



Kingwo

User Manual

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GPS talks



MT02S

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



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Chapter 2: Product Feature

- 1、 Support GPS/Beidou, AGPS, LBS,with accurate position performance;
- 2、 Built in high sensitive G-sensor accelerometer
- 3、 Supports intelligent self-diagnosis, intelligent power save mode, remote fuel and power cut off, OTA and alarm functions
- 4、 Small in size and wide voltage, especially designed for scooter, motorcycle, electric vehicles and automotive financial risk control project
- 5、 Small and convenient for conceal installation

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Chapter 3: Technical Specification

3.1 Main Unit

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 < 40mA (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	82mm*23mm*13mm (L*W*H)
Weight	26±3g
Working Temperature	-20°C ~ 70°C
Storage Temperature	-40°C ~ 85°C
Relative humidity	5% ~ 95%
Frequency	Quad band: GSM 850/900/1800/1900MHz
GNSS Parameters	GPS L1: 1575.42MHz; BD B1: 1561.098MHz



Chapter 4: Functions

4.1 【Basic function-Position function】

4.1.1 Position and monitoring

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

4.1.2 Timely monitoring

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

4.1.3 Blind zone compensation

When the terminal enters the GPRS blind zone, the track data will be saved at the shortest 15S interval, and the blind zone data will be uploaded to the backend when the GPRS is back online. The blind zone compensation data can be saved up to 1000.

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 15 degrees), and a timing feedback message is added to ensure that the driving track is more accurate.



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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 server interprets the specific location.

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.

4.2 【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), the vehicle terminal reports a low voltage alarm to the backend

4.2.2 Over speed, low speed alarm

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

4.2.3 Vibration alarm

The device activates the vibration alarm function. After the device is turned off for more than 10 minutes (the fortification range: 1~20 minutes), the device generates



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vibration and the ACC is not connected within 3 minutes (delay range: 1~10 minutes), and the device will report the vibration alarm information.

4.2.4 Displacement alarm

An alarm is generated when the device is set to a displacement of more than 100 meters (message mode prompt), and the alarm information is reported when the displacement radius exceeds 100 meters when the device is turned off. (Note: displacement range 100~2000m)

4.2.5 GPS error alarm

When the terminal 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 Intelligent Power Save

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

4.3.2 Intelligent 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 backend can also query the current model, version, configuration, running status, and device functions of the terminal.



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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 backend along with the vehicle positioning data; the initial mileage can be set when the vehicle is installed.

4.3.5 Remote Configuration

To remote set the terminal parameters including IP, center number and various of monitoring parameters via the backend

4.3.6 Remote Upgrade (OTA)

As long as GPRS is available, remote firmware upgrade can be done remotely

4.3.7 Dual IP or Domain

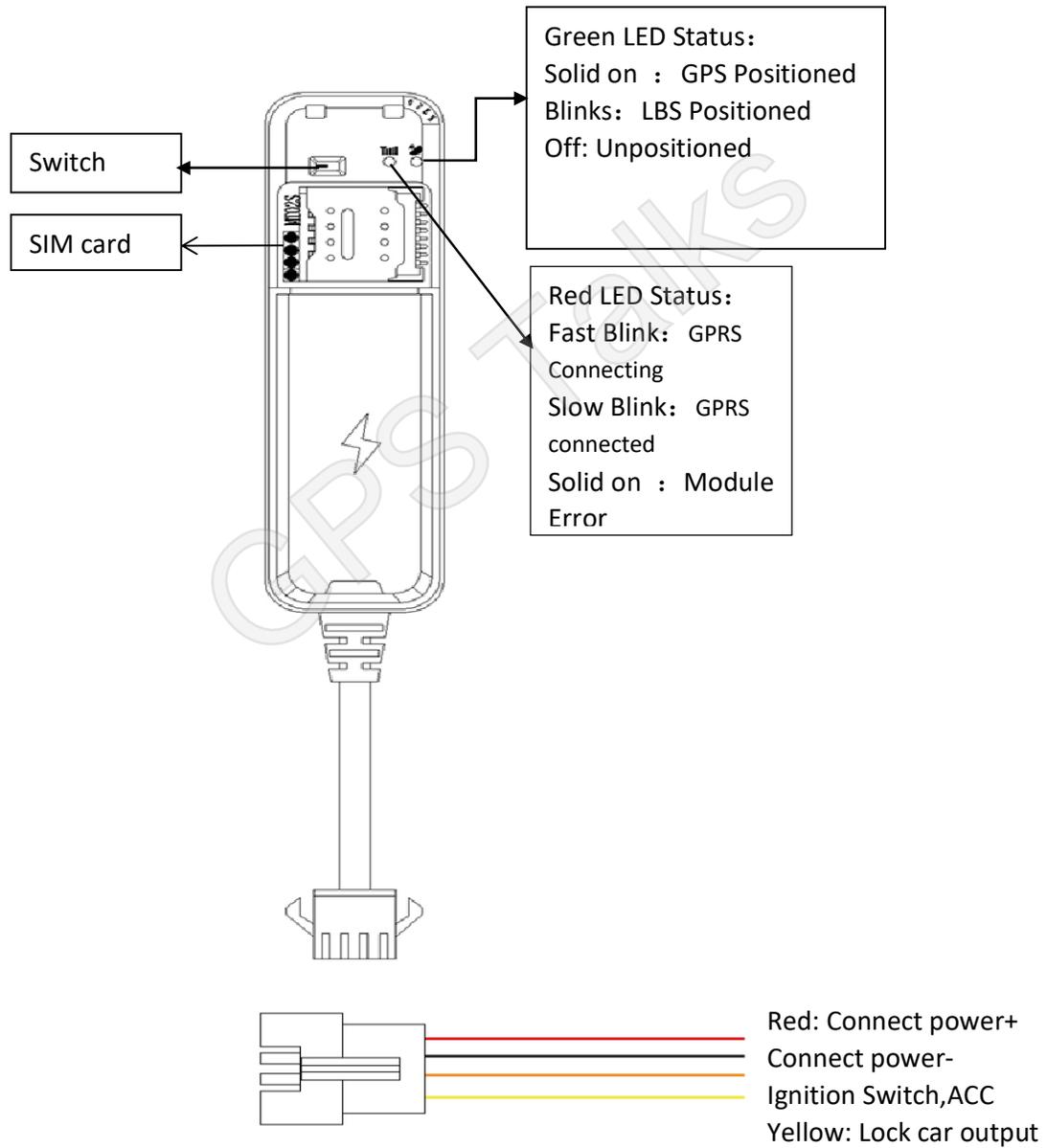
The terminal supports dual IP connection between the primary server and the standby server. The default connection is the primary server. If there is a problem with the primary server, the terminal automatically switches to the standby server. The primary server and the standby server can be set in either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

4.3.8 JTT808 protocol

This is government protocol in China, it supports connection to any platform that support JTT808 protocol

Chapter 5: Installation guide

5.1 Installation Diagram





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5.2 Installation and debugging process

5.2.1 SIM installation

Open the top cover of the terminal, 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 know the SIM card number.

5.2.2 Main unit power on

After installing the SIM card, turn the battery switch to the ON position. At this time, the red light starts to flash, indicating that the terminal is power on

5.3 Parameter setting

Note: The terminal is with built-in ID number, the factory can preset the customer's IP port, generally do not need to do parameter setting; if you need to modify the IP, follow the below instructions. The following two methods require the SIM card to start the SMS function.

TCP/UDP connection mode setting

For example, the client's server IP is: 119.23.233.52, port number: 8881. If it is a TCP connection method, use SMS to edit: *88*1119023233052*8881*1#; if it is UDP connection, edit:

*88*1119023233052*8881*0#. The terminal will reply: set ok, the setting is successful.

MT02S 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.



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