GPS Motorcycle/Vehicle Tracker

USER MANUAL

(Model: MT113)

TOPTEN®

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Version 1.0

(Date: Mar., 2011)

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Preface

MT113 GPS Motorcycle/vehicle tracker is the cost-effective solution for security & real-time tracking. It is specially used for motorcycle tracking because of its compact size and water-proof design.

Read it Firstly:

Please read this manual thoroughly before you use the device; please keep it for future reference.

Attention:

(1) Please keep the device away from heavy water, high temperature, heavy dust or strong magnetism.

(2) Please prepare a valid GSM SIM card in advance.

(3) For safety reason, do not tell other people the mobile phone number of your MT113.

Warning:

We strongly suggest user let the professional car electrician to install the system.

I. Features & Functions

1. Track on command or by time interval via SMS/GPRS.
2. Arm/disarm by SMS or phone call.
3. Check the <u>car's real physical address (such as city name, street name..(need support of the TS01 or TS03 center)</u>;
4. Track by mobile SMS to get the latitude, longitude, speed, direction & odometer etc.
5. Check the location directly by the <u>Google map's URL</u>;
6. Online website tracking by GPRS data network;
7. <u>Odometer</u> function
8. Movement alert;
9. Geo-fence alert;
10. Over-speed alert;
11. SOS button to call for help in case of emergency;
12. <u>Inbuilt motion sensor</u> has 2 kinds of usages (1)it arming status, if the vehicle/motorcycle is vibrated, it will trigger alarm (2)The system will enter into sleep mode for power saving if there is no vibration for a certain time.
13. Inbuilt 512Kb memory to store the offline GPS data;
14. Built-in rechargeable backup battery; when the car battery is cut off or low enough, the built-in 800mAH backup battery can work for emergency, and the system will send out power failure alert immediately.
15. Cut off engine to stop the car safely by SMS/GPRS;(optional)
16. I/O: 2 input and 1output
17. Compact size with <u>water-proof</u> design

II. How to Operate it

The default user password is **000000**.

If the user password is changed, user should send the SMS command with the new user password instead of 000000.

XXX is the control code, all the letters must be **capital letters or in small letters**, command with mixed capital letter & small letter is not recognized by system

Arm/Disarm by Phone Calling

User could also use the alarm-received mobile phone to call the tracker's SIM card number, so as to arm/disarm the system.

Arm: After hearing several ring tones, if the systems hang up the call automatically, and call back you, it means that the system is armed.

Disarm: After hearing several ring tones, if the system hangs up the call automatically, and don't call back you, it means that the system is disarmed.

Note:
(1) There is no communication fee for this operation, it is a very convenient way to arm & disarm the system.
(2) The SIM card inside the device must have the function of Caller ID Display.
(3) Only the **alarm-received mobile phone** can realize this function.

Arm/Disarm the System by SMS

SMS command: **000000ARM**   (or **000000arm**)

This SMS instruction is used to arm the system

When the system is armed, the movement alert is activated automatically. When the motorcycle/car moves, the alarm will be triggered.
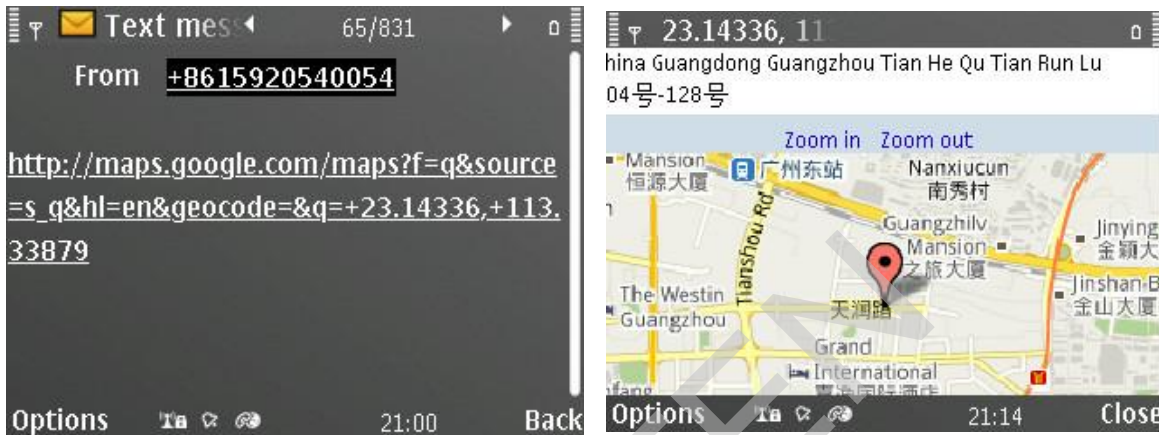
SMS command: **000000DSM**   (or **000000dsm**)

This command is used to disarm the system & stop sending alert SMS.

Check the location by Google Map's URL

SMS command: **000000MAP**　　(or **000000map**)

Upon receiving the SMS command, the tracker will automatically send back the SMS including the Google map's URL, user can use smart phone (GPRS data service is enabled) to open the URL link, the car's location will be showed on the Google map.

Authorize the Alarm-received Mobile

SMS command: **W******,003,F,P,Mobile No.**

****** is the user password, default one is 000000.
(F=0, to turn off this function; F=1, to send alert SMS)
(P=1, the first phone; P=2, the second phone; P=3, the third phone)

In case of alert, the alarm SMS will be sent to this preset mobile no. automatically.

Example: W000000,003,1,1,13922713571 to the tracker's SIM card number, if there is any alert, system will send alert SMS to the first mobile 13922713571

Change User Password

SMS command: **W******,001,######**

****** is old password, ###### is new password, default one is 000000

The length of the user's password is 6 digits. Users are suggested to change to the new password in use.

Example:　W000000,001,123456

Check the Real Physical Address

SMS command: **000000ADD**   (or **000000add**)

When user sends this SMS command to the tracker, the tracker will automatically send back the car's real physical address (such as city name, street name) to your mobile by SMS. There is no need for the user to setup any server, but it needs supports from our TS03 server.

Remark: (1) The GPRS data service of the tracker's SIM card must be activated, and the correct GPRS setting is needed (refer to the chapter of the setting of GPRS connection), user can set up the GPRS upload time interval to 0 so as to save the GPRS flow; (2) The physical address depends on the Google map's address information. If the place has very detailed information on Google map, then the physical address by SMS is very detailed.

Check the GPS Coordinates by SMS

SMS command: **000000CHK**   (or **000000chk**)

This instruction is used to inquiry the vehicle's location & system's status.

The system will send back the SMS, includes the similar information, such as "System is Armed……"

Stop the Car by SMS

SMS command: **000000STP**   (or **000000stp**)

This instruction is used to cut off the power supply or fuel supply, so as to stop the motorcycle/car immediately

Attention: It is very dangerous to stop the car when the vehicle is running at high speed. We do not take any responsibility to the consequence caused by this action.

Restore the Stopped Car to Normal Status

SMS command: **000000RES**   (or **000000res**)

This instruction is used to restore the car to normal status after stopping the car.

Adjust the Sensitivity of Motion Sensor

SMS command: **W******,027,S**   (S=0~3)

(S=0,disable; S=1:Max. sensitivity; S=2:medium; S=3:less)

****** is the user password, default one is 000000.

This instruction is used to adjust the sensitive of internal motion sensor.

The internal motion sensor has 2 kinds of usages (1)it arming status, if the vehicle/motorcycle is vibrated, it will trigger alarm (2)The system will enter into sleep mode for power saving if there is no vibration for a certain time.

Switch the Working Mode of Blue Line

SMS command:

000000LNK0   (or **000000lnk0**)

Default setting, in this mode, the blue line is connected to ACC ON position. In arming status, is the engine is started, it will trigger the alarm immediately.

000000LNK1   (or **000000lnk1**)

If the tracker is used to upgrade the existing normal car alarm, this SMS command needs to be sent firstly, the blue line should be connected to the positive pole of the existing car alarm's siren. Once the original alarm is triggered, the MT113 tracker will be triggered also to send out alarm message.

Other SMS Command List

Note: ****** is user's password and the default password is 000000. The tracker will only accept commands with the correct password.

Functions	SMS Command	Example
Track on Demand	W******,000	W000000,000
Remarks: To get the current location of the tracker, it carry out the same operation as ******CHK		
Track by Google Link	W******,100	W000000,100
Remarks: Remarks: Send this command to the tracker and then you receive an SMS with an http link, it carry out the same operation as ******MAP		
Change Password	W******,001,######	W000000,001,123456
Remarks: To change user's password. ###### is the new password. Password should be 6 digits.		
Auto Report by SMS	W******,002,XXX	W000000,002,010
Remarks: To set time interval for continuous automatic report via SMS. XXX is the interval in minute. If XXX=000 to turn off tracking by time. In this example, the tracker will send location data back to your mobile phone every 10 minutes.		
Set the Alarm-received Phone	W******,003,F,P,Phone	W000000,003,1,1,13922713571
Remarks: To authorize phone numbers for receiving alarm by SMS. F=0, to turn off this function; (default) F=1, sends SMS to the authorized phone number; P=1, set an 1st authorized number P=2, set an 2nd authorized number P=3, set an 3rd authorized number Phone: Preset phone number. Max.16 digits		
Over-Speed Alarm	W******,005,XX	W000000,005,08

Remarks: When the tracker speeds higher than the preset value, it will send an SMS to the authorized phone number.

XX is the preset value of speed and in 2 digits.

=00 , to turn off this function

=[01, 20] (unit: 10Km/h)

In this example, when the tracker's speed is over 80km/h, an SMS alarm will be sent out.

Geo-fence Alarm	W******,017,X W******,117,X	W000000,017, 11404.0000,E,2232.0010,N, 11505.1234,E,2333.5678,N

Remarks: 017 is for alarm when tracker moves out the preset scope; 117 is for alarm when tracker moves in.

When the tracker moves in or out, it will send an SMS alarm to the authorized phone number for SOS.

X is the coordinates which include:

Lower-left X,Lower-left Y,Upper-right X,Upper-right Y

For example, 11404.0000,E,2232.0010,N,11505.1234,E,2333.5678,N

Note:

1. Lower-left X should be less than Upper-right X;

2. All longitudes and latitudes should be in ASCII format as follows:-

Longitude: DDDMM.MMMM,E/W. 4 places of decimal. '0' is needed to be stuffed if no value available.

Latitude: DDMM.MMMM,N/S. 4 places of decimal. '0' is needed to be stuffed if no value available;

3. Only one alarm can be set in either Movement Alarm or Geo-fence Alarm;

4. Send W******,006,00 to turn off Geo-fence function.

Stop the Car in Safe Mode	W******,120,F W******,220,F	W000000,120,1 W000000,220,1

Remarks: This function is achievable only when the speed is below 10km/h (command 120) or 20km/h (command 220) and at the meantime GPS is available.

F=0, to close the output (Normal)   =1, to open the output (Being Stopped)

SMS Commands for Settings of GPRS Tracking
(For mass programming, user is suggested to use application
---Parameter Editor to do the settings)

Tracker's GPRS ID	Last 14 number of IMEI number

Remarks: The Tracker's GPRS ID is the last 14 digits of the IMEI number. User cannot change it.   E.g.: IMEI:355840023214059, then GPRS ID is: 55840023214059

Set APN	W******,011,APN,Username, Password	W000000,011,internet,web,gprs

Remarks: If no APN username and password are required, just input APN only;
APN defaulted as 'internet'; APN + username + password should not over 49 characters.

Set IP and Port	W******,012,IP,Port	W000000,012, 220.121.7.89,8500 W000000,012,www.track800.com,8500

Remarks: IP is your server's IP or the domain name. Port: [1,65534]

Set GPRS Connection	W******,013,X	W000000,013,1

Remarks: X=0, to turn off GPRS tracking (default)
X=1, to enable GPRS tracking via TCP
X=2, to enable GPRS tracking via UDP

Set GPRS Interval	W******,014,XXXXX	W000000,014,00060

Remarks: to set time interval for sending GPRS packets.
XXXXX should be in five digits and in unit of 10 seconds.
XXXXX=00000, to turn off this function;
XXXXX=00001~65535, time interval for sending GPRS packet and in unit of 10 seconds.
In this example, the tracker will send every 600 seconds (10 minutes).

Veer Report	W******,036,degree	W000000,036,90

Remarks: when the heading direction of the tracker changes over the preset degree, a message with location data will be sent back to the server by GPRS.
degree=0, to turn off this function.
degree=[1,360], to set degree of direction change.

Sleep Mode	W******,026,XX	W000000,026,10

Remarks: to set sleep mode when the tracker is inactive for a period of time.
In sleep mode, GPS stops working and GSM enters sleep and stop sending out message until it is activated by message, incoming calls or triggered by buttons.
XX=00, to turn off this function.
XX=01~99, to turn on Power Down after a specified period of being inactive. It is in unit of minute.
In this example, the tracker will enter sleep mode after it is inactive for 10 minutes.

Set Time Zone	W******,032,T	W000000,032,480 W000000,032,-120

Remarks: Default time of the tracker is GMT, you can use this command to correct it to your local time. This command is for SMS display only.

tracking only.

T=0, to turn off this function.

T=[1, 65535] to set time difference in minute to GMT.

For those ahead of GMT, just input the time difference in minute directly. For example, GMT+8, W000000,032,480

'-'is required for those behind GMT. For example, W000000,032,-120.

Set Content for SOS	W******,033,1,Char	W000000,033,1,help me please

Remarks: this command is to set initial characters for SOS message when the SOS button is pressed.

Char is the character in SOS message and max 32 characters and defaulted as 'SOS Alarm!'

Get Firmware Version	W******,600	W000000,600

Remarks: to get the version of tracker's firmware

Get IMEI number	W******,601	W000000,601

Remarks: to get the IMEI number of tracker's GSM module

Reboot GSM	W******,901###	W000000,901###

Remarks: to reboot the GSM module of the tracker

Reboot GPS	W******,902###	W000000,902###

Remarks: to reboot the GPS module of the tracker

Initialization	W******,990,099###	W000000,990,099###

Remarks: Send this SMS to the tracker to make all settings (except for the password & odometer) back to factory default.   ### is the ending character.

Reset Odometer	W******,046	W000000,046

Remarks: This command will reset the odometer value to 0.

Reset Password	W888888,999,666	W888888,999,666

Remarks: Send this SMS to the tracker to reset the password as 000000

III. Alarm Types

SOS Alarm

In any condition, if the SOS button is pressed, it will trigger the SOS alarm.

Shake Alarm

In arming status, if the car/motorcycle is vibrated, it will trigger this alarm.

Power Failure Alarm

In arming status, if the car/motorcycle's battery is cut off, it will trigger this alarm.

Engine ON Alarm

In arming status, if the car/motorcycle's engine is ON, it will trigger this alarm. If the tracker is used to upgraded the existing normal car alarm(connect the blue line to the positive pole of the alarm's siren, then send 000000LNK1 to make it work in this mode),the alarm will be triggered when the blue line detects a continuous positive signal for 5 seconds.

Movement Alarm

In arming status, the movement alert is enabled automatically. Once the car moves away from the parking point for 80 meters, it will trigger this alarm.

Geo-Fence Alarm

Once the Geo-fence is activated, if the car/motorcycle oversteps the boundary, it will trigger this alarm.
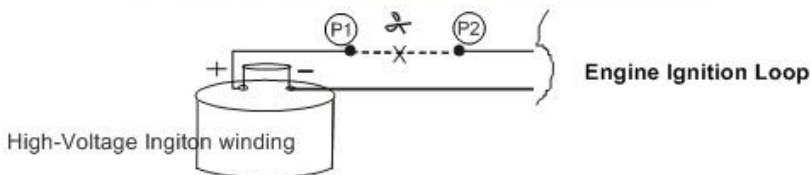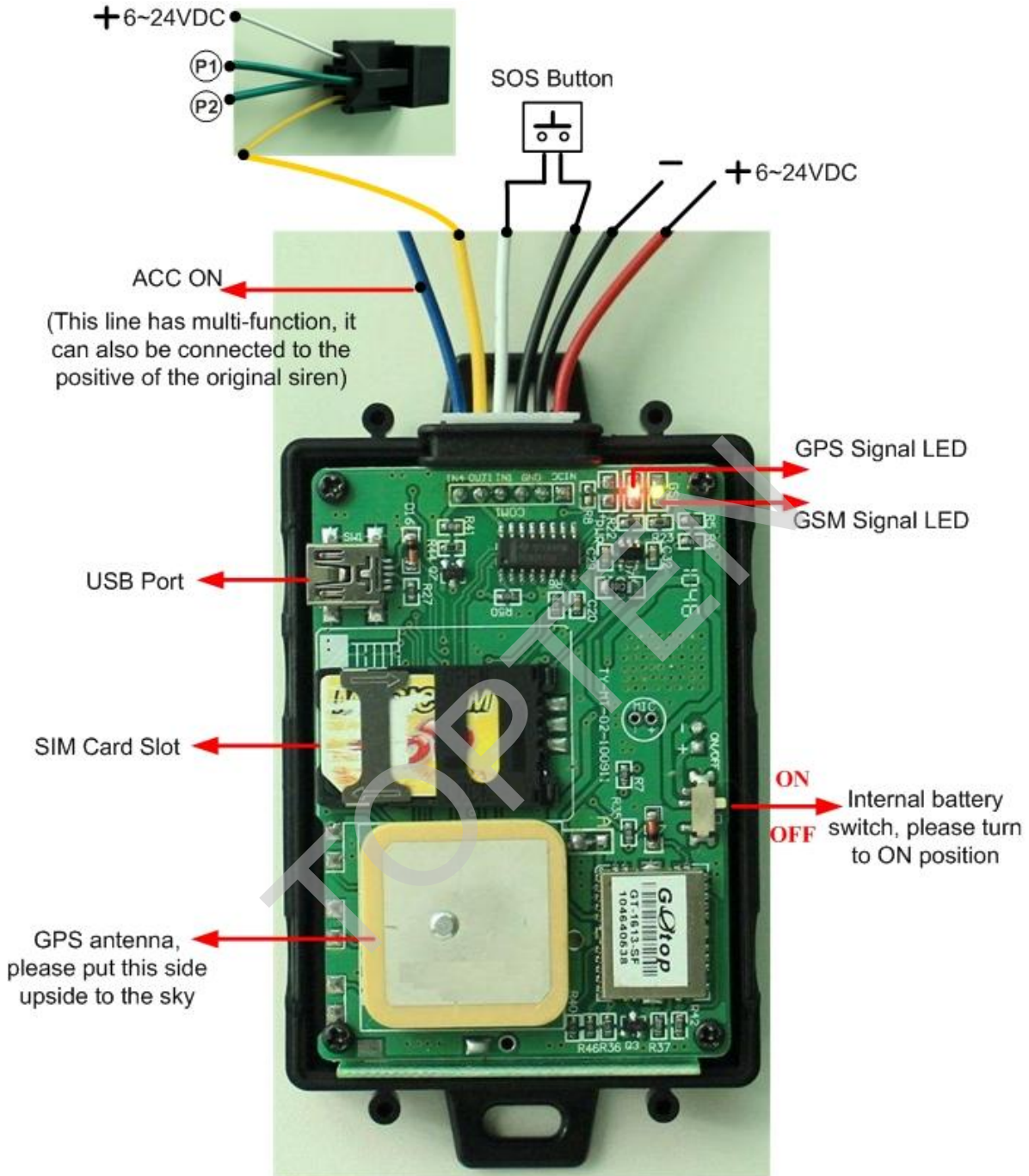
Over-speed Alarm

If the car/motorcycle runs over the speed limitation, it will trigger this alarm.
(Remark: this function is just for reference, because there might be some time delay or error in detecting the running car's real speed by GPS.)

NOTE: the SOS alarm will only be sent to the 2nd phone, the 3rd phone number & the GPRS tracking center, the other alarms will send to all the three program phone numbers & GPRS tracking center.
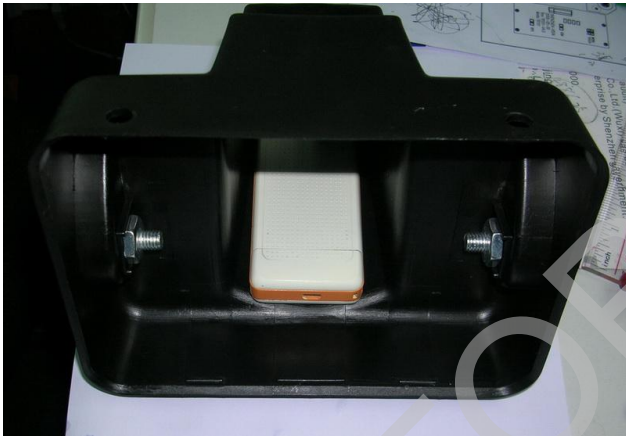
IV. Installation

Notes:

(1). The relay's control output (P1 & P2, no polarity) has 2 kinds of connections. It can be used to cut off the engine ignition loop or the fuel pump's power supply loop.

(2). Please place the side with GPS antenna upside to the sky, so that it can receive good GPS signal.

(3). The blue line has 2 ways of connection, the default connection is connected to ACC ON. If you want to upgrade the existing car alarm, you can send 000000LNK1 to the tracker firstly, then connect this blue line to the positive of the alarm's siren. Once the original alarm is triggered, our tracker will send out alarm message immediately

Installation Steps:

(1) Please read the manual carefully before installation. Please prepare a valid GSM SIM card with Caller ID Display & GPRS function;

(2) Please use the screw driver to open the cover;

(3) Insert the valid GSM SIM card, then turn on the power switch;

(4) Close the cover, and fix the main unit tightly with the wiring harness at the correct place, please make sure that the side with GPS antenna is placed upside to sky, please make sure to install the main unit at broad place so that it can receive GPS signal well. For motorcycle, it is better to install inside the head bulb light where there is power supply and water proof. For vehicle, it is better to install inside the upper rim of the driving room or inside the dashboard. The recommend installation place is showed in the following picture:

For motorcycle   For vehicle

(5) Do the wring connection according to the diagram;

(6) Call the SIM card, to check if rings, if not, then check the power supply and the change the place of installation;

(7) If it rings when calling the SIM card, then send SMS to the tracker to check the GPS coordinate, if the GPS location is not correct, then fix the main unit to other place so that it can receive better GPS signal.   Please take care of that the side with GPS antenna must be place upside to the sky;

V . Specifications

Working voltage:	+5.3 ~+24VDC
Power Consumption:	Working current: 50mA; Peak current: 800mA;
Inside Backup battery:	Rechargeable 3.7V 800mAh Li-ion battery
Size of the main unit:	80*58*22 (mm)
Weight of the main unit:	90g
Working temperature:	-20 ~ 70℃
Humidity:	0 ~ 95%
GSM frequencies:	Dual-band:900MHz/1800MHz (or Quad-band: 850MHz/900MHz/1800MHz/1900MHz)
GPS chip:	Latest SiRF-Star III chipset
Receiving ways	20 channel
Working frequencies	1575.42Mhz C/A（GPS）
Receiving sensibility	-158db
Positioning accuracy	≤10m (wide-open area)
Speed accuracy	≤0.2M/S (wide-open area)
Positioning mode	Auto 2D/3D
Hot start	1 sec., average
Warm start	38 sec., average
Cold start	42 sec., average

VI. FAQs & Troubleshooting

FAQ	Troubleshooting
I call the tracker, it does not ring	(1) The GSM SIM card has no credit; (2) The SIM card is protected by PIN code; (3) Check the power supply, if 2 LEDs flash; (4) The SIM card is placed correctly in the slot;
I call the tracker, it rings, but it doesn't response with SMS	(1)The user password is wrong, please use the correct password or reset the password to test; (2) Low power, please use outside power supply to power on the unit to test
I can not get the alarm message	(1) The SIM card inside the device has no credit; (2) The Alert-received mobile number is not programmed correctly, or the SMS command is

	not in correct format; (3) The mailbox of the user's mobile is full;
I can not get the correct GPS coordinates or the location is wrong	(1) Please make sure there is no metal obstacles above the tracker. Please place the side with GPS antenna upside to the sky; (2) Please check it at broad place; (3) Please check if the GPS LED flash once every 3 seconds; place the tracker to other place, so as to make sure that it can receive the GPS siganl well (4) In cloudy condition, it is a little hard to get the GPS signal, and the GPS coordinate might have some errors.
Tracker fails to connect to server by GPRS	(1) The SIM card must be activated with GPRS function; (2) Do the correct setting for GPRS connection

VII. Maintenance

² Please make the local professionals to do the installation & maintenance of the GPS terminal. If the user assemble/ disassemble or repair the terminal without permission, we hold no responsibility for any loss caused thereafter.
² Please keep the terminal dry. In case of soaking or leaking water, contact the local professionals. Do not start the car yourself, or we hold no responsibility for any loss caused thereafter.
² When the car is inside buildings, cave, tunnel, or very close to tall buildings, the GPS/ GSM signal may not work well and the system may fail to work at that moment.
² Please check the balance of the tracker's SIM card periodically.
² The backup battery. The backup battery can only work for a certain time when temporary power off.
² For any other unusual situations, please contact the local agent.