



GSM/GPRS/GPS Tracker **GL500**

User Manual

TRACGL500UM001

Revision: 1.00



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Revision History

Revision	Date	Author	Description of change
1.00	2012-6-11	Cid Xu	Initial

1 Introduction

GL500 is a powerful GPS tracker designed for fixed asset tracking applications. GL500 works with two CR123A lithium-batteries. GL500 wakes up every 1-40 hours and sends the info and then returns to deep sleep. GL500 can standby 1000 days. With built-in motion sensor, GL500 can also detect the motion of asset all the time and give a warning message. Based on the integrated @track protocol, the GL500 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 set up their tracking systems based on the full-featured @Track protocol.

This device complies with part 15B, part 22 and part 24 of the FCC rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference.
- (2) this device must accept any interference, including interference that may cause undesired operation.

1.1. Reference

Table 1. GL500 Protocol Reference

SN	Document name	Remark
[1]	GL500 @SMS Interface Protocol	The SMS protocol interface between GL500 and backend server.

1.2. Terms and Abbreviations

Table 2. Terms and Abbreviations

Abbreviation	Description
AGND	Analog Ground
AIN	Analog Input
DIN	Digital Input
DOUT	Digital Output
GND	Ground
MIC	Microphone
RXD	Receive Data
TXD	Transmit Data
SPKN	Speaker Negative
SPKP	Speaker Positive

2 Product Overview

2.1. Check Parts List




Before starting, check all the following items have been included with your GL500. If anything is missing, please contact your supplier.



Figure 1. Appearance of GL500

2.2. Parts List

Table 3. Parts List

Name	Picture
GL500 Locator	80*58*26.8 mm
CR123A Battery	
GL500 Data Cable (Optional)	
GL500 MCU Download Kit (Optional)	

2.3. Interface Definition

The GL500 has an 8 PIN interface connector. It contains the connections for power, RS232, MCU Interface, etc. The sequence and definition of the 8PIN connector are shown in following figure:

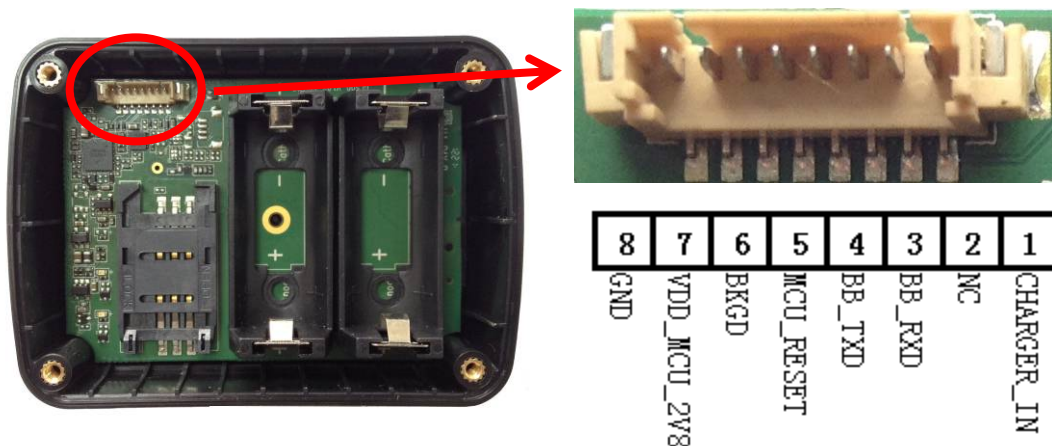


Figure 2. The 8 PIN connector on the GL500**Table 4. Description of 8 PIN Connections**

Index	Description	Comment
1	CHARGER_IN	External DC power input, 5V
2	NC	Not connected
3	BB_RXD	BB UART RXD
4	BB_TXD	BB UART TXD
5	MCU_RESET	MCU CHIP RESET SIGNAL
6	BKGD	MCU CHIP BKGD SIGNAL
7	VDD_MCU_2V8	MCU POWER INPUT, 2.8V
8	GND	Power and digital ground

3 Getting Started

3.1. Opening the Case

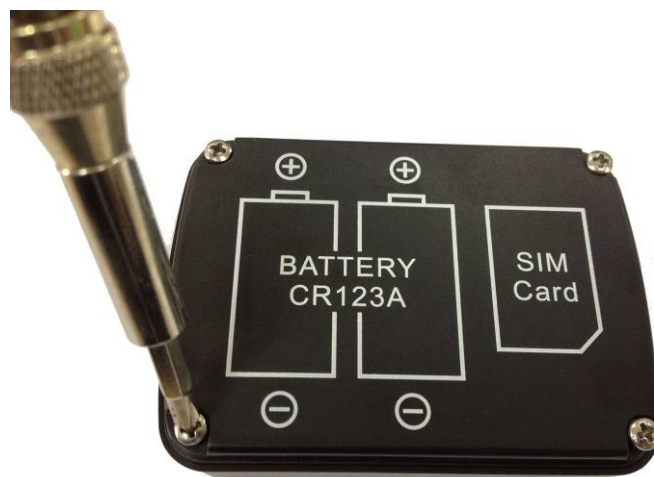


Figure 3. Opening the Case

Use the Screwdriver to remove the screws, and then open the case.

3.2. Closing the Case

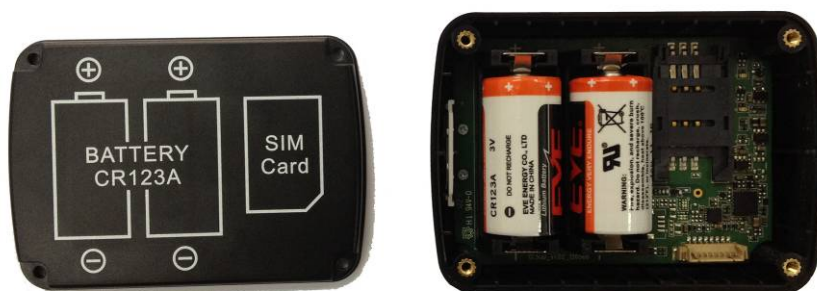


Figure 4. Closing the Case

Place the cover in the correct position as shown in upon figure. Please note the battery direction and SIM Card direction, and then tighten the screws with a Screwdriver.

3.3. Installing a SIM Card

Open the case and ensure the unit is not powered (unplug the internal battery). Slide the holder right to open the SIM card. Insert the SIM card into the holder as shown below with the gold-colour contact area facing down taking care to align the cut mark. Close the SIM card holder. Close the case.

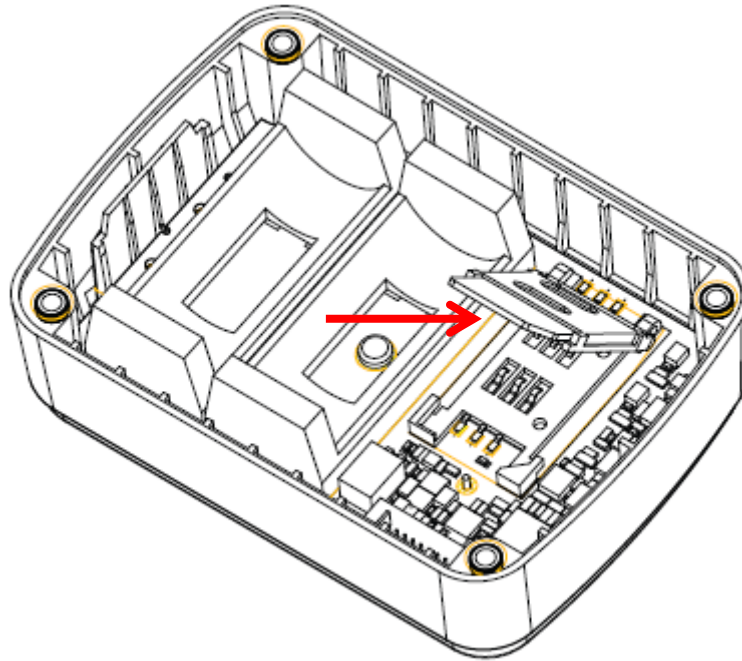


Figure 5. SIM Card Installation

3.4. Installing the Internal Backup Battery

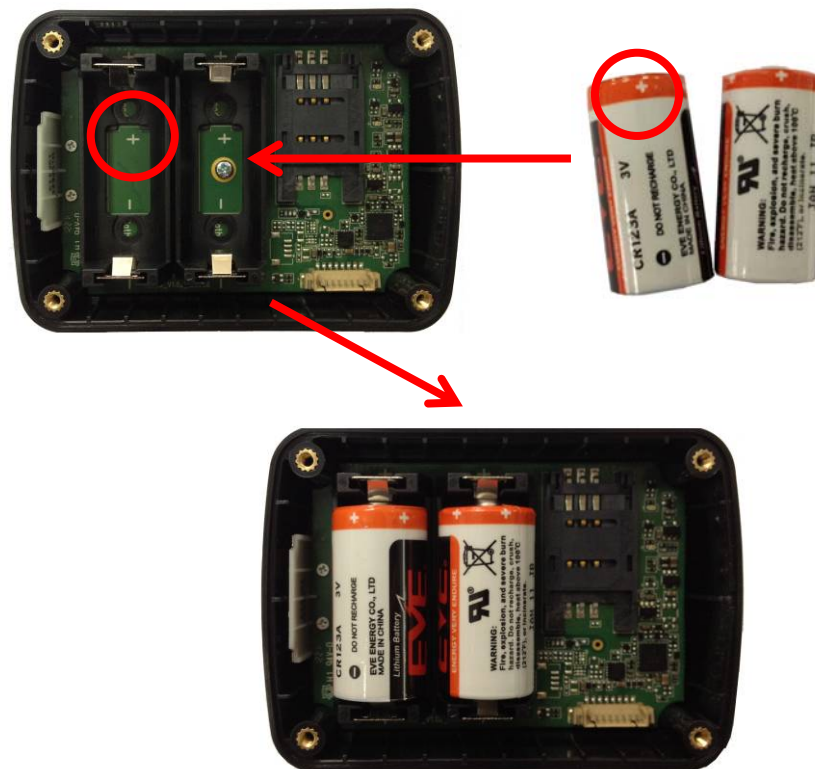


Figure 6. Backup Battery Installation

There have 2pcs internal CR123A battery for GL500, Insert the battery into the holder as shown in upon figure, please note that the polarity mark of the battery and battery holder need to be consistent.

3.5. Power On the Device

After inserted the Battery, GL500 will power on automatically, the Status LED will start work, detail description in the next section.

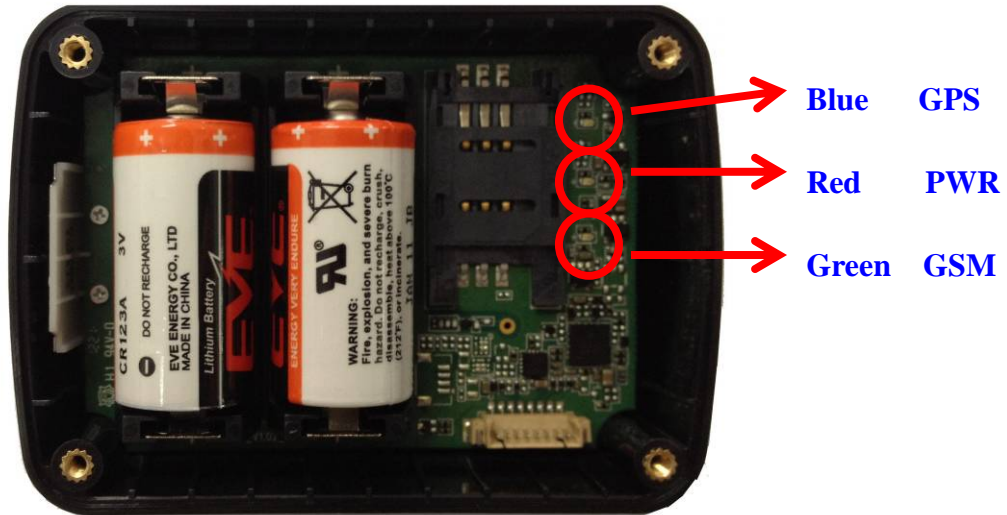


Figure 7. GL500 Status LED

3.6. Device Status LED

Table 5. Definition of Device status and LED

LED	Device status	LED status
GSM (Green)	Device is searching GSM network.	Fast flashing (Note1)
	Device has registered to GSM network.	Slow flashing (Note2)
	SIM card needs pin code to unlock.	ON
GPS (Blue)	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 (Red)	Battery voltage is lower than 0%.	OFF
	Battery voltage is below 10%.	Slow flashing
	Battery voltage is more than 10%.	ON

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

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

Note:

1, In Battery mode, all LEDs are only enabled at the first 5 minutes after power on the device, and then will be shut down all the time.

FCC STATEMENT

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance 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.

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