ON/ 200ms OFF.
3. Slow flashing: About 200ms ON/ 1000ms OFF.

3.7.Motion Sensor Direction

GB100CG has an internal 6-axis accelerometer supporting driving behavior monitoring and motion detection. The following shows the direction of the motion sensor.

Figure 8: Motion Sensor Direction

Note:

1. The positive direction of the cable bundle is the positive direction of the X-axis.
2. The Z-axis is in the positive direction above the front housing surface.
3. The positive directions of the three axes are perpendicular to each other, as shown in the figure above.

4.Troubleshooting and Safety Information

4.1. Troubleshooting

Table 5: Solutions to Possible Trouble

Trouble	Possible Reason	Solution
After GB100CG is turned on, the CEL LED always flashes quickly.	The signal is too weak, and GB100CG cannot be registered on the network.	Please move GB100CG to places with good GSM signal.
Messages cannot be reported to the backend server.	The IP address or port of the backend server is wrong.	Make sure the IP address for the backend server is an identified address on the Internet.
Unable to power off GB100CG.	Unable to power off GB100CG if charger is connected.	Disable Backup Battery and disconnect external power, try again.
GB100CG cannot get successful GNSS fix.	The GNSS signal is weak.	Please move GB100CG to a place with open sky. It is better to let the top surface (the surface with LED light) face the sky.

4.2. Safety Information

- Please do not disassemble the device by yourself.
- Please do not put the device on 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 GB100CG on the airplane or near medical equipment.