



Kingwo

## **Vehicle GPS Tracker (LT01)**

# **User Manual**

**(V1.1)**



**LT01**

## **Warm Notice**

The contents of this manual might be renewed from time to time without prior notice; KINGWO will improve or update the products or operation procedures described in the manual at any time. If there is a discrepancy between the real product and the manual, the real product shall prevail. KINGWO has the final interpretation rights for this manual.

GPS Talks



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## Chapter 1: Product Overview





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## Chapter 2: Technical Specification

### 2.1 Specification

Characteristics	Description
Working Voltage	DC 9V-36V, applicable to 12V/24V vehicles
	DC 9V-100V, applicable to scooter, motorcycle and electric vehicles management
Working current	Average current < 30mA (DC12V), Maximum current < 100mA (DC12V) Sleep current < 10mA
Built in battery	110mAh, 3.2V, Lithium polymer battery
Battery protection	Anti-200V power supply reverse connection; main voltage detection;
Dimension	88mm*45mm*14mm (L*W*H)
Weight	47±5g
Memory	1300 pcs of data storage
Working Temperature	-20°C ~ 70°C
Storage Temperature	-40°C ~ 85°C
Relative humidity	5% ~ 95%
Frequency	LTE FDD: Band 1/3/5/8 LTE TDD: Band 34/38/39/40/41 GSM: 900/1800MHz LCC 31x28x2.4mm Operating Temperature: -40°C ~ +85°C Operating Voltage: 3.3V ~ 4.3V typical 3.8V
GNSS Parameters	GPS L1: 1575.42MHz; BD B1: 1561.098MHz



## Chapter 3: Functions

### 4.1 【Basic function-Tracking function】

Including timely upload, blind zone compensation, speed mileage statistics, Geo-fence and other functions, the backend sends positioning commands, and the device uploads data including longitude, latitude, speed, direction, and status information.

#### 4.1.1 Timely Tracking

The device can be set to upload the position and status information of the vehicle to the backend at a certain time, certain period or at a certain time interval.

#### 4.1.2 Blind area data storage

When the vehicles enters the GPRS blind area, the device will store the GPS data upon 15s interval, the track data will be saved at the shortest 15S interval, those data will be uploaded to the backend server once GPRS network recovered, minimum 1000 pcs of data can be stored.

#### 4.1.3 Cornering Compensation

If the device detects that the vehicle driving direction has certain angular deviation(default 15 degrees), the device will upload a packet extra to make sure the driving trace is more accurate.



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## 4.1.4 LBS

If GPS is not available, the device will automatically switch to LBS mode, and acquire the LBS each 30s and upload the based information, the server shall interprets the specific location on the map.

## 4.1.5 AGPS

The device supports AGPS, once the device is connected to GPRS, the AGPS can be used to speed up the positioning and improve accuracy.

## 4.2 【Basic function-Alarm function】

### 4.2.1 Low Voltage Alarm

When the battery voltage on the vehicle is too low (0-11V or 19-22V), device will report a low voltage alarm to the backend

### 4.2.2 Speeding, low speed alarm

When the vehicle speed is higher than the preset alarm value, the device will notify the backend. Similarly, when the vehicle speed is lower than preset alarm value, a low speed alarm will be uploaded to the backend, this value is configurable.

### 4.2.3 Vibration alarm

The device supports vibration alarm, 10 minutes after the ignition off (Arm range 1-20 minutes), the device generates vibration (Delay range 1-10 mins) without ACC connected, the device will upload vibration alarm.



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### 4.2.4 Towing alarm

An alarm will be generated when the device is set to a displacement of more than 100 meters (message mode prompt), and the alarm information will be reported when the displacement radius exceeds 100 meters when the device is turned off.

(Note: displacement range 100~2000m)

The device will send SMS if the vehicle is moved in ignition off status, if the radius is more than 100 meters, will upload towing alarm (Towing range:100-2000m)

### 4.2.5 GPS error alarm

When the device detects that the GPS/BD module is working abnormally, it reports the GPS receiver failure alarm to the backend

## 4.3 【Basic function-Intelligent function】

### 4.3.1 Power Save

The device has a built-in high-sensitivity G-sensor accelerometer that monitors the vehicle for motion in real time. When no motion detected for a long time, the device automatically enters the power saving state, meanwhile turns off the GPS/BD module, and GSM enters the heartbeat return mode. In this state, the power consumption of the device is extremely low, which can save power consumption from the vehicle battery.

### 4.3.2 Self-Diagnosis

The device can perform self-diagnosis. In case there is malfunction regarding GPS and GSM, it will report error message to the backend, and the backend .The backend can query the current model, version, configuration, running status, and device functions remotely.



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### **4.3.3 Static Drift Suppression**

The device has a built-in high-sensitivity G-sensor accelerometer and a complete positioning data-filtering algorithm that filters out most of the static drift data to ensure the accuracy of GPS data.

### **4.3.4 Mileage Calculation**

Mileage data is calculated based on the speed from GPS, The vehicle mileage data is uploaded to the backend along with the vehicle positioning data; the initial mileage can be configured when initially the device is set up.

### **4.3.5 Remote Configuration**

To remote set device parameters including IP, center number and different monitoring parameters via the backend or SMS.

### **4.3.6 Remote Upgrade (OTA)**

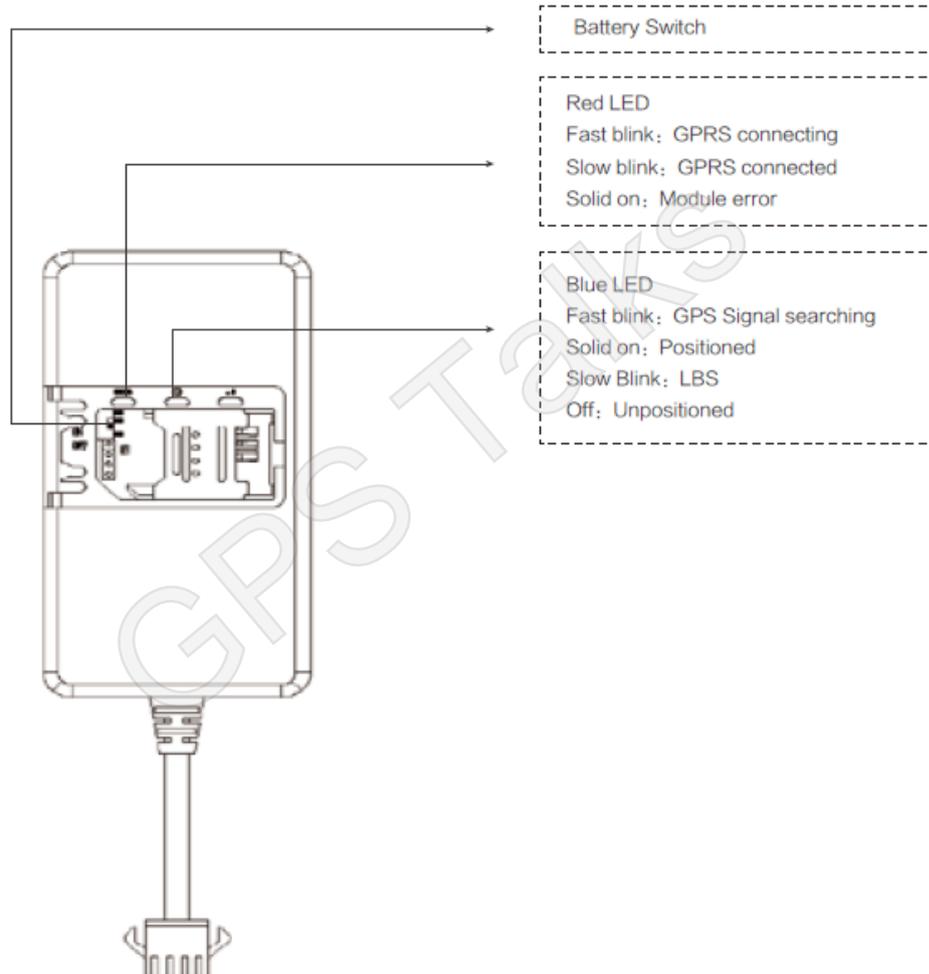
As long as GPRS is connected, remote firmware upgrade can be done.

### **4.3.7 Dual IP or Domain**

The device supports dual IP connection including the primary server and the standby server. The default connection is the primary server. If there is a problem with the primary server, the device automatically switches to the standby server. The primary server and the standby server can be set in either IP or domain name

## Chapter 4: Installation guide

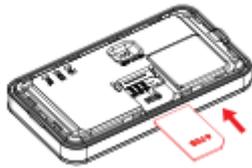
### 4.1 Installation Diagram



## 4.2 Installation and debugging process

### 4.2.1 SIM installation

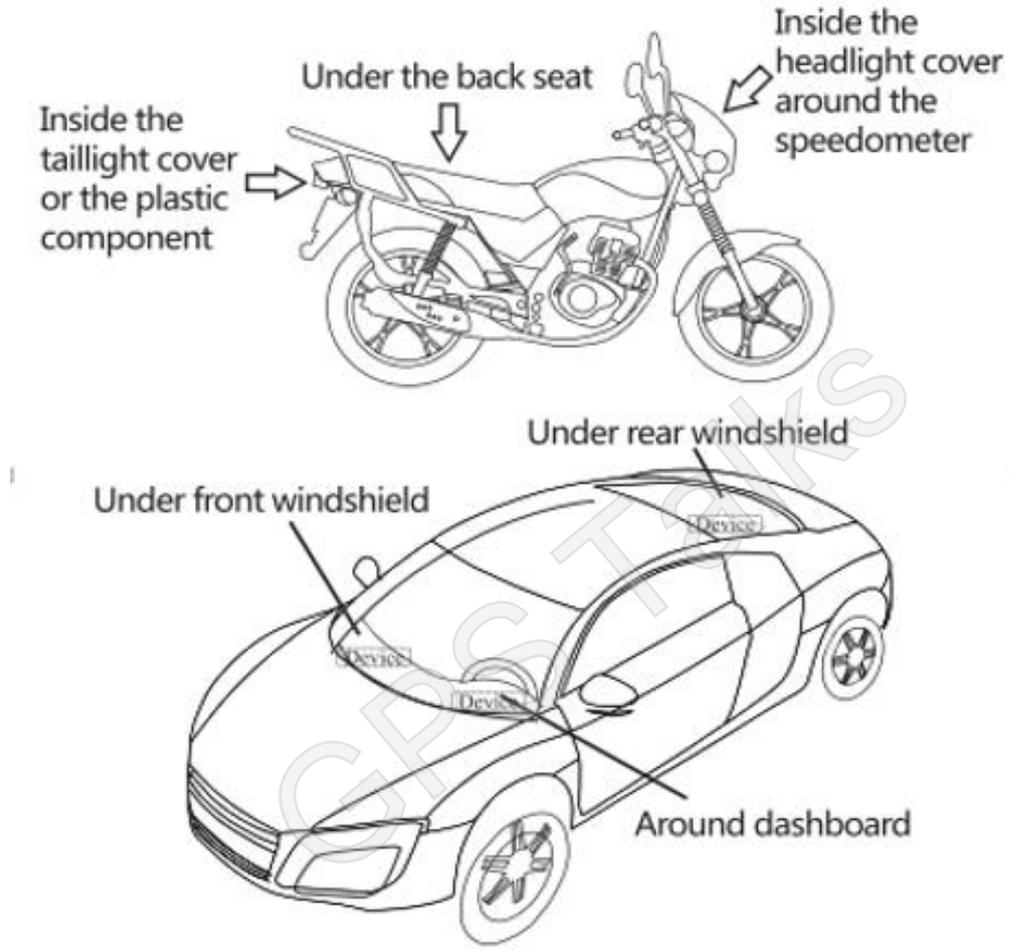
Open the top cover of the device, insert the prepared SIM card into the SIM cardholder, and then confirm that the SIM card button is in place. Please make sure that the SIM card has the GPRS function enabled in advance and record the SIM card number in advance



### 4.2.2 Main unit power on

After installing the SIM card, turn the battery switch to the ON position. Meanwhile, the red light starts to blink, indicating that the device is power on.

## 4.2.3 Recommended Installation place



## 4.2.4 Parameter setting by SMS

Note: The device is with unique ID number, the factory can preset t IP, port and APN for customers, generally there is no need for customers to do parameter setting; However in case any configuration needs to be done, please follow below instructions and make sure the SIMs has SMS functions available:



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<p>APN,apn,user,pswd#</p>	<p>Set APN, User name and password</p> <p><b>For example</b> : APN,CMNET,internet,internet#</p> <p>APN:CMNET Username: internet Password: internet</p>
<p>IP,ip or dns,port,type#</p>	<p>IP,119.23.233.52,6000,1#</p> <p>Set the primary server IP:119.23.233.52 , port 6000 , communication type:TCP</p> <p>IP,www.365qczx.com,6000,0#</p> <p>Set the primary server domain:www.365qczx.com , Port 6000 , communication type UDP</p>
<p>IP2,ip or dns,port,type#</p>	<p>IP2,119.23.233.52,6000,1#</p> <p>Set the backend server IP:119.23.233.52,port 6000 , communication type is TCP</p> <p>IP2,www.365qczx.com,6000,0#</p> <p>Set the backend server domain:www.365qczx.com , port 6000 , communication type: UDP</p> <p>IP2,,0,0# Delete backend server parameter</p>
<p>HC,&lt;T1&gt;,&lt;T2&gt;,&lt;T3&gt;#</p>	<p>Set the upload interval in real time tracking mode:</p> <p>T1: upload interval in ignition on status, range,5-30s ,default 90s T2: Upload interval in ignition off status ,range 5-600 s, default 120 s</p> <p>T3 : Sleep return interval, range 10-1800 s, default 180</p> <p><b>For example:</b> HC,30,90# Set the upload interval as 30s and 90s in ignition on HC,30,90,300# Set the upload interval as 30s, 90 s in ignition off and 300s while in sleep mode</p>
<p>UTC,TTTT#</p>	<p>Set time zone , unit minutes, default UTC+8:00</p> <p><b>For example:</b> UTC,480# Time zone UTC+8:00 UTC,330# Time zone UTC+5:30 UTC,-480# Time zone UTC-8:00 UTC,-210# Time zone UTC-3:30</p>



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<p>WY,&lt;A&gt;[,R,M]#</p>	<p>Set towing alarm:</p> <p>A: On and off , 1:On 0:Off</p> <p>Default is off</p> <p>R: Towing radius , Default 500 meters , Range : 100-2000 meters</p> <p>M: Alarm mode , Optional</p> <p>M=0:GPRS,M=1:SMS+GPRS</p> <p><b>Eg</b> : WY,1,100,1# towing alarm on , radius 100 meters notification mode:GPRS+SMS</p>
<p>LOCKACCOFF,A#</p>	<p>Set vehicle lock</p> <p>A=0 Receive lock command, execute immediately</p> <p>A=1 Receive lock command, if ACC is off, execute immediately, if ACC is on, store this command until ACC off</p> <p>A=2 Store the command, lock vehicle from ACC Off to On, if the communication is well, lock vehicle, otherwise wait for next turn</p> <p><b>For example</b> : LOCKACCOFF,0# means execute the lock command immediately after receiving it</p>
<p>*22*1#</p>	<p>Restore to factory setting</p>
<p>*22*2#</p>	<p>Lock vehicle</p>
<p>*22*3#</p>	<p>Unlock vehicle</p>
<p>*22*4#</p>	<p>Reboot device</p>

## LT01 usage requirements

The device is strictly forbidden to use according to the operating instructions ,disassemble, collide, charge, soak, over 80 °C, human failure, force majeure damage, etc. may cause short circuit, insufficient working time, battery deformation, liquid leakage, explosion, no warranty and compensation will be provided by KINGWO.

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