

GD100 User Manual

GSM/GPRS/GPS Tracker

TRACGD100UM001

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GD100



International Telematics Solutions Innovator

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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.

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0 Revision History

Revision	Date	Author	Description of change
1.00	2015-12-23	Docter Xu	Initial Release
1.01	2016-01-07	Black Chen	Modify PWR LED description
1.02	2016-02-22	Black Chen	Modify LED description

1 Introduction

GD100 is a powerful GPS tracker designed for fixed asset tracking applications. It works with three CR123A lithium-batteries and will operate for 60days with reading date and reporting four(4) times per day. With built-in temperature sensor, GD100 will detect the outside temperature and trigger warning messages when outside temperature is out of operating temperature ranges -20°C - 85°C . And also, GD100 supports light detection and can trigger even messages by light sensor. Based integrated @track protocol, the GD100 can communicate with a backend server through the GPRS/GSM network to transfer reports of emergency, geo-fence boundary crossings, low battery or scheduled GPS position along with many other useful functions. System Integrators can easily setup their tracking systems based on the full-featured @Track protocol.

1.1. Reference

Table 1. GD100 Protocol Reference

SN	Document name	Remark
[1]	GD100 @Track Air Interface Protocol	The air protocol interface between GD100 and backend server.

2 Product Overview

2.1. Appearance



Figure 1. Appearance of GD100

2.2. Button/Switch/USB Interface Description

USB Port/Power Switch Description	
START/STOP Button	<ul style="list-style-type: none"> ● Start: When START button is pressed after received real time command 'ACT', the device enters start countdown mode. ● Stop: When STOP button is pressed, the device will not monitor temperature anymore. At this stage, DATA light and TEMP light will turn green and be solid on, and other lights will work normally. After all the recorded messages are sent out to server, DATA green light and TEMP Green light will be solid on and the other lights will be off, which means the recording has stopped working.

USB Port	<ul style="list-style-type: none"> ● If the battery switch is on, it will work as a serial port for configuration. ● If battery switch is off, it will work as a mass storage. <p>Note: If you want to change work mode of USB, you need to reboot the device.</p>
Toggle Switch	<ul style="list-style-type: none"> ● Turn on GD100 when switch to “ON”. ● Turn off GD100 when switch to “OFF”.

2.3. LED Description

There are five LEDs on GD100, the description as follows.

Table 2. GD100 LED Description Table

LED	Device status	LED status
CELL (Green)	Device is searching GSM network.	Fast flashing
	Device has registered to GSM network.	Slow flashing
	SIM card needs pin code to unlock.	ON
	Receive a valid protocol command.	Keep on for 3 seconds
GPS (Green)	GPS chip is powered off.	OFF
	GPS sends no data or data format error.	Slow flashing
	GPS chip is searching GPS info.	Fast flashing
	GPS chip has gotten GPS info.	ON
PWR (Green)	Power on and normal.	ON
	USB is connected for configuration.	Fast flashing
	Power low alert	Slow flashing
TEMP (Green & Red)	Temperature is in the normal band.	Green light slow flashing
	Temperature bands alarm event is triggered	Red light slow flashing
	Temperature bands alarm function haven't been activated.	OFF
DATA (Green & Red)	All the messages are sent to server successfully.	Green light slow flashing
	Some messages are blocked for sending.	Red light slow flashing
	Before getting the send result of the first message.	OFF
	USB is connected as a mass storage.	ON

1 - Fast flashing is about 60ms ON/ 780ms OFF

2 - Slow flashing is about 60ms ON/ 1940ms OFF

SPECIAL STATUS

1. GD100 received RTO command 'ACT' from server: TEMP & DATA GREEN lights flash two times together and TEMP & DATA RED lights flash one time together in turn.
2. GD100 received 'ACT' command, and user pressed START Button: All LEDs work

normally, and temperature bands alarm monitoring start delay countdown starts.

3. GD100 is in activation state, and STOP Button has been pressed: PWR light will flash fast and TEMP & DATA GREEN will be long on.
4. GD100 enters STOP mode: PWR & GPS & CELL lights will be off, and TEMP & DATA GREEN lights will stay long on. If temperature bands alarm has been triggered, TEMP RED light stays flash slowly.

Note:


1. In Battery mode (USB is not connected), all LEDs are only enabled at the first 5 minutes after power on the device, and then will be shut down. If you click Start/Stop Button, LEDs will work another 5 minutes.
2. TEMP lights' status depends on Temperature Bands Alarm. When temperature bands alarm event is triggered, TEMP Red light will flash slowly and stay flash slowly, even other LEDs are off because 5 minutes expires.

2.4. UDISK Buffer File

GD100 can save messages as buffer data, and the buffer data file will be stored on the mass storage device, which is ready to be downloaded. And also, the data file will be encrypted by AES. The key is the device IMEI.

3 .Getting Started

3.1. Part list

Name	Picture	Remark
GD100 Locater	 A black, rectangular device with a USB port at the top. The front panel features several status indicators labeled 'TEMP', 'DATA', 'PASS', 'GPS', and 'CELL'. Below these indicators is a red 'STOP' button. The bottom half of the device is a darker, possibly textured, section.	The GSM/GPRS/GPS locator.

3.2. Turn on/Turn off

- Turn on: Shift the Toggle Switch to “ON”, GD100 will turn on.
- Turn off: Shift the Toggle Switch to “OFF”, GD100 will turn off.

4 Troubleshooting and Safety Info

4.1. Troubleshooting

Trouble	Possible reason	Solution
After GD100 is turned on, the CELL LED always flashes quickly.	The SIM card is not inserted.	Please insert the SIM card into GD100.
	The signal is too weak; GD100 can't register to the network.	Please move GD100 into places with good GSM coverage.
Messages can't be reported to the backend server by GPRS.	The SIM card in GD100 doesn't support GPRS.	Try a GPRS supporting SIM card.
	APN is wrong. Some APNs cannot visit the Internet directly.	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 on the Internet.
Unable to power off GD100.	Unable to power off GD100 if charger is connected.	Disconnect charger, and try again.
No response from configure port when configuring GD100 through USB	Driver of GD100 is not installed in computer.	Install the USB driver and try again
	Switch of GD100 is "OFF"	Turn on the switch, and plug-in USB port again
GD100 can't get successful GPS fixing.	The GPS signal is weak.	Please move GD100 to a place with open sky.
		It is better to let the top surface face the sky. (The same surface with indication LED)

4.2. Safety Info

- Please do not disassemble the device by yourself.
- Please do not put the device on overheating 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 GD100 on the airplane or near medical equipment.

To satisfy FCC RF Exposure requirements for this transmission devices, a separation distance of 20cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.