BTG15L 4G Vehicle GPS Tracker

USER MANUAL

Version 1.0

Document Title	BTG15L User Manual
Version	1.0
Date	2025-2-22
Status	Released

Contents

1. Introduction

BTG15L is a cut-edge 4G LTE vehicle GPS tracker. It is built with LTE Cat.1 and fall back to 2G.

BTG15L has multiple I/O interfaces to support all kinds of vehicle tracking applications. And BTG15L support BLE 5.0.

The BTG15L protocol supports multiple kinds of reports which response to variety kinds of event. Detail information please refer to the BTG15L protocol.

For details please check product datasheet and thank you for purchasing BTGIoT products.

2. Product Overview

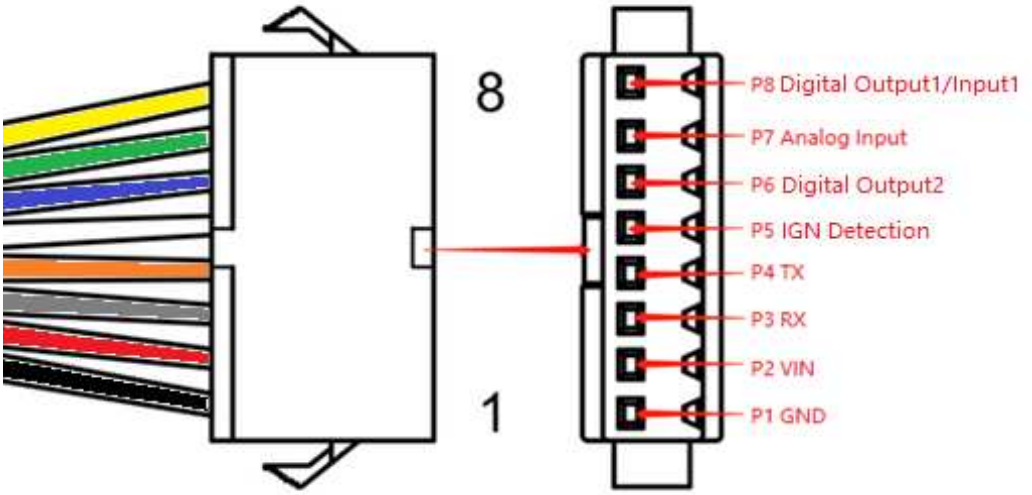
2.1 Appearance

No waterproof housing IP67 waterproof housing

(Picture 1: BTG15L Appearance)

2.2 Interface Definition

BTG15L has 8 Pins. The sequence and description of the interfaces are shown in the following Picture:



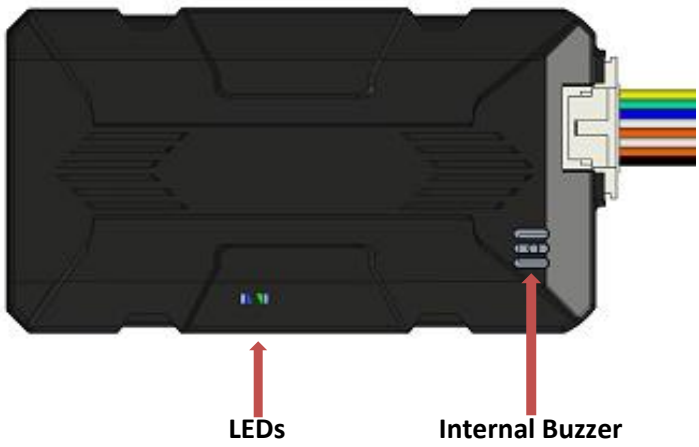
(Picture 2: 8 PIN Connector of BTG15L)

Pin	Description	Comment
1	GND(Black)	External DC power Ground
2	VIN(Red)	External DC power input, 8-50V
3	RX(Gray)	Universal Asynchronous Receiver/Transmitter RX Serial port level 3.3V
4	TX(Orange)	Universal Asynchronous Receiver/Transmitter TX Serial port level 3.3V
5	ACC(White)- GPIO A	Ignition Detection, positive triggering
6	Relay(Blue)-GPIO C	Digital output2; Open drainage channel, maximum 1A
7	Analog Input (Green)	Analog Input for fuel level sensor (Optional)
8	Configurable GPIO-D (Yellow)	

(Table 1: Description of 8 PIN Connections)

2.3 LED Description

BTG15L has two status LEDs: CELL LED (Green) and GPS LED (Blue).



(Picture 3: Two LEDs on BTG15L)

CELL(Green)	Device is searching CELL network.	Green LED flashing
	Device has registered to CELL network.	Green LED On
GPS(Blue)	GPS is asleep.	Blue LED OFF
	GPS is fixed.	Blue LED ON
	Device is searching for GPS.	Blue LED flashing

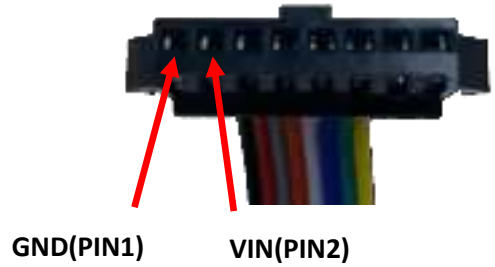
(Table 2: LED Description)

Note:

1. Flashing intervals are about 500ms ON/1sec OFF.

2.4 Power Connection

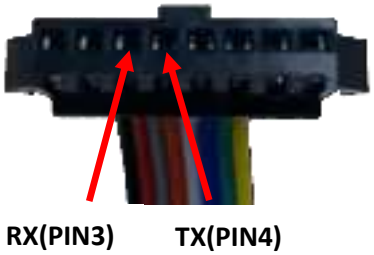
GND (PIN1)/VIN (PIN2) are the power input. The input voltage range is 8V to 33V.



(Picture 4: Power Connection)

2.5 Serial Port

RX (Pin3) and TX(Pin4) is the serial port of BTG15L. It is used to configure device, FW upgrade and capture debug logs.



2.6 Ignition Detection

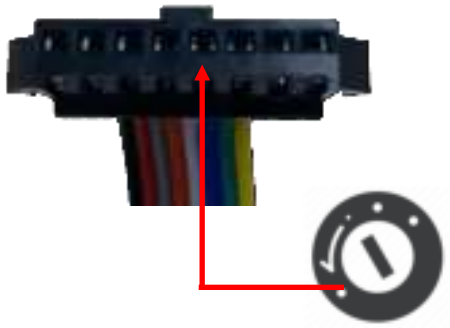
ACC (Pin5) is used for ignition detection. It is recommended to connect this pin to the “RUN” position of the vehicle ignition switch as shown below.

An alternative to connect 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.

ACC signal can be configured to transmit information to the backend server when ignition is on and enter power saving mode when ignition is off.

Logical State	Electrical Characteristics
Active	5.0V to 50V =VIN
Inactive	0V to 3V or Open loop

(Table 3: Electrical Characteristics of Ignition Detection)



(Picture 5: Ignition Detection)

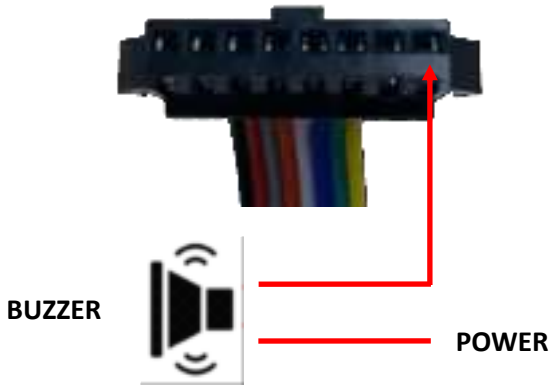
2.7 Digital Output2/Input Connection

SOS (PIN8) is a digital Output/Input on BTG15L. It is of open drain type and the maximum drain current is 1A. The SOS (PIN8) can be configured to be digital output or digital input.

Below is an example of digital output connection.

Logical State	Electrical Characteristics
Enable	<0.2V @1A
Disable	Open drain

(Table 4: Electrical Characteristics of Digital Output)



(Picture 6: Typical Connection with Buzzer as Digital Output)

Below is an example of digital input connection.

Logical State	Electrical Characteristics
Active	0V
Inactive	Open

(Table 5: Electrical Characteristics of Digital Input)

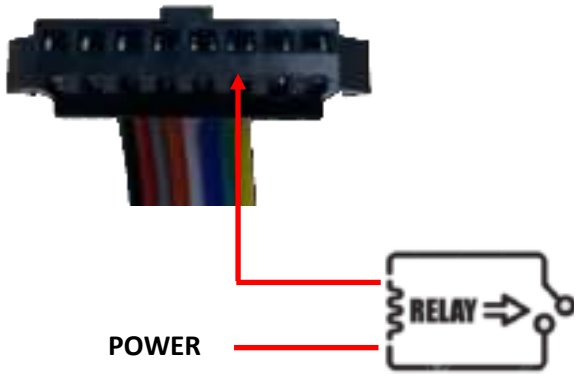
(Picture 7: Typical Digital Input Connection)

2.8 Relay

RLY (PIN6) is the digital output1 of BTG15L. It is of open drain type and the maximum drain current is 1A.

Logical State	Electrical Characteristics
Enable	<0.2V @1A
Disable	Open

(Table 6: Electrical Characteristics as Relay)



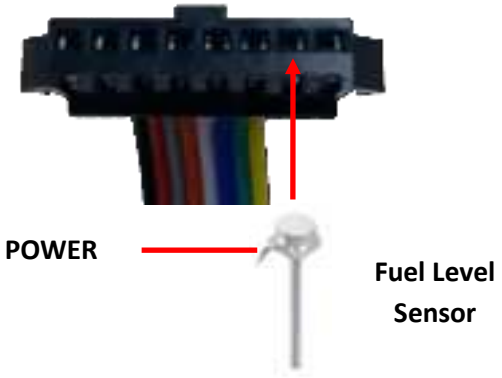
(Picture 8: Typical Connection with Relay)

2.9 Analog Input

OIL(PIN7) is an analog input to detect fuel level in vehicle tank.

Electrical Characteristics	Voltage Range: 0-30V

(Table 7: Electrical Characteristics as Digital Outputs)



(Picture 9: Typical Connection with Fuel level sensor)

3. Set Up BTG15L

3.1 Part List

BTG15L
(Dimension: 93*51*15.3mm)

Wire harness

3.2 Install SIM Card

1) Open unit. Insert a crowbar and pry upwards.

2) Insert the SIM card.

SIM card slot

(Picture 13: Open SIM card Cover)

3) Put back the upper cover.

FCC Regulations

- 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.
- 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.

- Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To comply with FCC RF Exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for the transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

4. FAQ

4.1 LED do not flash

A). Please check whether the device is well connected to the power or not.
B). Please check whether SIM card is workable or not.

4.2 GPS do not fix

A). Please move the device to outside to get better GPS signal.
B). Please keep "top side" up when operate the device.

4.3 Fail to connect to platform

A). Please check APN and IP settings.

5. After Sale Service

5.1 Warranty

This product is warranted for one year from the date of purchase. However, if the following conditions result in damage to the product, it is not covered by the warranty.

A). Not used in accordance with the Product User's Guide.

B). Purposely dismantling, destruction, modification and damage.

C). Damage caused by external forces or irresistible factors such as flooding, impact, electric shock.