GB100CAU User Manual

EGPRS /GPRS/WCDMA/LTE Cat 1/GNSS Tracker

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International Telematics Solutions Innovator

www. *queclink* .com

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0. Revision History

Version	Date	Author	Description of Change
1.00	2020-06-03	Eddy Qi	Initial

1. Introduction

The GB100CAU is a device designed for self-installation by the customer. It is a telematics device based on LTE CAT1/WCDMA/EGPRS supporting Bluetooth. Its built-in accelerometer allows motion detection, incident detection, 100/200/400Hz pre/post incident data collection and extends battery life through sophisticated power management algorithms. System integration is straightforward as complete documentation is provided for the full featured @Track protocol. The @Track protocol supports a wide variety of reports including emergency, geo-fence boundary crossings, driving behavior, low battery and scheduled and compressed GPS position reports.

1.1. GB100CAU Products

Table 1. GB100CAU Products

Model No.	Region	Technology and Operating Band
GB100CAU	Latin America	LTE FDD: B2/B4/B5/B7 LTE FDD: Max 10Mbps (DL)/Max 5Mbps (UL) WCDMA: B2/B5 DC-HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/Max 384Kbps (UL) GPRS&EGPRS: 850/1900 MHz EGPRS: Max 296Kbps (DL)/Max 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL)

1.2. Reference

Table 2. GB100CAU Protocol Reference

SN	Document name	Remark
[1]	GB100CAU @Tracker Air Interface Protocol	The air protocol interface between GB100CAU and backend server.

2. Product Overview

2.1. Product Appearance

Figure 1. Appearance of GB100CAU

2.2. LED Description

Table 3. GB100CAU LED Description

LED	Device Status	LED Status
PWR LED	The internal battery of device is in charge	Fast flashing
	The internal battery of device is full	On
	The internal battery of device is low	Slow flashing
GPS LED	GNSS is unfixed	Fast flashing
	GNSS communication error, verification error or antenna error	Slow flashing
	GNSS is fixed	On
	GNSS chip is powered off	OFF
CEL LED	The device is registering to network	Fast flashing
	The device registers to network successfully	Slow flashing

Note:

1. Slow flashing: LED is about 200ms ON/1000ms OFF.

2. Fast flashing: LED is about 100ms ON/200ms OFF.

2.3. Parts List

There is only the device.

3. Interface Definition

The GB100CAU has a 2-pin power cable. The pin definition of the 2-pin power cable is as below:

Table 4. Description of 2-pin Power Cable

Cable Colour	Definition	Comment
Red	VIN	External DC power input, 8-32V
Black	GND	Ground

4. Getting Started

4.1. Opening the Case

Insert the triangular-pry-opener into the gap of the case as shown below, push the opener up until the case unsnapped.

Figure 2. Opening the Case

4.2. Closing the Case

● Make sure the silicon rubber seal ring is in the gap of front case.
● Put the power cable wire holder in the rubber groove of rear case.
● Place the cover on the bottom in the position as shown in the following figure. Press the cover until it snapped (press the CEL antenna side firstly).

Figure 3. Closing the Case

4.3. Installing SIM Card

Open the case and ensure the unit is not powered. Slide the holder to right direction to open the SIM card slot. Insert the SIM card into the holder as shown below. Close the SIM card holder and then close the case.

4.4. Power Connection

PWR (pin 1)/GND (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 without the need of external transformers.
Note: Do not connect any external cables to GB100CAU device.

5. Installation Precautions

◆ Firmly install the device to a reliable surface to prevent falling off.
◆ Make the side with antenna face sky to have better signal reception.
◆ Do not install the device under metal surface or in enclosed environments having difficulty in getting GPS and network signal.

6. Troubleshooting and Safety Info

6.1. Troubleshooting

Problem	Possible Reason	Solution
After the device is turned on, the CEL LED always flashes quickly.	The signal is too weak. The device isn't registered to the network.	Move the device to a place with good network coverage.
Messages can't be reported to the backend server by 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 the device when the device is configured by using Manage Tool.	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 can't get GPS fix.	The GPS signal is weak.	Move the device to a place under open sky.
		It is better to make the side with antenna face the sky.

6.2. Safety Info

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

Bluetooth

The device role of Bluetooth could be Master and Slave. When the device role is Slave, the device will provide below services: device information service, battery information service, virtual serial port service. Other devices can read or use these services after connecting devices. When the device role is Master, the device will provide below services: the others devices can read or use the above services after connecting devices, connect the designated device to read the data or related information of the designated Bluetooth devices. After reading the data, the server can be reported to the server by the corresponding message.

FCC Statement：

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

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.

FCC&ISED Label Instructions:

If using a permanently affixed label, the modular transmitter must be labeled with its own FCC or ISED identification number, and, if the FCC or IESD identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:
"Contains Transmitter Module FCC ID: XMR201805EC21AU,IC:10224A-20198EC21AU"
Any similar wording that expresses the same meaning may be used. The Grantee may either provide such a label, an example of which must be included in the application for equipment authorization, or, must provide adequate instructions along with the module which explain this requirement.