GV50LTA Manage Tool User Guide

FDD-LTE/GPS Tracker

QSZTRACGV50LTAMT0001

Version: 1.00

GV50LTA

International Telematics Solutions Innovator

www. queclink .com

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General Notes

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WARNING: The device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) The device may not cause harmful interference, and
(2) The device must accept any interference received, including interference that may cause undesired operation.
Change or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
FCC RF Exposure Statement:
The normal use condition for the product is at least 20cm away from the body of the user, so the user must keep a distance of at least 20cm from the product.

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0. Revision History

Revision	Date	Author	Description of change
1.00	2017-1-16	Rayne_Wu	Initial Version

1. Introduction

The GV50LTA is a powerful GPS locator designed for vehicle or asset tracking. It has superior receiver sensitivity, fast TTFF (Time to First Fix) and supports Dual-Band 4G-LTE B4&B13 Band, and its location can be monitored in real time or periodically tracked by a backend server or other specified terminals. The GV50LTA has multiple input/output interfaces that can be used for monitoring or controlling external devices. Based on the integrated @Track protocol, the GV50LTA can communicate with a backend server through the 4G-LTE network over which it transfer reports of emergency, geo-fence boundary crossings, low backup battery or scheduled GPS position as well as many other useful functions. Users can also use GV50LTA to monitor the status of a vehicle and control the vehicle by its external relay output. System Integrators can easily set up their tracking systems based on the full-featured @Track protocol.

1.1. Reference

Table 1: GV50LTA Protocol Reference

SN	Document name	Remark
[1]	GV50LTA @Track Air Interface Protocol	The air protocol interface between GV50LTA 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
RXD	Receive Data
TXD	Transmit Data

2. Product Overview

2.1. Appearance

Figure 1: GV50LTA Appearance

2.2. Interface Definition

The GV50LTA has a 7 PIN interface connector. It contains the connections for power, and I/O. The sequence and description of the 7PIN connector are shown in the following figure:
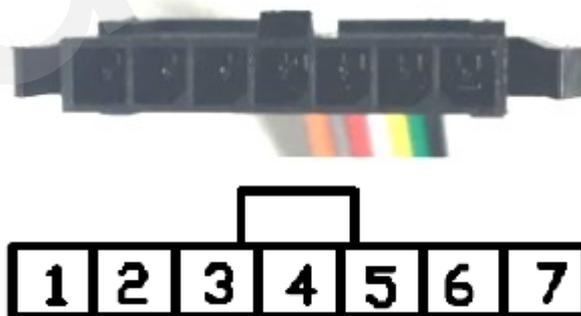

Figure 2: 7PIN Connector on the GV50LTA

Table 3: Description of 7 PIN Connections

Index	Description	Comment
1	RXD	UART RXD; TTL
2	TXD	UART TXD; TTL
3	VIN	External DC power input, 8-32V
4	IGN	Ignition input, positive trigger
5	OUT1/IN1	Digital output/ input; Open drain,150mA max
6	OUT2	Open drain, 150mA max
7	GND	GND

2.3. LED Description

GV50LTA has two status LEDs which are CELL LED (Blue color) and GPS LED (Green color).

CELL	Device is searching CELL network.	Fast flashing
	Device has registered to CELL network.	ON
	Device is in low power mode.	Slow flashing
GPS	GPS is unfixed.	OFF
	GPS is fixed.	ON
	Device is in low power mode.	Slow flashing

Table 4: LED Description

Note:
1. Fast flashing is about 500ms ON / 1sec OFF.
2. Slow flashing is about 500ms ON / 15sec OFF.

2.4. Power Connection

VIN(PIN3)/GND (PIN7) 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.
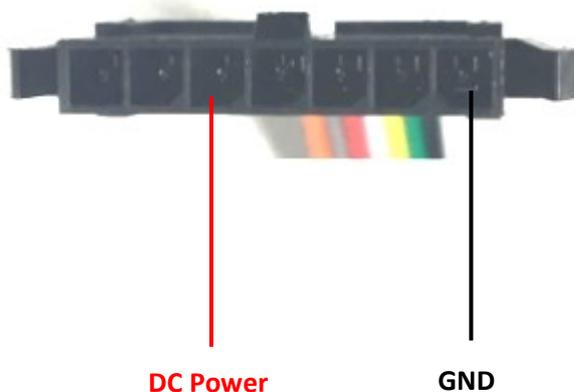

DC Power   **GND**

Figure 3: Typical Power Connection

2.5. Ignition Detection

IGN (Pin4) is used for ignition detection. It is strongly recommended to connect this pin to ignition key "RUN" position as shown below.

An alternative to connecting to the ignition switch is to find a non-permanent power source that is only available when the vehicle is running. For example, the power source for the FM radio. IGN signal can be configured to start transmitting information to backend server when ignition is on, and enter power saving mode when ignition is off.

Table 5: Electrical Characteristics of Ignition Detection

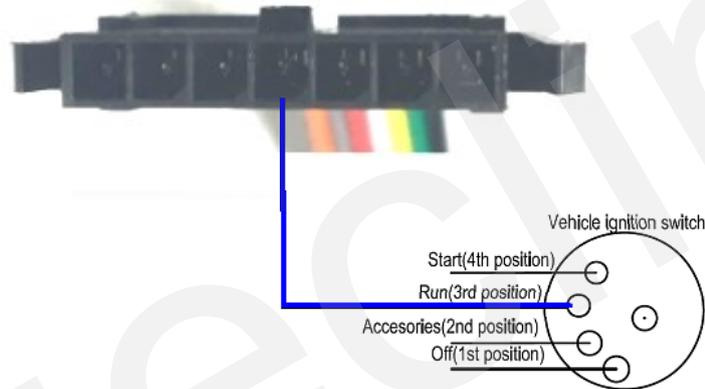| Logical State	Electrical State
Active	5.0V to 32V
Inactive	0V to 3V or Open

Figure 4: Typical Ignition Detection

2.6. Digital Output/ Input Connection

OUT1/IN1 (PIN5) is a digital Output/Input connection on GV50LTA. It is of open drain type and the maximum drain current is 150mA. The OUT1/IN1 (PIN5) can be used as a digital Output and a (negative trigger) digital Input.
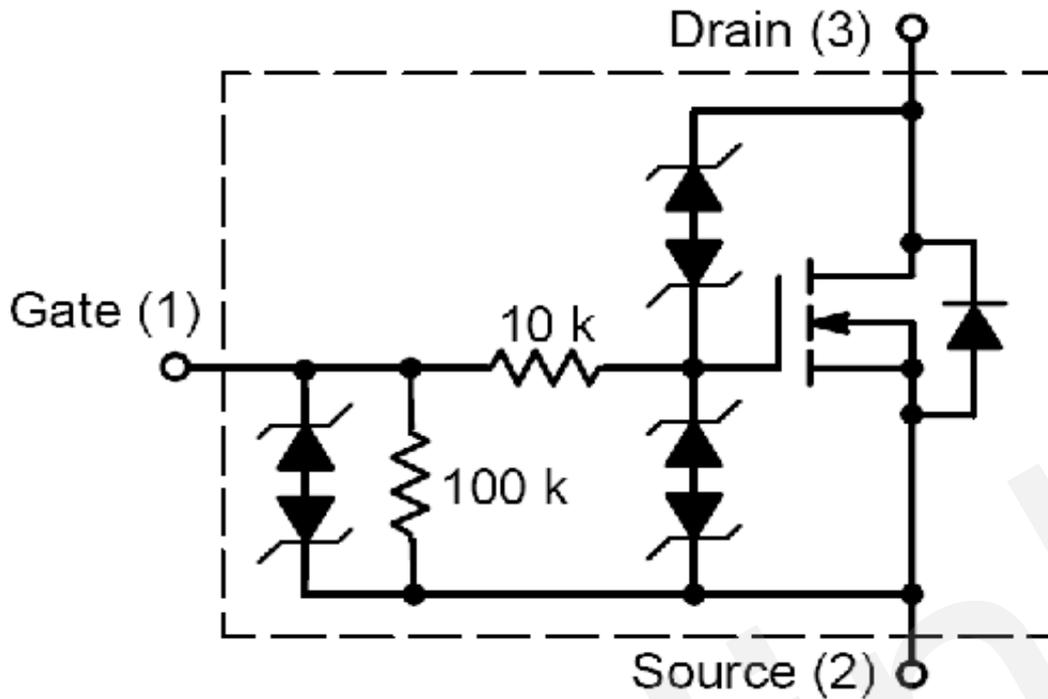
Figure 5: As Digital Output Internal Drive Circuit

Table 6: Electrical Characteristics of Digital Outputs

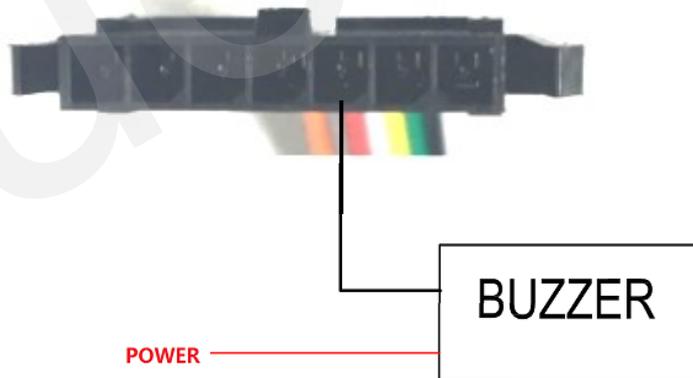| Logical State	Electrical Characteristics
Enable	<1.5V @150mA
Disable	Open drain

Figure 6: Typical Connection with Buzzer As Digital Output

Table 7: Electrical Characteristics of Digital Inputs

Logical State	Electrical Characteristics
Active	0V to 0.8V
Inactive	Open

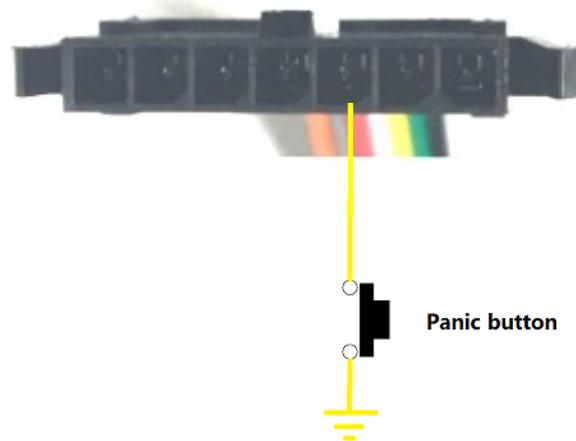The following shows the recommended connection of a digital input.

Figure 7: Typical Digital Input Connection

2.7. Digital Output

There is a digital output (PIN6) on GV50LTA. It is of open drain type and the maximum drain current is 150mA.
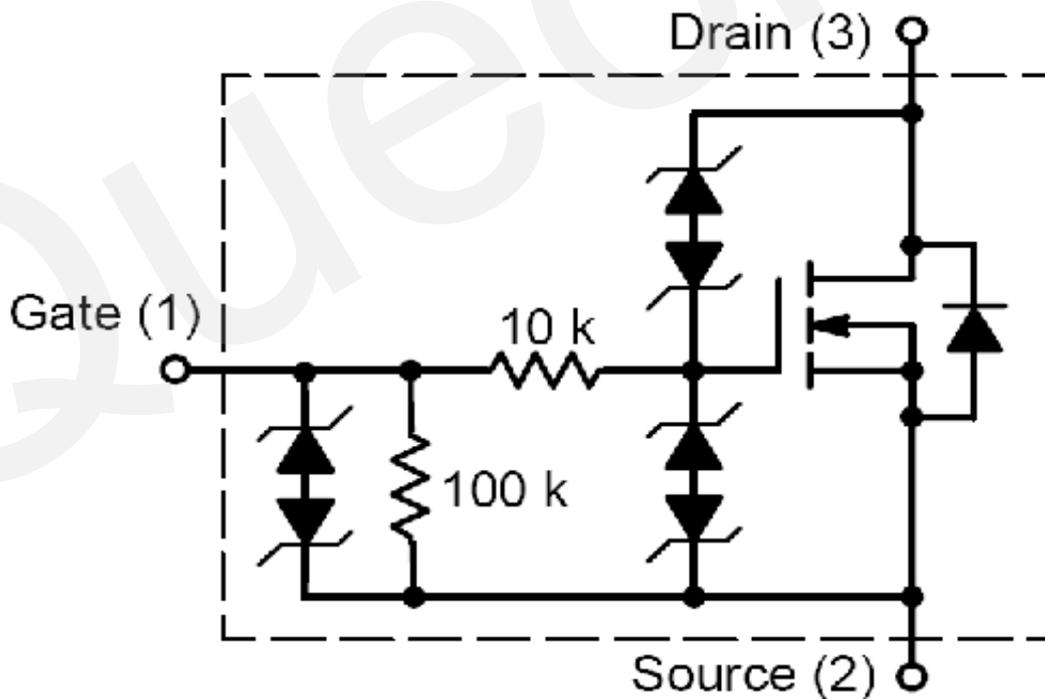

Figure 8: Digital Output Internal Drive Circuit

Table 8: Electrical Characteristics As Digital Outputs

Logical State	Electrical Characteristics
Enable	<1.5V @150mA
Disable	Open drain
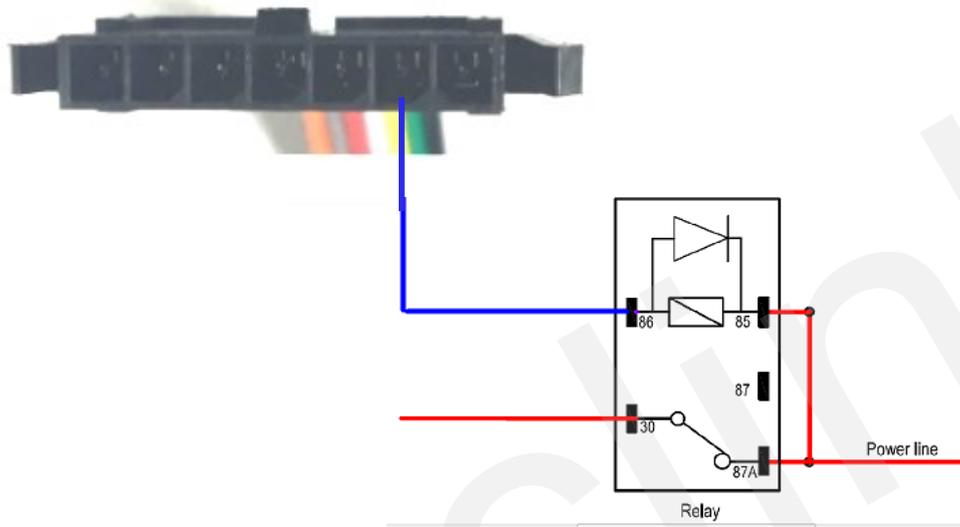
Figure 9: Typical Connection with Relay

3. Getting Started

3.1. Parts List

Table 9: Parts List

Name	Picture
GV50LTA Locator	90mm*55mm*13mm

3.2. GV50LTA External Cable Interface

Table 10: GV50LTA User Cable Colour Definition

Definition	Colour	PIN No	Cable
RXD	Orange	1	
TXD	Gray	2	
VIN	Red	3	
IGN	White	4	
OUT1/IN1	Yellow	5	
OUT2	Green	6	
GND	Black	7	
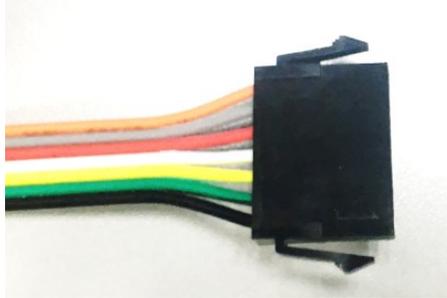
3.3. Open the SIM Card cover

Figure 1. Open the SIM card cover

Follow the direction on the case and push to open the SIM card cover.

3.4. Clos the SIM Card cover

Figure 2. Close the SIM card cover

Aligning and push to close the SIM card cover.

3.5. Install a SIM Card

Open the SIM case and ensure the unit is not powered (unplug the 7Pin cable to the OFF position). Slide the holder right to open the SIM card holder. Insert the SIM card into the holder as shown below with the orange colour. Take care to align the cut mark. Then close the case.
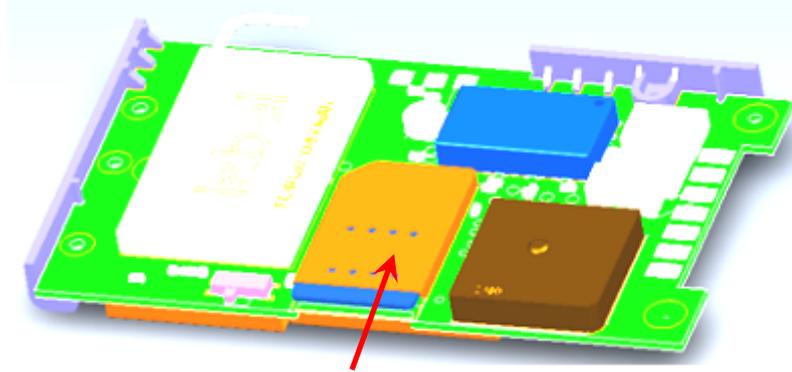

Figure 3. SIM Card Installation

3.6. Switch on the Backup Battery

To use the GV50LTA backup battery, the switch must be in the ON position. The switch on the case and the ON/OFF position are shown below.
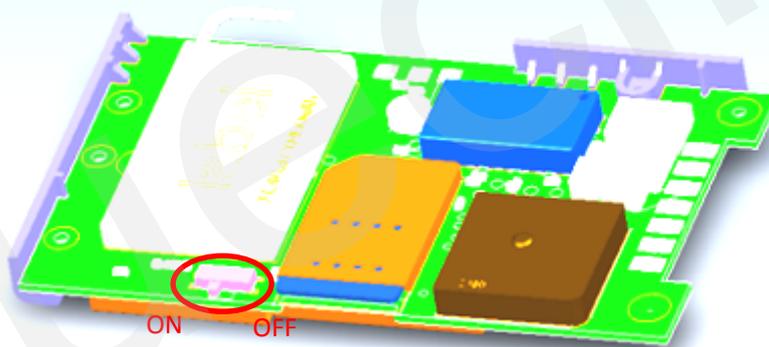

Figure 4. Switch and ON/OFF Position

Note:

1. The switch must be in the "OFF" position when the GV50LTA is shipped on an aircraft.

2. When the switch is in the "OFF" position, the battery cannot be charged or discharged and cannot be turned on.

4. Troubleshooting and Safety Info

4.1. Troubleshooting

1 Trouble	Possible reason	Solution
After GV50LTA is turned on, the CELL LED always flashes quickly.	GV50LTA isn't registered to the ISP.	Please register the GV50LTA again and make sure the device gets the correct MDN.
	The signal is too weak; GV50LTA can't be registered to the network.	Please move GV50LTA into places with good LTE coverage.
Messages can't be reported to the backend server by LTE.	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.
GV50LTA cannot power off no matter the device was in charge or not.	Unable to power off GV50LTA if charger is connected.	Disconnect charger, and try again.
GV50LTA can't get successful GPS fixing.	The GPS signal is weak.	Please move GV50LTA to a place with open sky.
		It is better to let the top surface face to sky. (The device has an LED indicator on the top surface.)

4.2. Safety Info

- Please do not disassemble the device by yourself.
- Please 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.
- Please do not use GV50LTA on the airplane or near medical equipment.