Kingwo

MT02S

USER MANUAL

GPS Tracking sulutions

PRODUCT MANUAL

Shenzhen Kingwo IoT Co., Ltd.

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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01 Production Intruduction

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.

Product appearance

02 Function

Function-Position

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 uploads data including longitude, latitude, speed, direction, and status information.

Timely Monitor

The device 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.

Blind Zone Compensation

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.

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.

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.

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.

Alarm Function

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.

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.

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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Towing 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)

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)

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.

Intelligent function

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 is detected for a long time, the terminal 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.

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.

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.

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.

Remote Configuration

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

Remote Upgrade (OTA)

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

Dual IP or Domain

The device 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 device automatically

switches to the standby server. The primary server and the standby server can be set in either IP or domain name.

JTT808 protocol

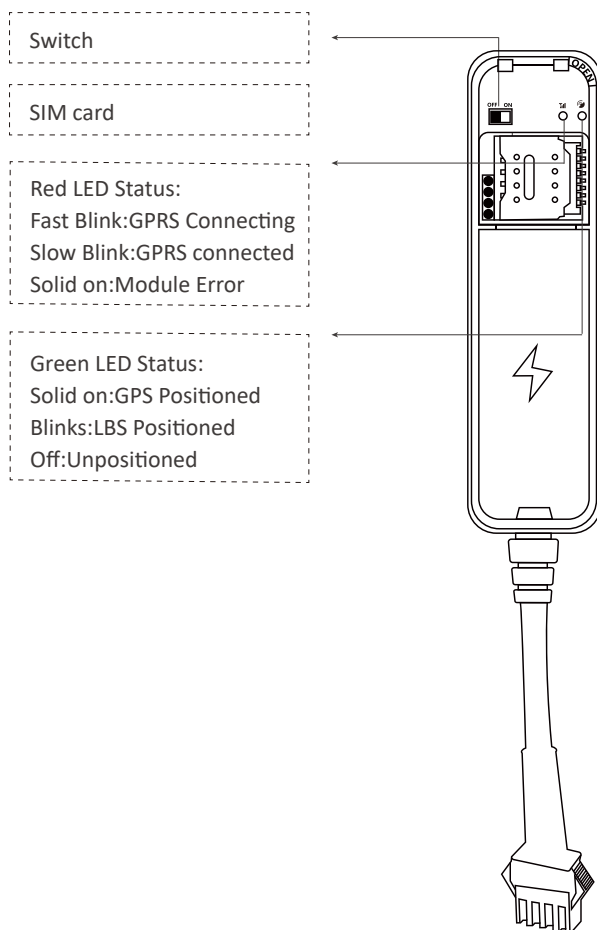This is government protocol in China, it supports connection to any platform that support JTT808 protocol
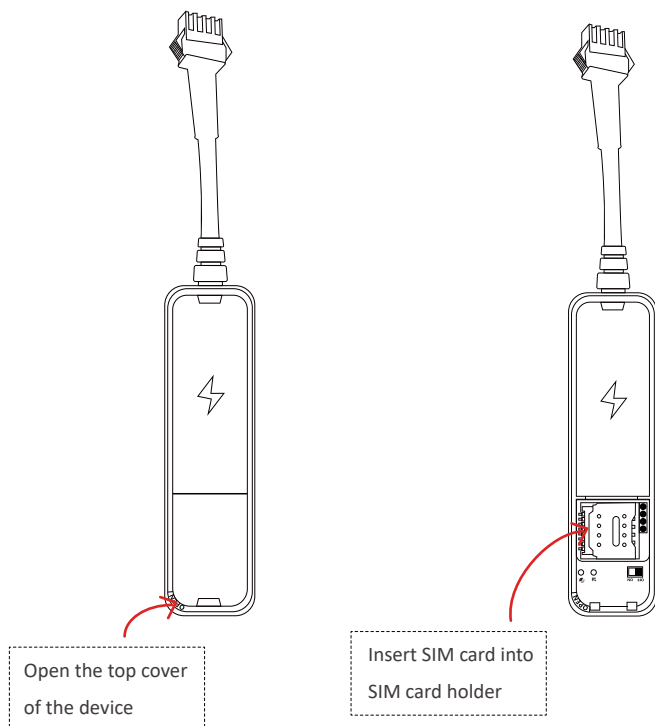
03 Parameters

Main Unit

Characteristics	Description
Working Voltage	DC 9V-36V，applicable to12V/24V vehicles
Working current	Average current<40mA（DC12V）， Maximum current<100mA（DC12V） Sleep current<10mA
Built in battery	110mAH,3.7V，Lithium polymer battery
Battery protection	Anti-200V power supply reverse connection; main voltage detection;
Dimension	82mm*23mm*13mm（L*W*H）
Weight	26±3g
Memory	1300 pcs of data storage
Working Temperature	-20℃～70℃
Storage Temperature	-40℃～85℃
Relative humidity	5%～95%
Frequency	Quad band：GSM 850/900/1800/1900MHz
GNSS Parameters	GPS L1:1575.42MHz C/A Code BD2 B1: 1561.098MHz C/A Code

04 Installation guide

① 【Installation and debugging process 】

Switch

SIM card

Red LED Status:
Fast Blink:GPRS Connecting
Slow Blink:GPRS connected
Solid on:Module Error

Green LED Status:
Solid on:GPS Positioned
Blinks:LBS Positioned
Off:Unpositioned

Open the top cover
of the device
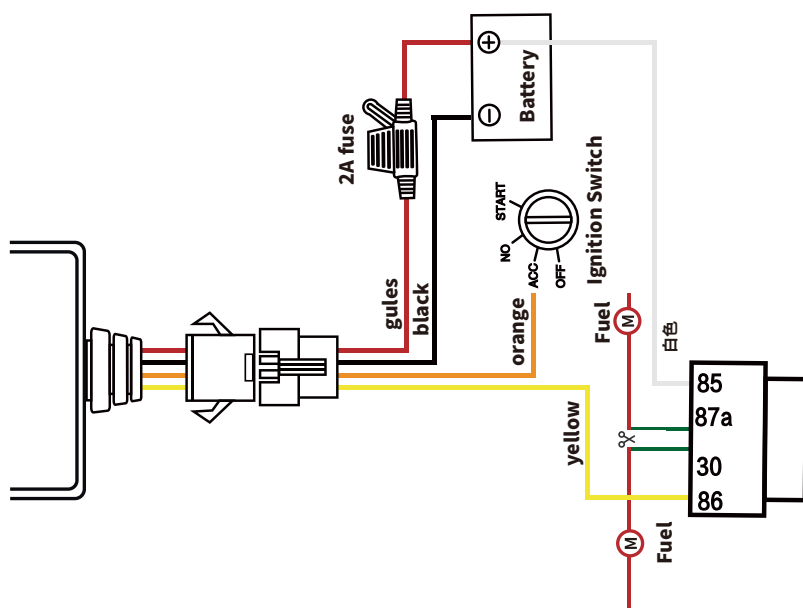
Insert SIM card into
SIM card holder

SIM card 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 know the SIM card number.

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.
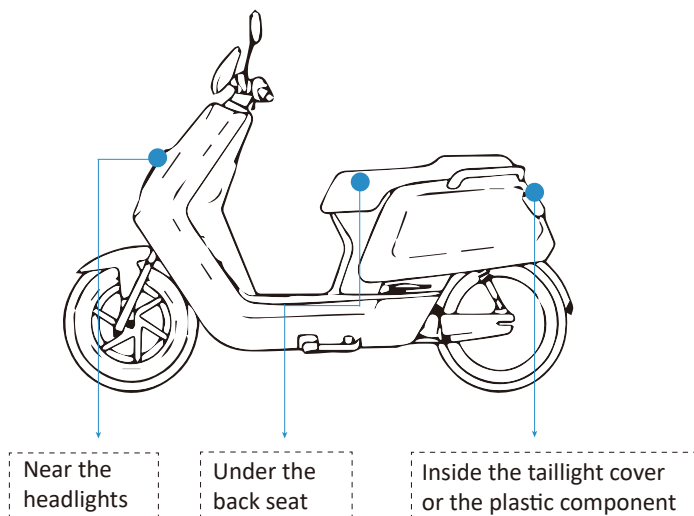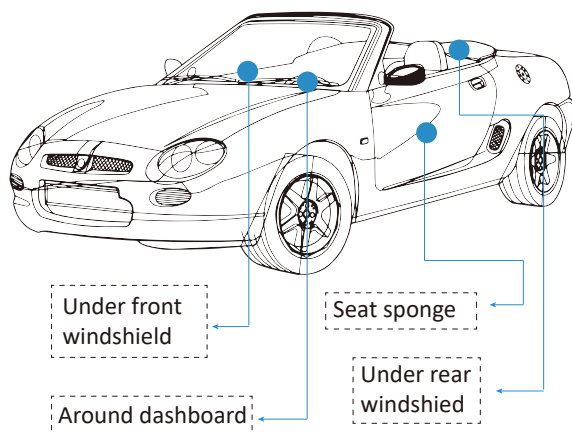
② 【Terminal connection】

Battery

2A fuse

Ignition Switch

START

NO

ACC

OFF

gules

black

orange

Fuel

M

白色

85

87a

30

86

yellow

Fuel

M

Terminal connection

Turn off the battery switch and connect the power line to the corresponding signal line of the vehicle in turn according to the definition of wire material. After the above connection, the blue light of the device indicator light is always on (flickering) and the red light is slowly flashing, indicating that the power supply is normal. After that, the battery switch can be turned on and the terminal connection is completed.

③ 【Recommended Installation place 】

Under front windshield

Seat sponge

Around dashboard

Under rear windshied

Near the headlights

Under the back seat

Inside the taillight cover or the plastic component

Note: Make sure the equipment is on-line before installation.

④【Parameter setting by SMS 】

Note: The device is with unique ID number, the factory can preset t IP, port and APN, generally do not need to do parameter setting; if you need to modify the IP, follow the below instructions, make sure the SIMs has SMS functions available:

HC,<T1>,<T2>,<T3>#

Set the upload interval in real time tracking mode:

T1: upload interval in ignition on status, range,5-300s ,default 15s

T2: Upload interval in ignition off status ,range 5-300s, default 120 s

T3：Sleep return interval, range 10-1800 s, default 180

For example:

HC,30,90,300# Set the upload interval as 30s, 90 s in ignition off and 300s while in sleep mode

UTC,TTTT#

Set time zone，unit minutes, default UTC+8:00

For example:

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

WY,<A>[,R,M]#

Set towing alarm:

A: On and off，1:On 0:Off (Default is off)

R: Towing radius，Default 500 meters，Range： 100-2000 meters

M: Alarm mode，Optional (M=0:GPRS,M=1:SMS+GPRS)

Eg：WY,1,100,1# towing alarm on，radius 100 meters notification mode:GPRS+SMS

LOCKACCOFF,A#

Set vehicle lock

A=0 Receive lock command, execute immediately

A=1 Receive lock command, if ACC is off, execute immediately, if ACC is on, store this command until ACC off

A=2 Store the command, lock vehicle from ACC Off to On, if the communication is well, lock vehicle, otherwise wait for next turn

For example： LOCKACCOFF,0# means execute the lock command immediately after receiving it

APN,apn,user,pswd#

Set APN, User name and password

For example： APN,CMNET,internet,internet#

  APN:CMNET

  Username: internet

  Password: internet

*22*1#

Restore to factory setting

*22*2#

Lock vehicle

*22*3#

Unlock vehicle

*22*4#

Reboot device

IP,ip or dns,port,type#

IP,119.23.233.52,9881,1#

Set the primary server IP:119.23.233.52， port 9881， communication type:TCP

IP,www.365qczx.com,9881,0#

Set the primary server domain:www.365qczx.com， Port 9881， communication type UDP

IP2,ip or dns,port,type#

IP2,119.23.233.52,9881,1#

Set the backend server IP:119.23.233.52,port 9881， communication type is TCP

IP2,www.365qczx.com,9881,0#

Set the backend server domain:www.365qczx.com， port 9881， communication type: UDP

IP2,,0,0# Delete backend server parameter

Usage Requirements

The terminal is strictly forbidden to use according to the operating instruc-tions ,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 compensa-tion will be provided by KINGWO.

FCC WARNING STATEMENT

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: -- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from
    that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1)   This device may not cause harmful interference, and

(2)   This device must accept any interference received, including interference that may cause undesired operation.

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