



Kingwo

Vehicle GPS Tracker (LT03)

User Manual

(V1.1)

GPS Tracks



LT03

Declaration

The contents of this manual will be updated from time to time without prior notice; the updated content will be added to the new version of this manual. KINGWO will improve or update the products or procedures described in the manual at any time. If there is a description of the product in the manual that does not match the actual product, the actual product shall prevail. KINGWO has the final interpretation rights of this manual.

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Chapter 1: Photo



Chapter 2: Product features

1. The product is a rechargeable ultra-long standby position and monitor terminal;
2. This product is with built in with large-capacity industrial grade rechargeable polymer lithium battery, capacity 5600mAH, voltage 3.6V;
3. This terminal supports most of 2G,3G and 4G network in the world, it would satisfy the requirements to use this product in different regions or cross borders.4G network only support TDD LTE/FDD LTE,3G network supports WCDMA, 2G network support GSM/GPRS
4. The normal working status of the terminal is defined as follows: The GSM module and the positioning module are all open and work normally. The terminal uploads position information every 30S, and the GSM continues to work without sleep; the positioning module always works regardless of whether there is a GPS signal.
5. The power-saving status of this terminal is defined as follows: in the power-saving mode, GSM sleep, awake timely to upload a message (default interval 10 minutes); the positioning module is completely closed, inaccurate position; in the power-saving state, it can be waked up via telephone, SMS, GPRS wake up the terminal at any time;
6. The terminal is built in with high-sensitivity low-power three-axis G-sensor accelerometer, full-time work, it can real time detect the working environment of the terminal , suppress the static drift and automatic switch the terminal working mode
7. The terminal supports micro-USB interface charging on the market, the charging specification is DC5V, 1A, compatible with most mobile phone chargers;
8. The equipment is divided into two versions: normal version and strong magnetic version; the strong magnetic version has a built-in neodymium iron boron super permanent magnet, and has removal alarm function.

Chapter 3 Technical Specification

3.1 【Main unit】

| Characteristics | Description |
|--------------------------------|---|
| Built in battery specification | Rechargeable polymer lithium battery (3.7V, 5600mAH) |
| Working current | Average Current<100mA; Power save<10mA |
| Dimension | 92mm*59mm*24.5mm (L*W*H) /LT03 92mm*59mm*30mm (L*W*H) /LT03C |
| Weight | 148±5g(LT03) 200±5g(LT03C) |
| Working Temperature | -20°C~70°C |
| Storage Temperature | -40°C~85°C |
| Relative Humidity | 5%~95% |
| Frequency | 4Gnetwork: TDD LTE/FDD LTE 3Gnetwork: WCDMA 2Gnetwork: GSM/GPRS |
| GNSS Parameter | GPS L1:1575.42MHz; BD B1: 1561.098MHz (Optional) |

3.2 【4Gfrequencies in different countries】

| Regions | Frequencies |
|------------------------------|--|
| China/India | TDD LTE:B38/B39/B40/B41 FDD LTE:B1/B3/B5/B8 WCDMA:B1/B8 GSM:900/1800MHz |
| Europe/Middle East/Africa | TDD LTE:B38/B40/B41 FDD LTE:B1/B3/B5/B7/B8/B20 |

| | |
|-------------------------|--|
| | <p>WCDMA:B1/B5/B8</p> <p>GSM:B3/B8</p> |
| North America | <p>FDD LTE:B2/B4/B5/B12/B13/B14</p> <p>WCDMA:B2/B4/B5</p> |
| Australia/Taiwan/Brazil | <p>FDD LTE:B1/B3/B4/B5/B7/B8/B28</p> <p>WCDMA:B1/B2/B5/B8</p> <p>GSM:B2/B3/B5/B8</p> |

Chapter 4: Functions

4.1 Basic function-Position

4.1.1 Position and monitor

Including timely upload, blind zone compensation, speed mileage statistics, area monitoring and other functions, the backend sends positioning commands, and the terminal returns data including longitude, latitude, speed, direction, and status information.

4.1.2 Timely Tracking

The vehicle GPS terminal can be configurable to upload the vehicle location, status info to the backend at a certain time or at a certain period or according to certain time interval

4.1.3 Blind area data storage

When the terminal enters the GPRS blind zone, the trace data will be saved at the shortest interval which is 30s, and the blind zone data will be uploaded to the platform when the GPRS is back online. The blind zone compensation data can be saved up to 4000.



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4.1.4 Cornering Compensation

When the vehicle enters the curve lane, the terminal detects that the driving direction has a certain angular deviation (default 20 degrees), and a timing upload message is added to ensure that the driving track is more accurate.

4.1.5 LBS

The terminal uses GPS positioning by default. When the GPS enters the blind zone and cannot be accurately located, the terminal automatically switches to the base station location. The terminal acquires the base station information every 30S and uploads the base station information. The specific location is resolved by the server.

4.1.6 AGPS

The terminal has the AGPS function. When the terminal is connected to the GPRS, the AGPS function can be used to speed up the positioning speed of the GPS module and improve the positioning accuracy.

4.1.7 Battery level detect

The terminal can real time monitor the built-in battery voltage and battery capacity in real time and upload it in real time. It is generally recommended that when the battery capacity is less than 10%, the user needs to charge the terminal.

4.1.8 Battery charge and discharge protection

The terminal has double charge and discharge protection function, which ensures that the battery will not be damaged due to over-discharge when the terminal is stored for a long time; and also ensures that the charging process is caused by ultra-long charging to prevent risk of battery damage and equipment damage.

4.2 Basic function-Alarm function

4.2.1 Low Voltage alarm

When the battery power is lower than 10%, the terminal will report a low-voltage alarm to the platform, and the user needs to charge the terminal as soon as possible.

4.2.2 Speeding, low speed alarm

When the vehicle speed is higher than the overspeed alarm value, the vehicle terminal will notify the monitoring center. Similarly, when the vehicle speed is lower than the low speed alarm value, a low speed alarm will be reported to the monitoring center. The alarm value is configurable.

4.2.3 GPS error alarm

When the terminal detects that the GPS/BD module is working abnormally, it reports the GPS receiver failure alarm to the monitoring center.

4.3 Basic function-Intelligent function

4.3.1 Power save

The terminal has a built-in high-sensitivity G-sensor accelerometer to monitor whether the vehicle is moving or not. When there is no motion state detected for a long time, the host automatically enters the power saving state, turns off the GPS/BD module, and the GSM enters the heartbeat upload state.

4.3.2 Self- diagnosis

The vehicle terminal can perform self-diagnosis. In the event of a fault, it will send a fault notification to the center, such as GPS, GSM, etc., and can automatically take relevant measures. The monitoring



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center can also query the current model, version, configuration, running status, and terminal functions of the terminal.

4.3.3 Static drift suppression

The terminal 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 Statistics

The vehicle mileage data is returned to the monitoring center along with the vehicle positioning data; the initial mileage can be set when the vehicle is installed.

4.3.5 Remote configuration

Remotely set various parameters of the terminal through the central system, including IP, center number, and various monitoring parameters.

4.3.6 Remote upgrade(OTA)

As long as the GPRS status is available, the terminal can use the remote wireless method to complete the terminal software upgrade.

4.3.7 Dual IP or domain

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

4.3.8 JTT808 Protocol

This product could use JTT808 protocol, which is applicable to all platform which supports JTT808



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protocol.

4.4 LT03C extended functions

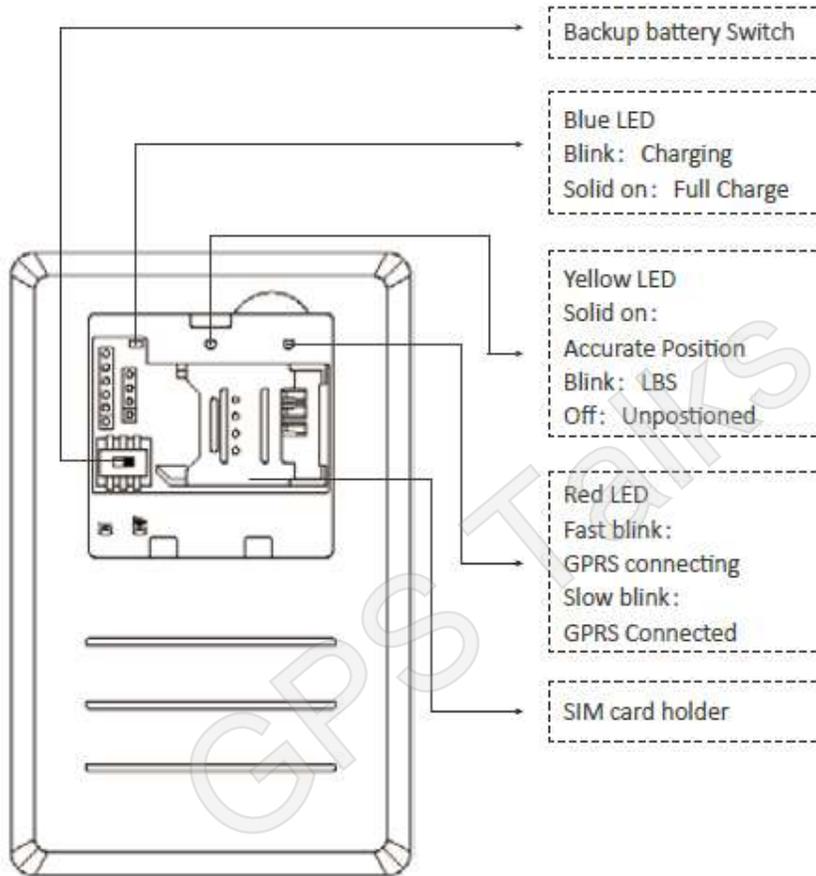
4.4.1 Strong magnetic and tamper alarm function

The LT03C is equipped with a neodymium-iron-boron super-strong permanent magnet, which can firmly hold the terminal on the metal surface for convenient and concealed. When the terminal is disassembled, it will activate immediately and enter the tamper alarm mode regardless of whether the terminal is in hibernation.

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Chapter 5 Installation guide

5.1 Product installation diagram



5.2 Installation and debugging process

5.2.1 SIM card installation

Open the top cover of the terminal, insert the prepared SIM card into the SIM card holder, and then confirm that the SIM card button is well placed. Please make sure that the SIM card has the GPRS function available in advance and write down the SIM card number.

5.2.2 Main unit power on

After installing the SIM card, turn the battery switch to the ON position. When the red light starts to

flash, indicating that the terminal is powered on.

5.2.3 Parameters setting

TCP/UDP connection mode setting

For example, the client's server IP is: 119.145.40.64, port number: 8881. If it is connected by TCP, use SMS to edit: *88*1119145040064*8881*1#; if it is UDP connection, edit: *88*1119145040064*8881*0#. The terminal will reply: set ok, the setting is successful.

5.3 Important Parameter Setting

5.3.1 Upload interval setting

Command format: HC, <T1>, <T2>#

Command description: T1: Start upload interval, the value range is 5-300 seconds, the default is 15 seconds.

T2: Sleep interval, ranging from 300 to 1800 seconds, defaulting to 600 seconds.

For example: HC, 30, 300# Set the data upload time to 30 seconds and the sleep upload time to 300 seconds.

5.3.2 Position mode

Command format: LBS, A#

Command description

A=2 close positioning function; A=1 pure base station positioning mode; A=0 base station positioning, GPS positioning, AGPS; default A=0

Example: LBS, 1# Enter pure base station positioning mode, turn off GPS module

5.3.3 Latent mode (optional)

Wired terminals can be set to the latent mode, in this mode, the wake-up time and alarm mode can be

set.

Command format: HIDE, A#

Command description: Set the latency mode, A=1 On A=0 off

To set the upload interval in latent mode, it needs to send two commands: one: HIDE, 1# 2: HX, 30#

Command description: In latent mode, the terminal wakes up once every 30 minutes. The first command on behalf of the terminal enable the latency mode, the next command is to set the upload interval, the range is similar to wireless terminals: 10 ~ 43200min).

Set clock mode for the wired terminals while in latent mode:

Command Description: Set a multi-point upload parameter, maximum 4 time points T1...T4, you can set one or more clocks if required, maximum supports 4 clocks.

Example: HIDE, 1# WAKEUP, 0800, 1200, 1600, 2000#;

They are all clock points, and the terminal will wake up at 8:00, 12:00, 16:00, and 20:00, and upload the terminal parameter information.

Note: The latent mode function is optional, two commands need to be sent \\\ You need to send two SMS commands separately to set them one by one. Please use them with caution!

| | |
|---|---|
| <p>HC,<T1>,<T2>,<T3>#</p> | <p>Set the upload interval in real time tracking mode: T1: upload interval in ignition on status, range,5-300s ,default 30s T2: useless, write it as" 0" T3: Sleep return interval, range 300-1800 s, default 600</p> <p>For example: HC,30,90,300# Set the upload interval as 30s, 90 s in ignition off and 300s while in sleep mode (The tracker is without upload when ignition off, write it as" 0" for T2)</p> |
| <p>UTC,TTTT#</p> | <p>Set time zone Range is 780~-720 For example: UTC,480# Time zone UTC+8:00</p> |
| <p>VPN,apn,user,pswd#</p> | <p>Set APN, User name and password For example: VPN,APNAPDemo.com.attz,internet,internet# APN:APNAPDemo.com.attz Username: internet Password: internet VPN,APNAPDemo.com.attz # Set APN</p> |

| | |
|--------------------------|--|
| *11*4# | <p>Check terminal communication status</p> <p>“Online” represent online</p> <p>“Offline” represent offline</p> <p>Link represent connect to the server</p> <p>Ip, port, apn, terminal id, software version number followed by status</p> |
| *22*1# | terminal restore to factory |
| *22*4# | Restart terminal |
| *77*0number# | <p>Set center number 1</p> <p>For example: *77*0123456# center number 1: 123456</p> <p>*77*0# delete center number 1</p> |
| *77*2number# | <p>Set center number 2</p> <p>For example: *77*2123456# center number 2: 123456</p> <p>*77*2# delete center number 2</p> |
| *77*4number# | <p>Set the number1 to receive the SMS notification</p> <p>For example: *77*4123456# SMS notified number1: 123456</p> <p>*77*4# delete SMS notified number1</p> |
| *77*5number# | <p>Set the number2 to receive the SMS notification</p> <p>For example: *77*5123456# SMS notified number2: 123456</p> <p>*77*5# delete SMS notified number 2</p> |
| IP,ip or dns,port,type# | <p>Set the primary server IP, PORT, Communication type</p> <p>A:Communication type 1:TCP 0: UDP</p> <p>For example: IP,119.23.233.52,6000,1#</p> <p>Set main server IP:119.23.233.52, PORT:6000, Communication type: TCP</p> |
| IP2,ip or dns,port,type# | <p>Set the backend server IP, PORT, Communication type</p> <p>A:Communication type 1:TCP 0: UDP</p> <p>For example: IP2,119.23.233.52,6000,1#</p> <p>Set the Standby server IP 119.23.233.52,port 6000, Communication type : TCP</p> |

Usage requirements

The terminal 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.

Contact us via:

Shenzhen Kingwo IoT co., LTD.

Address:7th Floor, Block A, R&D Building, Tsinghua Information Hi-Tech
Port, Nanshan District, Shenzhen, Guangdong, China



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Tel: 86-755-86704262

Fax: 86-755-86671531-8000

Website: www.kingwoiot.com www.365qczx.net

Email: marketing@kingwoiot.com

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Shenzhen KingwoIoT co., LTD.

Address: 7th Floor, Block A, R&D Building, Tsinghua Information Hi-Tech
Port, Nanshan District, Shenzhen, Guangdong, China

Tel: 86-755-86704262

Fax: 86-755-86671531-8000

Website: www.kingwoiot.com www.365qcxx.net

Email: marketing@kingwoiot.com