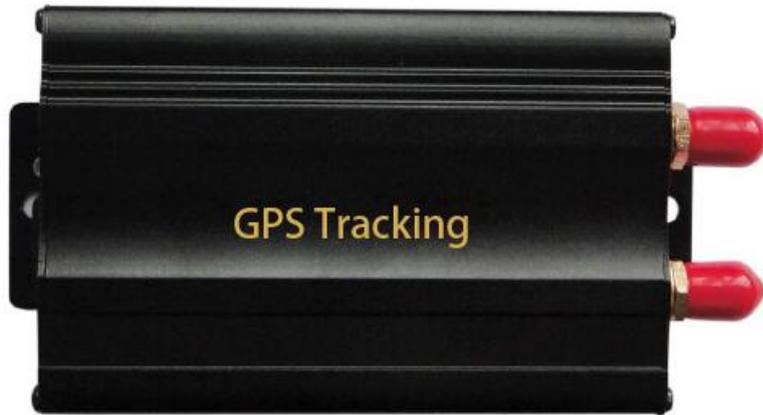


GSM/GPRS/GPS Vehicle Tracker TK103A/TK103B User Manual



Preface

Thank you for purchasing the tracker. This manual shows how to operate the device smoothly and correctly. Make sure to read this manual carefully before using this product. Please note that specification and information are subject to changes without prior notice in this manual.

Any change will be integrated in the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

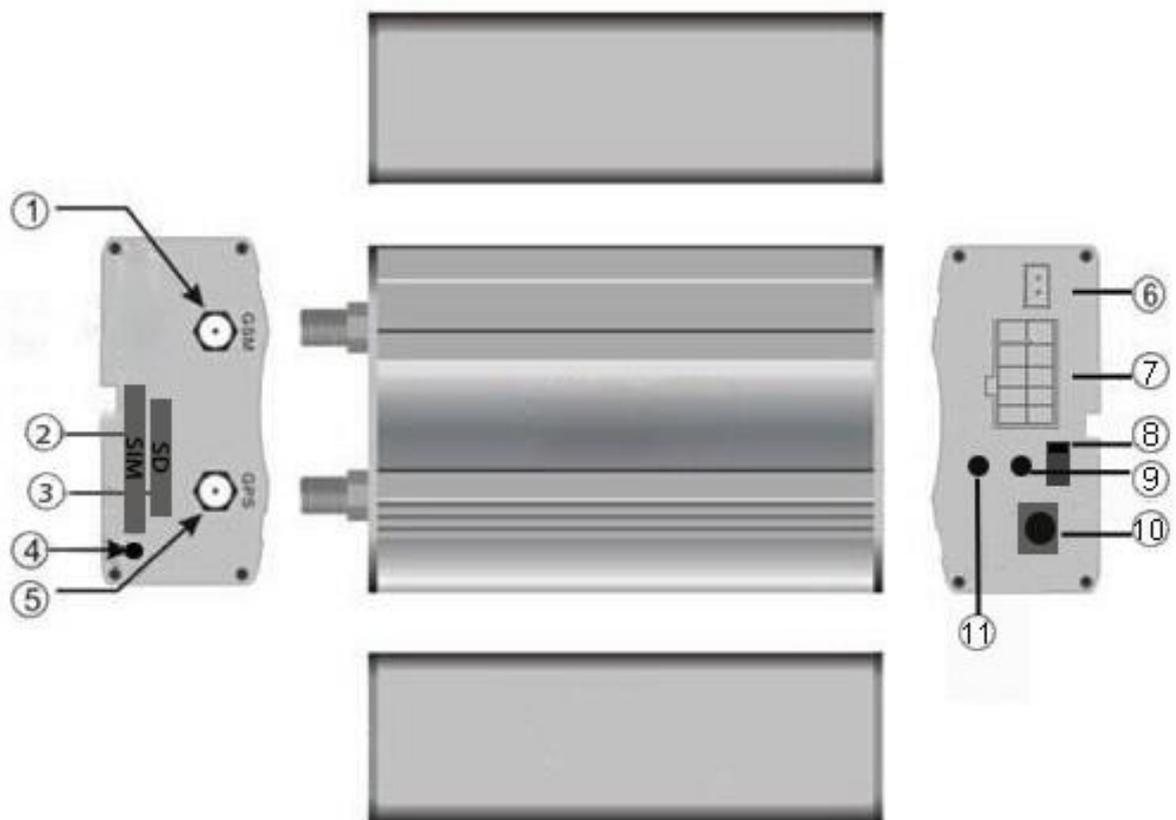
Contents

1. Introduction.....	3
2. Hardware Description.....	3
3. Accessories Name.....	4
4. Specifications.....	4
5. Operating Instructions.....	5
6. Function setting.....	8
6.1 Initialization.....	8
6.2 Change Password.....	8
6.3 Authorization.....	8
6.4 Set up central number.....	9
6.5 Single Tracking.....	9
6.6 Continuous Tracking Automatically.....	10
6.7 Cell ID Tracking.....	10
6.8 Modes switch between “track” & “monitor”.....	11
6.9 Data logging(Optional).....	11
6.10 Alarms.....	11
6.10.1 Low battery alarm.....	11
6.10.2 Power off alarm.....	12
6.10.3 SOS alarm.....	12
6.10.4 Geo-fence alarm.....	12
6.10.5 Overspeed alarm.....	13
6.10.6 ACC working alarm.....	13
6.10.7 Vibration alarm.....	13
6.10.8 Set all alarm mode.....	14
6.11 Cut Oil and Power System.....	14
6.12 Oil detection and alarm function (Optional).....	14
6.13 Arm.....	15
6.14 Function of Remote Controller (TK103B optional).....	15
6.15 Disarm.....	16
6.16 Switch between GPRS and SMS Mode.....	17
6.17 Check the Vehicle State.....	17
6.18 IMEI Checking.....	17
6.19 Timezone Setting.....	18
6.20 GPRS Setting.....	18
6.20.1 Set APN.....	18
6.20.2 Set IP(DNS) and Port.....	19
6.21 Web platform GPS tracking software.....	19
7. Cautions.....	20
8. Faults & the Solutions.....	21

1. Introduction

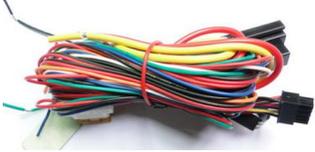
The tracker working based on the GSM/GPRS/LBS/AGPS network and GPS satellite positioning system, which set multiple functions of security, positioning, monitoring surveillance, emergency alarms and tracking in its entirety. It can track and monitor remote target by SMS or internet.

2. Hardware Description



- | | |
|---|-------------------------------|
| ① GSM Antenna jack | ⑥ USB jack |
| ② SIM card slot | ⑦ Power wire connection jack |
| ③ SD card slot | ⑧ Turn ON/OFF switch |
| ④ SIM card slot Pop-up switch | ⑨ Power/GSM/GPS LED indicator |
| ⑤. GPS Antenna jack | ⑩. Microphone jack |
| ⑪ Remote control receiver antenna (TK103B Optional) | |

3. Accessories Name

NO.	PHOTOES	NAME	NOTE
1		GPS Antenna	2.5 meters
2		GSM Antenna	1.5 meters
3		Microphone	1.5 meters
4		Power wire	10PIN
5		Relay	12V/40A
8		Remote control	TK103B Optional

4. Specifications

Content	specifications
DIM.	81.8mm x 35.7mm x 60.3mm
Weight	60g
Network	GSM/GPRS
Band	850/900/1800/1900Mhz
GSM/GPRS Module	MT6260M
GPS Module	Ublox7020
GPS Sensitivity	-159dBm
GPS Accuracy	5m

GPS Start time	Cold status 45s-90s Warm status 35s Hot status 1s
Voltage of car power system	12 V-24V
Backup battery	Chargeable changeable 3.7V 500mAh Li-ion battery
Storage Temp.	-40°C to +85°C
Operation Temp.	-20°C to +65°C
Humidity	5%--95% non-condensing

5. Operating Instructions

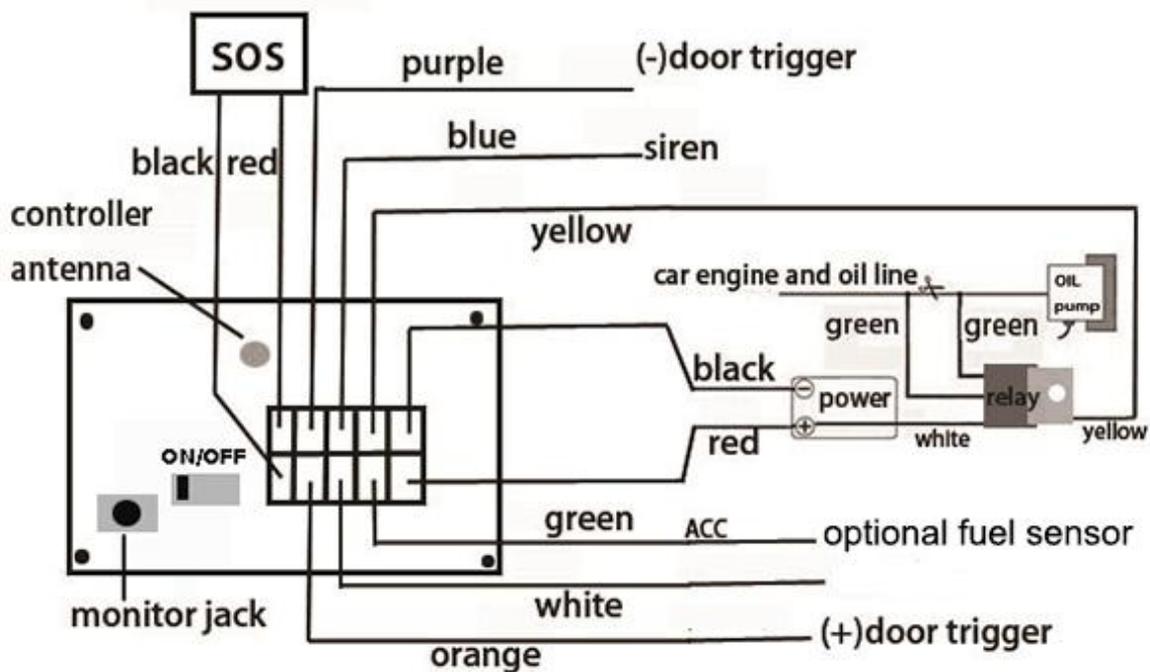
5.1 Terminal Installation

5.1.1 Please ask the qualified engineers to install it.

5.1.2 Do not install it in a environment which is more than GSM performance, And please pay attention to fix the antennas in a exactly position with good signals.

5.1.3 Pay attention to make installation location preventing water and dust.

5.1.4 Find the 10 PIN harness and insert it into the corresponding holes of the products, and connect the wires with the original car circuit showing below:



Wiring diagram

5.1.5 Note: The blue wire can be connected to the original car alarm horn;

5.1.6 Know about the type of the door trigger voltage is positive or negative trigger. Please connect the orange wire to the door control circuit if door trigger voltage is high; connect purple wire if door trigger voltage is low. Only can connect 1 wire orange or purple, no need connect at same time.

5.1.7 Please install the SOS button on the place driver can touch.

5.1.8 Insert the external monitor Microphone into the monitor jack.

5.1.9 Connected the GPS and GSM antenna to the right jack, and find a appropriate place and fix the antennas to make sure it receive signals very well.

5.1.10 Fuel sensor wiring: it need connect optional external fuel sensor.

1) red connects positive +

2) Black connects negative –

3) Fuel sensor blue signal wire connects to device white wire

5.2 SIM CARD Installations

5.2.1 Use a tweezers or a sharp thing to touch the SIM CARD popup switch, the SIM CARD slot will pop up, take out the SIM card slot and put SIM card in it. And then put the SIM card slot back to its original position after confirm the SIM card in the right place.

5.2.2 Please make sure that the SIM card is able to execute the function of incoming calls display, no calls can be diverted and the PIN code is locked. The SMS format must be TXT format, and can't recognize the PDU format.

5.3 Turn on the Tracker Device.

Note: Turn on the ON/OFF button to ON place.

5.3.1 Connect the positive and negative wire, red and black ones, with 12V or 24V car power system, wait for 1 minute after connecting power to wait tracker works normal.

5.3.2 Signal light status

GSM/GPS Signal Light	GSM	GPS
Red light stable on	normal	/
Red light flashing	No signal or can't read SIM card	/
Blue light stable on	/	normal
Blue light flashing	/	Not located or in sleep mode

6. Function setting

6.1 Initialization

Send SMS “**begin+password**” to the unit, it will reply “BEGIN,CONFIG OK ” and initialize all the settings to default factory settings. (default password: 123456)

For example: send SMS “begin123456”, it will reply “BEGIN,CONFIG OK ”.

The “+” in the command, please don’t type “+”, space means press the space keyboard on your cell phone.

6.2 Change Password

6.2.1 Send SMS “**password+old password+space+new password**” to the unit to change the password.

For example: send SMS “password123456 888888” to the unit. If succeeded, “PASSWORD,CONFIG OK” will reply to your cell phone from the device tracker.

6.2.2 Make sure the new password is in 6 digits, or else the tracker cannot recognize the password.

6.3 Authorization

There are 5 numbers to be allowed to authorize in the tracker at most.

6.3.1 Authorization: Send SMS“**admin+password+space+cell phone number**”

to set up an authorized number, the other central number should be set by the first authorized number, if the number is successfully authorized, the unit will reply "ADMIN,CONFIG OK" by SMS.

6.3.2 Delete authorization: Send SMS "**noadmin+password+space+authorized number**" to delete the authorized number.

6.4 Set up central number

Only 1 number can be set as central number. All alarms will send to central number only.

6.4.1 Setup: send command "**centernum+password+space+number**" to tracker, it will reply "centernum ok". After setup monitor center number, the messages of auto track by SMS will be set to this center number, if all alarms need to be sent to this number too, then this center number must be setup as authorized number.

6.4.2 Cancel: Send "**centernum+password**" to tracker, it will reply "CENTERNUM,CONFIG OK".

6.5 Single Tracking

Make a missed call or send SMS "**smslink123456**" to device number, it will reply a real time tracking message include Long & Lat info.



<http://maps.google.com/maps?q=N22.674878,E114.023439> Speed:0 km/h
Time:10:46:12 Date:13/12/12
IMEI:366866020133735
接收时间 : 11:38

6.6 Continuous Tracking Automatically

6.6.1 Send SMS command “**ITV+password+space+moving time interval+space+static time interval**” to the tracker device.

6.6.2 For example: send SMS “ITV123456 10 500” it will report data to server at 10s time interval when vehicle is moving; 500s time interval when vehicle is static.

6.7 Cell ID Tracking

6.7.1 You must set up the APN of your local GSM network for the SIM card in tracker first before using this function, if there is user name and password for GPRS login, Please refer to following to configure the APN, user name and password for GPRS login.

6.7.2 After configure the APN, send SMS “**cell+password**” to device, it will reply SMS with nearest GSM tower cell ID info.

6.7.3 LBS data upload to server: Under normal circumstances, the device is reported last valid location data to server when devices can't receive GPS signal, when you need to activate LBS tracking function, Set command: "**LBS+password+space+1**" to enable the function, the LBS tracking data will transmit to platform server when GPS is not available.

SMS command to deactivate: "**LBS + password +space+0**".

6.8 Modes switch between “track” & “monitor”

6.8.1 The default mode is “track” (track mode).

6.8.2 Send SMS command "**monitor+password**" to tracker device of vehicle terminal, it will reply "MONITOR,CONFIG OK" and switch to “monitor” mode. In this mode, the user can dial up the tracker device to monitor the voice.

6.8.3 Send SMS command "**tracker+password**" to tracker device of vehicle terminal, It will return "TRACKER,CONFIG OK" and restore to “track” mode.

6.9 Data logging(Optional)

6.9.1 Auto logging: When the tracker device lost GSM signals or fall offline from GPRS, tracker will log the tracking position and alerts automatically in the SD card on the basis of the pre-set condition, when GSM signals get back, all the event alerts will be auto-sent to the authorized numbers or monitoring platform (server), but the logged tracking data should be loaded to the monitoring platform via SMS command. (Must insert TF card)

6.10 Alarms

Note: All Alarms will be sent to Central Number Only.

6.10.1 Low battery alarm

6.10.1.1 Send SMS “**lowbat+password+space+1**” to activate the function, it will send SMS“low battery+latitude/longitude” to central number when voltage of battery is below about 3.6V.

6.10.1.2 This function disactivates as default, send SMS “**lowbat+password+space+0**” to deactivate.

6.10.2 Power off alarm

6.10.2.1 Send “**extpower+password+space+1**” to activate, it will send SMS “power alarm+latitude/longitude” to central number when external power is cut off.

6.10.2.2 This function disactivates as default. Cancel: Send SMS “**extpower+password+space+0**” to deactivate it.

6.10.3 SOS alarm

Long Press the SOS button for 3 seconds, (Or press button on remote



controller for 3 seconds) , the tracker device will send SMS “ help me!+lat./long.” to all the central number.

6.10.4 Geo-fence alarm

Set up a geo-fence for the tracker device to restrict its movements within a district. The unit will send SMS to the central number when it detects alarm.

Remark: 0 represents close alarm; 1 represents out fence alarm.

6.10.4.1 Set Up:

Send SMS“**stockade+password+space+semi-diameter+space+alarm type**” to unit to set the restricted district. In case of breach, it will send SMS “stockade!+geo-info” to the central number.

For example: send SMS “stockade123456 500 1” stands for based on device current coordinates as center, 500 is semi-diameter, set 1 as out fence alarm

type.

6.10.4.2 Cancel: Send SMS “**nostockade+password**” to deactivate this function.

6.10.5 Overspeed alarm

6.10.5.1 Set up: Send SMS “**speed+password+space+80**” to the unit(suppose the speed is 80km/h),and it will reply “speed OK!”. When the target moves exceeding 80km/h.the unit will send alert the central number.

6.10.5.2 Cancel: Send SMS “**speed+password+space+0**” to deactivate the overspeed alarm.

Remark: It is recommended that the speed alarm is set at not less than 30km/h.For below that rate; it may cause the excursion of the GPS signal influenced by clouds etc.

6.10.6 ACC working alarm

6.10.6.1 This function is disabled as default. To active this functions, send "**ACC+password+Space+1**" to tracker, it will reply "ACC,CONFIG OK". And tracker will send alert to central number when detect ignition action, that means the vehicle has been started.

6.10.6.2 Send "**ACC+password+Space+0**" to disabled this function, tracker will reply "ACC,CONFIG OK".

6.10.7 Vibration alarm

Send SMS “**vibrate+password+space+0**” to deactivate this function.

Send SMS “**vibrate+password+space+1-3**” to set up vibrate level from 1 to 3

(1 is strongest level, 3 is lowest level)

6.10.8 Set all alarm mode

Send SMS "**KC +password+space+0**" to tracker to close the function.

Send SMS "**KC +password+space+1**" to tracker to choose alarm by SMS.

Send SMS "**KC +password+space+2**" to tracker to choose alarm by calling.

6.11 Cut Oil and Power System

6.11.1 cut off the oil and power system

Send SMS command "**DY+password+space+1**" to the tracker device, it will reply "DY CONFIG OK" to your cell phone from the tracker device, and stop your car oil pump or elec as well.

6.11.2 Resume the oil and power system

Send SMS command "**TY+password+space+1**" to the unit, It will reply "TY,CONFIG OK" and resume your car oil pump or electricity as well.

6.12 Oil detection and alarm function (Optional)

Note: This function need connect optional external fuel sensor, the length depends on fuel tank size.

1)Oil detection measurement accuracy error around 1%; platform support refueling, oil leakage alarm; also supports SMS alarm, when the oil account less than 15%, the device send SMS to center number, prompt low oil alarm.

2)Set command: "**oil+password+space+1**", SMS command to deactivate:

"oil+password +space+0".

6.13 Arm

6.13.1 Set up arm by SMS

6.13.1.1 Send SMS command “**DOOR+password+space+1**” to the tracker device in the vehicle. It will reply “DOOR,CONFIG OK” in both armed and disarmed state, and the SMS command will make the tracker device enter into armed state if the unit currently disarmed. Remote set arm and disarm, the horn will ring; when the door was opened illegally, horn ringing until the door was closed or disarm.

6.13.1.2 User must stop the engine, (that is ACC is lower voltage).Sending SMS “DOOR+password+space+1” when close the door and left. You will set up arm status fail if the engine is turned on (the ACC is high voltage).

6.13.2 Set up arm by remote controller (TK103B optional)

Press  button on the remote controller for 0.5 seconds, the car enters into armed state and the siren will beep one time, no SMS reply.

6.14 Function of Remote Controller (TK103B optional)

Button	Function	Description
	ARM	Press  for 1 time, siren will beep 1 time

	DISARM	Press  for 1 time, siren will beep 1 time
	SOS	Press  for 1 time, tracker will send SOS alert to central phone numbers.
	Deterrence/car search	Press  for 1 when it is in arm state, siren will beep all the time, press  disarm button to quit.

Remote set arm and disarm, the horn will ring; when the door was opened illegally, horn ringing until the door was closed or disarm

6.15 Disarm

6.15.1 Disarm by SMS

Send SMS command "**DOOR+password+space+0**" to the tracker device in the vehicle, It will reply "DOOR,CONFIG OK" in both armed and disarmed state, and the SMS command will make the tracker device enter into disarmed state if the unit currently armed. When vehicle detect door alarm, siren will beep all the time until opening the door or cancel the door alarm.

6.15.2 Disarm by remote control (TK103B optional)

Press  button on the remote control, the car enters into disarm state, and the siren will alarm two times, no SMS reply.

6.16 Switch between GPRS and SMS Mode

Send SMS “**GPRS+password+space+1**” to tracker device to switch to GPRS mode; Send SMS “**GPRS+password+space+0**” to tracker device disable GPRS mode. Both will reply “GPRS,CONFIG OK”.

6.17 Check the Vehicle State

Send SMS command “**check+password**” to the tracker device in the vehicle, it will reply following SMS:

```
CHECK,Imei:355488020116873,A
pn:CMNET,IP:116.205.4.114:8169,
Cnum:,Gps:1,Gsm:100,itv:20,500,
TZ:0,OS:1,GF:500,1,0,vib:5
```

imei: unique IMEI number for register intracking platform.

apn: APN info. Of SIM card.

IP: server IP and Port number.

Cnum: central number for receive alarms.

GPS: 1 means GPS working, 0 means searching signal, -1 means GPS sleep for lower power consumption purpose.

GSM: 100 means GSM signal value normal.

ITV: moving time interval is default 20s, static time interval is 500s.

TZ: time zone is default GMT 0.

OS: overspeeding alarm, 0 means deactivate, 1 means activate.

GF: 500,1,0: Geo-fence function, 500meters, “0,1” represent enter fence alarm.(0,0 close alarm; 1,0 out fence alarm; 1,1 out /enter fence alarm).

Vib: vibration level.

6.18 IMEI Checking

6.18.1 Send SMS command "**getimei+password**" to the unit. E.g. Send SMS command "getimei123456" to the tracker device, an IMEI number in 15 digits will reply to your cell phone.

6.18.2 Send SMS command "**setimei+password+space+15 digits IMEI number**" to the unit.

E.g. Send SMS command "setimei123456 123456789012345" to the tracker device, it will reply SMS "SETIMEI,CONFIG OK".

6.19 Timezone Setting

6.19.1 Send SMS command "**timezone123456+space+(timezone*60)**" to the tracker unit, If succeed, It will reply "time OK"

6.19.2 For example: Send SMS "timezone123456 330", +5.5 is India time zone, so it is $5.5*60=330$; If your country time zone is minus -6, send SMS "time zone123456 -360".

6.20 GPRS Setting

User must send SMS via cell phone to set up APN, IP and port before starting tracking by GPRS on tracking system.

6.20.1 Set APN

1) APN standards for Access Point Name and differs from country to country.

For more information about your local APN, please inquire with your local GPRS network operator.

2)Send SMS "**APN+password+space+local APN+space+APN name+space+APN password**" via a cell phone and if succeeded, the tracker will return the message "APN OK".

3) E.g. Send SMS command “APN123456 CMNET”. If succeeded, it will reply SMS “APN OK”

Notes: CMNET is the APN of one of china GPRS Network Operator (China mobile), it has no APN name and Password.

6.20.2 Set IP(DNS) and Port

Send SMS: “**adminip+password+space+IP Address(DNS)+space+port number**”, If succeeded, it will reply “ADMINIP,CONFIG OK”.

E.g. Send SMS: “adminip123456 116.205.4.114 8169” to the tracker device, (116.205.4.114 is IP, 8169 is port).

6.21 Web platform GPS tracking software

Further details please contact manufacturer.

Web platform features as below:

- ◆ Real time tracking
- ◆ History trace replay
- ◆ Platform disable oil or recover oil
- ◆ Multiple user fleet management
- ◆ Detect vehicle alarms and status
- ◆ Support Andriod & IOS APP tracking

7. Cautions

Please comply with the instructions to extend the unit life:

1. Keep the unit dry. Any liquid, i.e. rain, moisture, may destroy or damage the inside circuitry.
2. Don't use & store the unit in dusty places.
3. Don't put the unit in overheated or overcooled places.
4. Handle carefully. Don't vibrate or shake it violently.
5. Clear the unit with a piece of dry cloth. Don't clean in chemicals, detergent.
6. Don't paint the unit, this may cause some foreign materials left in between the parts.
7. Don't disassemble or refit the unit.
8. Please read the user manual carefully before installation and operation, learn something more about the voltage range. Otherwise, it won't work properly or destroy the product.

8. Faults & the Solutions

Faults	Solution
Startup Fail	Please check out the power wiring in correct place.
Call Fail	Check the GSM antenna connected.
Hang up Fail	In existence of an authorized number, Please initialize the unit and re-set up the central number.
Monitor Fail	Check if the authorized number is setup
Location report in digits of zeros.	Check out if the GPS external antenna well.

Guarantee Card

User Name		Phone	
Address			
Model No		IMEI No	
Purchase Date		Invoice No	
Seller Name			
Address			
Seller Contact			
<p>1. Within warranty period, if any damage caused by the product's own quality, user can bring the purchasing invoice and warranty card to supplier to arrange repair.</p> <p>2. Those machines that has refitted or added other functions by user own will not be accepted to repair.</p> <p>3. Attempt to disassemble the product can damage it and void your warranty.</p> <p>4. This card and the purchasing invoice are both considered as a receipt for repair, please reserve it carefully.</p>			