Vehicle GPS Tracker

(4G LTE+GSM+GPS+SMS)

GT08L User Manual

(Version 1.)

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1. Description

GT08L is a IP67 Rated 4G LTE/GSM/GPS tracker for car, motorcycle, scooters and e-bikes.

It's with superior receiver sensitivity, fast TTFF and 4G LTE design. And it can continuously report current position to backend server. It has a built-in acceleration sensor, which can detect the moving/static and driving behavior.

GT08L is developed by "openCPU" technology which brought lower cost, lower power consumption and fast response speed advantages. It's reputed with have industrial level performance but on economical solution pricing.

2. Package Contents

Item	Picture	Remark
Tracker		Standard
Wire harness		Standard
Immobilizer relay		Optional
SOS button		Optional

3. Features and Specifications

Item	Description
Dimension	95*47*18mm
Power range	8-100V DC/1.5A
Working humidity	5%~95%
Operating temperature	-30℃~75℃

Internal backup battery	120mAh/4.2V	
Data transmit	4G LTE/GSM/SMS Communication	
LED indicator	1: Red for network 2: Green for GPS	
Input	1: ACC detect 2: SOS detect 3: Reserved (high trigger)	
Output	Immobilizer(cut engine) relay or buzzer	
AD	One input AD	
Accelerometer	Built-in accelerometer	
4G chip	FIBOCOM L610	
4G/GSM frequency	L610-CN	LTE FDD: B1 B3 B5 B7 LTE TDD: B34 B39 B40 B41 GSM:900MHz/1800MHz
	L610-LA	LTE FDD: B1 B2 B3 B4 B5 B7 B8 B28 B66 GSM:850MHz/900MHz/1800MHz/1900 MHz
	L610-EU	LTE FDD: B1 B3 B7 B8 B20 B8 GSM:850MHz/900MHz/1800MHz/1900 MHz
GPS chip	ZKMICRO:ATGM336H (BDS+GPS)	
GPS sensitivity	-160dB	
GPS position accuracy	5 Meters	
4G/GSM Null zone data storage	2000 Waypoints	
Position report	Time based and distance(mileage) based and angle based	
Alarm alerts	GEO Fence, speed over, power tamper and SOS(Panic),idle, harsh acceleration,harsh braking,harsh cornering	
Configuration	SMS + computer(USB configurator) + server	
OTA	Support	

4. Knowledge before Usage

4.1 Factory Default Setting

- IP/Port: Empty
- APN, User and pass: Empty
- Speed Limit: Off=000Km/H
- Position data Update Time Interval: 30Seconds when ignition on, 30seconds when ignition off
- Authorized Phone numbers A/B/C: None

4.2 Power Supply and consumption

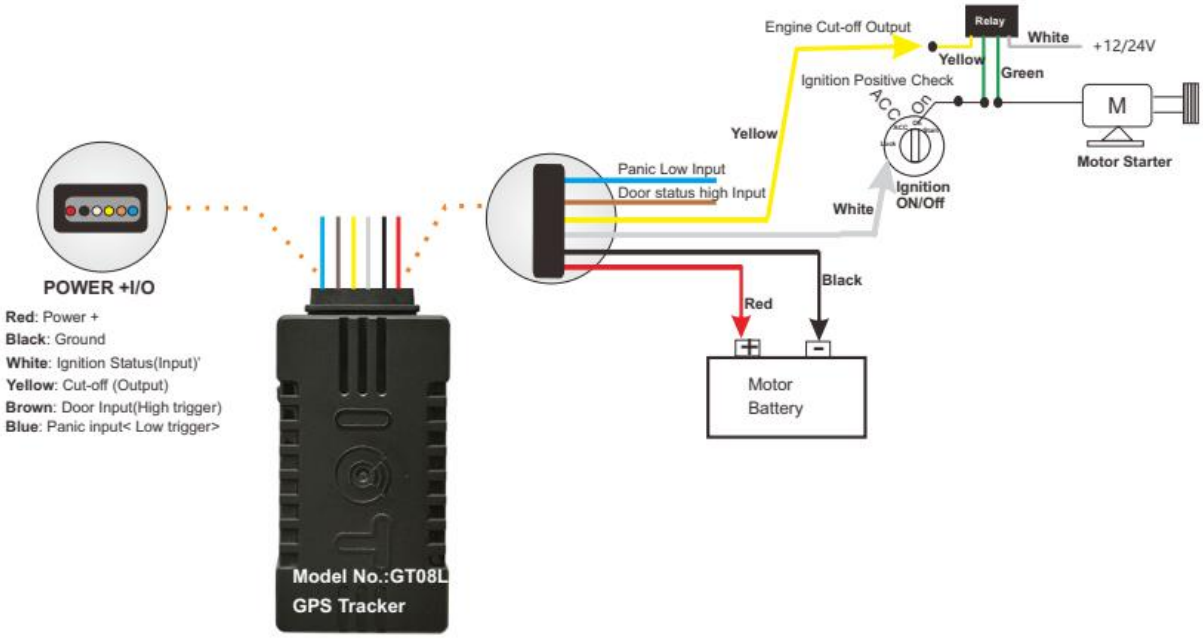
This device is expected to connect with a DC power source with range of 8-100V DC.
Working current maximum 2A input.
Device working current < 18mA @24V DC

4.3 How to Insert Sim card

Before inserting the sim card, please make sure the sim card 4G and SMS and GPRS activated.
The device will automatically turn on after inserting the SIM card.

5. Installation

5.1 Wiring Diagram



Wire Color	Remark
Red	Power +(8-100V DC)
Black	Power Ground
White	Ignition Detection(ACC)
Yellow	Cut-off, Digital output
Brown	Door status high input
Blue	Panic(SOS) low input

5.2 LED working status

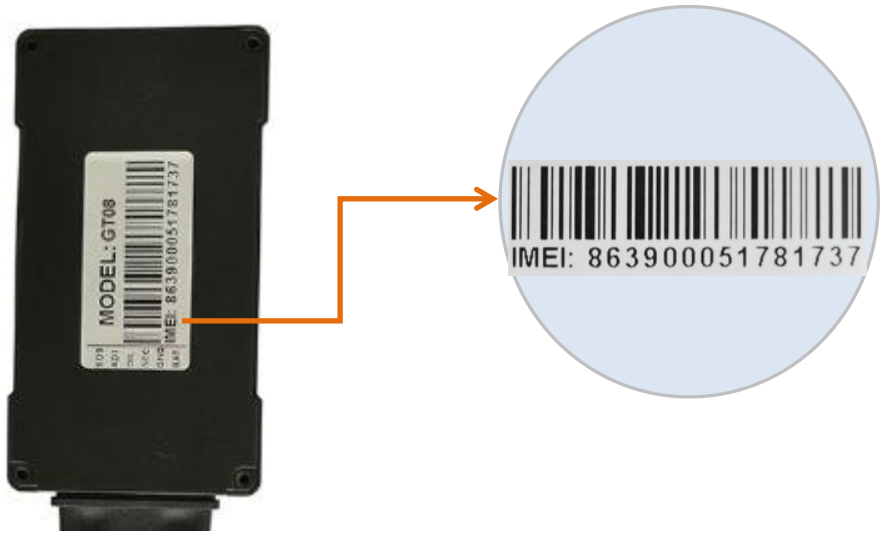
Item	Color	Working	Status
Network	Red	Off	Power off
		On	Cannot recognize sim card
		Fast flashing	Registering network
		Slow flashing	Successfully registered the network
GPS	Green	Off	GPS off or no GPS data
		Fast flashing	GPS positioning
		Slow flashing	GPS positioning succeeded

6. Device configuration

GT08L allow user to use SMS Commands to configure necessary parameters.
Details please check as follows instruction.

6.1 Device ID

GT08L doesn't need configure device ID. GT08L use 121 + the last eight digits of IMEI as ID. On the unit case side is with a bar code sticker. please use this code as device ID when you register device tracking platform. Following picture ID is: **12151781737**



6.2 Configure data(4G/GPRS) Parameter

SMS Setting Command:

(ip,1,1,url,port,T)

url: IP or domain name of the tracking server.
port: port of the tracking server.
T: data transmit mode. T=1 is using TCP mode. T=0 is using UDP mode. Default as 1.

Example:
(ip,1,1,198.11.175.123,9016,1)

SMS query Command:

(ip,0)

6.3 Configure APN

SMS setting Command:

(apn,1,APN name,APN user name,APN password)

Example 1: APN name is cmnet, APN user name is abc, APN password is 123

(apn,1,cmnet,abc,123)

Example 2: APN name is cmnet, no APN user name and APN password

(apn,1,cmnet,,)

SMS query Command: **(apn,0)**

6.4 Configure Authorized Phone Numbers for alarm alerts

After the authorized number is set, only the authorized number SMS command is accepted, when the device detects an alarm (SOS alarm, power failure alarm), it will send SMS to the authorized number.
SMS setting command:

(auth,1,number1,number2,number3)

Example:

(auth,1,+8613554806820,+8613554806821,+8613554806822)

SMS query Command:

(auth,0)

SMS clear Authorized Phone Numbers Command:

(auth,1,,,)

6.5 Time zone Localization Setting

GT08L can configure the timezone of TCP data and SMS data separately, but TCP data uses GMT time by default.
SMS setting Command:

(timezone,1,00:00,hh:mm)

hh: mm is SMS data timezone hour and minute.

Example: Setup time zone with 8.

(timezone,1,00:00,+08:00)

SMS query Command:
(timezone,0)

6.6 Remote Cut-engine (Immobilizer)

Wireless cut-off engine SMS command
(cut,1,1)

Wireless disable engine lock status SMS command
(cut,1,0)

6.7 Reset Mileage report value

In every Position data packet to tracking server, GT08L data package includes the current travel mileage. And the user can by SMS command to reset or adjust the mileage report value.

SMS Command:
(mile,1,xxx)
xxx: mileage, unit is Meter.

Example: reset mileage to 2000 meters
(mile,1,2000)

6.8 Tracking parameter setting

By following SMS command to setup device data update interval in acc on and acc off and angle change.

SMS setting command:
(uptime,1,acc on time,acc off time,angle change)

acc on time: position update interval when in acc on, unit is second.
acc off time: position update interval when in acc off, unit is second.

angle change: position update when car angle change, unit is degree.

Example: acc on interval is 20 seconds, acc off is 60 seconds, angle change is 30 degree.
(uptime,1,20,60,30)

SMS query command:
(uptime,0)

6.9 Query device setting status

SMS command:
(all,0)

Device reply:
(all,0,apn,0,cmnet,,*ip:0,1,198.11.175.123,9016,1;2,,,*id,0,012151781737*uptime,0,20,10,30*protocol,0,0*gprs,0,31,6,3,1,2*)

6.10 Query google location link

SMS command:
***WHERE2#**

Device reply:
ID:012151781737 http://maps.google.com/maps?hl=en&q=+22.59682,+113.84461

6.11 Recover factory setting

By SMS command or GPRS command, GT08L can be initialized to be factory default setting status.
SMS Command:
(reset)

6.12 Remote reboot

SMS command:
(reboot,1)

6.13 Set overspeed alarm

SMS setting command:
(speed,1,Overspeed threshold,Overspeed duration)

Example: when overspeed 120km/h and last for 3 seconds trigger over alarm
(speed,1,120,3)

SMS query Command:
(speed,0)

6.14 Setup motion sensitivity threshold

Note: It is not recommended to modify this parameter.
SMS setting command:
(gsensor,1,sensitivity,moving time,static time)

sensitivity: value from 1 to 1000, the larger the value, the less sensitive, default is 100.

moving time: if the movement is greater than the threshold and lasts longer than this time,the device will be considered to be in motion, unit is second, default value is 1.

static time: if the movement is smaller than the threshold and lasts longer than this time,the device will be considered to be in static, unit is second, default value is 180.

Example:
(gsensor,1,100,1,180)

SMS query command:
(gsensor,0)

6.15 Setup ACC association

Note: It is not recommended to modify this parameter.
SMS setting command:
(acc,1,input/sensor,lock position)

input/sensor: 1 is ACC by wire harness input. 0 is ACC by G sensor moving status, default is 1.
lock position: 1 is when ACC off location will not change, 0 is when ACC off location will change, default is 1.

Example:
(acc,1,1,1)

SMS query command:
(acc,0)

6.16 OTA Operation

GT08L allow user to do firmware upgrading via GPRS connection. Details operation command and procedure, please consult with your seller.