

Vehicle GPS Tracker

(4G LTE+GSM+GPS+SMS)



GT09L User Manual

(Version 1.)

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1. Description

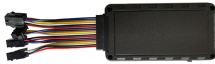



GT09L is a IP67 Rated 4G LTE/GSM/GPS tracker for car, motorcycle, scooters and e-bikes.

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 and detect ignition state and SOS alarm and use microphone for real time voice monitoring and R232 for RFID reading and stop engine by remote.

GT09L 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	98*52*18mm	
Power range	8-36V DC/1.5A	
Working humidity	5%~95%	
Operating temperature	-30°C~75°C	
Internal backup battery	120mAh/4.2V	
Data transmit	4G LTE/GSM/SMS Communication	
LED indicator	1: Red for network 2: Green for GPS 3: Blue for battery	
Input	1: ACC detect 2: SOS detect	
Output	Immobilizer(cut engine) relay or buzzer	
AD	One input AD	
RS232	One RS232	
Microphone	Support	
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:ATGM332D(BDS+GPS)	
GPS sensitivity	-160dB	
GPS position accuracy	5 Meters	
4G/GSM Null zone data storage	800 Waypoints	
Position report	Time based and distance(mileage) based and angle based	
Alarm alerts	GEO Fence, speed over, power tamper and SOS(Panic),idle	
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 8-36V 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

	PIN	Wire Color	Remark
	1	Red	Power +(8-36V DC)
	4	Black	Power Ground
	2	White	Ignition Detection(ACC)
	5	Yellow	Cut-off, Digital output
	6	Brown	Door status high input
	3	Blue	Panic(SOS) low input

	PIN	Wire Color	Remark
	1	White	reserve
	2	Yellow	reserve
	3	Brown	AD(Fuel and temperature)
4	Blue	reserve	

	PIN	Wire Color	Remark
	3	Black	5v
	1	Brown	GND
	4	Red	RS232-TXD
	2	Blue	RS232-RXD

	PIN	Wire Color	Remark
	1	Red	SPK+
	2	Black	SPK-
	4	White	MIC_N
3	Yellow	MIC_P	

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
Battery	Blue	On	Battery on
		Off	Battery off

6. Device configuration

GT09L allow user to use SMS Commands to configure necessary parameters. Details please check as follows instruction.

6.1 Device ID

GT09L doesn't need configure device ID. GT09L use 136 + the last 8 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: **13653256836**



6.2 Configure data(4G/GPRS) Parameter

SMS Setting Command:

***SPJLX*P:password*U:IP,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:

***SPJLX*P:123456*U:198.11.175.123,9016,1#**

SMS query Command:

***SPJLX*P:password*C:#**

6.3 Configure APN

SMS setting Command:

***SPJLX*P:password*A:APN user name,APN password#**

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

***SPJLX*P:123456*A:cmnet,abc,123#**

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

***SPJLX*P:123456*A:cmnet,,#**

6.4 Remote Cut-engine (Immobilizer)

Wireless cut-off engine SMS command

***SPJLX*P:password*D:O21#**

Wireless disable engine lock status SMS command

***SPJLX*P:password*D:O20#**

6.5 Configure Authorized Phone Numbers for alarm alerts

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

SMS setting command:

***SPJLX*P:password*S:number1,number2,number3,#**

Example:

***SPJLX*P:123456*S:15000000001,15000000002,15000000003,#**

SMS query Command:

***SPJLX*P:password*S: ?#**

SMS clear Authorized Phone Numbers Command:

***SPJLX*P:password*S:,#**

6.6 Time zone Localization Setting

GT09L can configure the timezone of TCP data and SMS data separately, but TCP data uses GMT time by default.

SMS setting Command:

SPJLX*P:password*TM: -/+hhmm#

hh: mm is SMS data timezone hour and minute.

Example: Setup time zone with -4.

***SPJLX*P:123456*TM:-0400#**

6.7 Set overspeed alarm

SMS setting command:

***SPJLX*P:123456*s:Overspeed threshold,Overspeed duration#**

Example: when overspeed 120km/h and last for 3 seconds trigger over alarm

***SPJLX*P:123456*s:120,3#**

SMS query Command:

***SPJLX*P:123456*s: ?#**

6.8 Reset Mileage report value

In every Position data packet to tracking server, GT09L data package includes the current travel mileage. And the user can by SMS command to reset or adjust the mileage report value.

SMS Command:

***SPJLX*P:password*MILE:xxx#**

xxx: mileage, unit is Meter.

Example: reset mileage to 2000 meters

***SPJLX*P:123456*MILE:X#**

6.9 Reset SMS command password

The GT09L default password is 123456, it can reset the password by SMS, password length is 6.

***SPJLX*P:password*P:new password#**

Example:

***SPJLX*P:123456*P:888888#**

6.10 Active sleep mode

When sleep GT09L will close GPS module to save power.

***SPJLX*P:password*DSL:X#**

Enter sleep mode when ACC is turned off for more than X seconds. 0 is cancel sleep mode.

Example:

***SPJLX*P:123456*DSL:300#**

6.11 Tracking parameter(location update) setting

GT09L can update location by time interval and direction angle change.

Setup time interval:

***SPJLX*P:password*E:1,xx,yy#**

xx is when ACC on update time , yy is when ACC on update time, units is second.

Example:

***SPJLX*P:123456*E:1,30,60#**

Setup direction angle:

***SPJLX*P:password*E:3,zz#**

zz is angle change value.

Example:

***SPJLX*P:123456*E:3,30#**

6.12 Voice monitor by SMS

***SPJLX*P:password*I:xxxxxx#**

xxxxxx is the callback phone number

Example:

***SPJLX*P:123456*I:1500000150#**

6.13 Query google link

***SPJLX*P:password*LOCA:#**

6.14 Reboot device

***SPJLX*P:password*B:#**

6.15 Recover factory setting

***SPJLX*P:password*F:#**

6.16 Setup vibration and Arm

If turn on arm mode, after ACC OFF for 3 minutes GT09L will enter the armed state, in the armed state, if vibration or ACC on is detected, alarm will be triggered.

***SPJLX*P:password*SF:X,Y#**

X=0 is Turn off vibration alarm, X=1 is Turn on vibration alarm.

Y=0 is arm, Y=1 is disarm

Example:

***SPJLX*P:123456*SF:0,1#**

6.17 Setup towing alarm

Setup towing alarm after ACC OFF.

***SPJLX*P:password*TOW:x,y#**

x is the continuous vibration time, in minutes.

y is the towing distance, in meters.

Example:

***SPJLX*P:123456*TOW:1,100#**

6.18 Query parameters

***SPJLX*P:password*V:#**

6.19 Setup DLT card type

***SPJLX*P:password*DLTY:xx,yy,zz,#**

'xx,yy,zz,' are DLT card type

Example:

***SPJLX*P:123456*DLTY:14,24,#**

Query DLT card type:

***SPJLX*P:123456*DLTY:?#**

Clear DLT card type:

***SPJLX*P:123456*DLTY:#**

6.20 Setup DLT card ID

***SPJLX*P:password*DLID:xxxxxxxxxxxxxxxx,yyyyyyyyyyyyyy,zzzzzzzzzzzzzz,#**

‘xxxxxxxxxxxxxxxx,yyyyyyyyyyyyyy,zzzzzzzzzzzzzz,’ are DLT card ID.

Example:

***SPJLX*P:123456*DLID:141999995800100,241999995800100,#**

Query DLT card ID

***SPJLX*P:123456*DLID:?#**

Clear DLT card ID:

***SPJLX*P:123456*DLID:#**

6.21 Setup DLT buzzer time

***SPJLX*P:password*DLBB:x#**

X is DLT buzzer time, in minutes.

Example:

***SPJLX*P:123456*DLBB:5#**

6.22 OTA Operation

GT09L allow user to do firmware upgrading via GPRS connection. Details operation command and procedure, please consult with your seller.