

# GPS Tracker OBD Telematics Dongle

GPSTRACKOBD

# User Manual



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## 1. Preview

This user guide is written for end users mainly to introduce how to use our GPS OBD telematics dongle GPSTRACKOBD.

## 2. Device

### 2.1 General Introduction

GPSTRACKOBD is plug-and-play monitoring and diagnostic device with OBDII port and internal communication and GPS module. It uses high performance communication module and high sensitive GPS module as well as internal communication and GPS antennas. It supports GPRS, SMS, TCP, UDP and OTA.

It adapts advanced power management solution. It supports low power consumption and auto-sleep. It can continue working for some time even if disconnected from automotive power.

It supports various automotive data communication protocol. It can be used for many vehicle types. Installation is very simple and easy. User can save much time and cost compared to traditional vehicle GPS monitoring device.

Device has been used widely for logistic, enterprise fleet, insurance, passenger transport, automotive mortgage and rental, 4S dealers and automotive manufacturers etc.

### 2.2 Product Features

• OBDII and CANBUS protocol, DC 12V and 24V;
• 2G GSM/GPRS 850/900/1800/1900MHz;
• 3G UMTS/HSPA 2100/1900/850/900MHz;
• Plug and play
• Collect fuel consumption, fuel level data;
• Very accurate mileage data (accuracy>99%);
• Collect DTC (Diagnostic Trouble Code) for remote diagnostic;
• Collect RPM, VIN, engine temperature data;
• Accurate GPS Tracking with internal GSM and GPS antennas ;
• TCP and UDP;
• Update firmware over the air;
• Illegal start-up, impact and rollover alarm;
• Detect harsh acceleration, braking, turn and high revolution;
• Driving behavior recording and analysis;

## 2.3 Installation

It is very easy to setup and install device, just open the shell and insert micro SIM card (image1). Then plug the device in your vehicles OBDII port. Different vehicle maybe have different OBDII port position. User can query device status, after finishing installation.



Image1



## 3. e-Drive App for iOS and Android



### 3.1 Install App

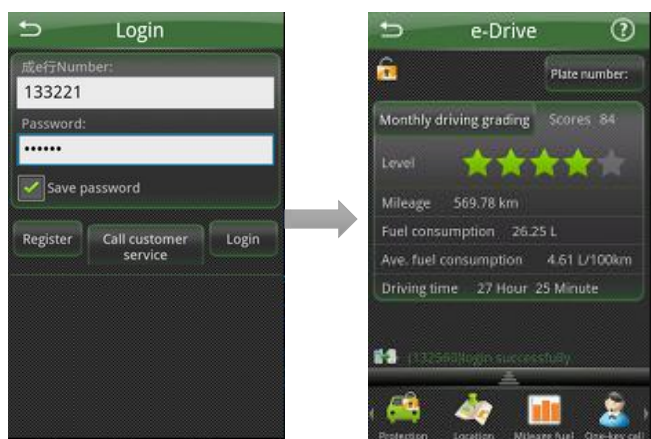
**iOS** - Open the App Store on your iPhone, iPad, or iPod touch and Tap Search and look for e-Drive app. When you find the app simply tap Get to download and install.

You might need to sign in with your Apple ID and password or use Touch ID or Face ID if you have them set up.

**Android** - Using your browser just visit <http://139.159.44.26:8080> and on the upper right part of the webpage you will find the Android App APK file you want to download, and tap it – you should then be able to see it downloading on the top bar of your device. Once it's downloaded, open Downloads, tap on the APK file, and tap Yes when prompted. The e-Drive app will begin installing on your device.

### 3.2 Login with e-Drive number

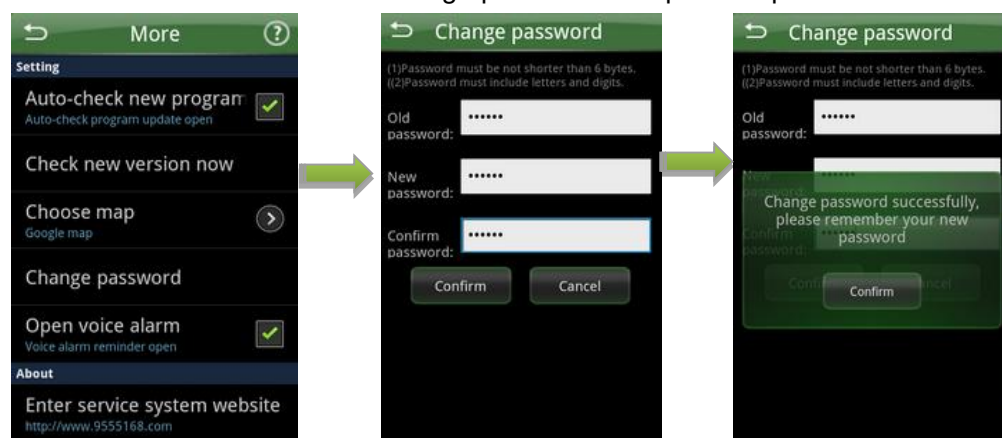
Input e-Drive number and password -> Login -> Enter homepage



Note: Login user = e-Drive number, default password = 123456

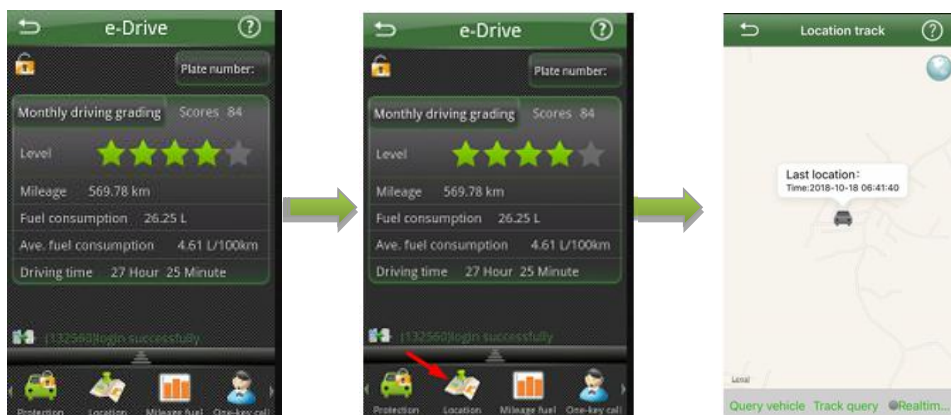
### 3.3 Change e-Drive Password

Main menu -> More -> Set -> Change password -> Input new password -> Ensure



### 3.4 Vehicle Location

Main menu -> Location Track -> Query Vehicle

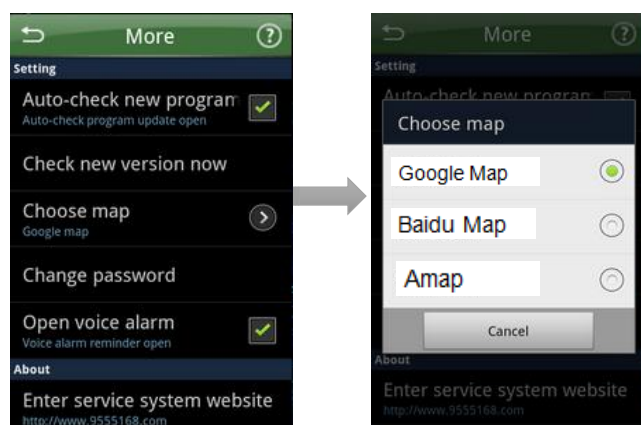


Vehicle Trace is used to monitor your vehicle. Select Query Vehicle to see the last location on map. You can also view the track history by selecting Track Query and Real time Tracking

### 3.5 Choose Map

For more accurate tracking you can use your favorite map or choose the google map

Main menu -> Choose map -> Choose



### 3.6 Query Device Status

Main menu -> Device status

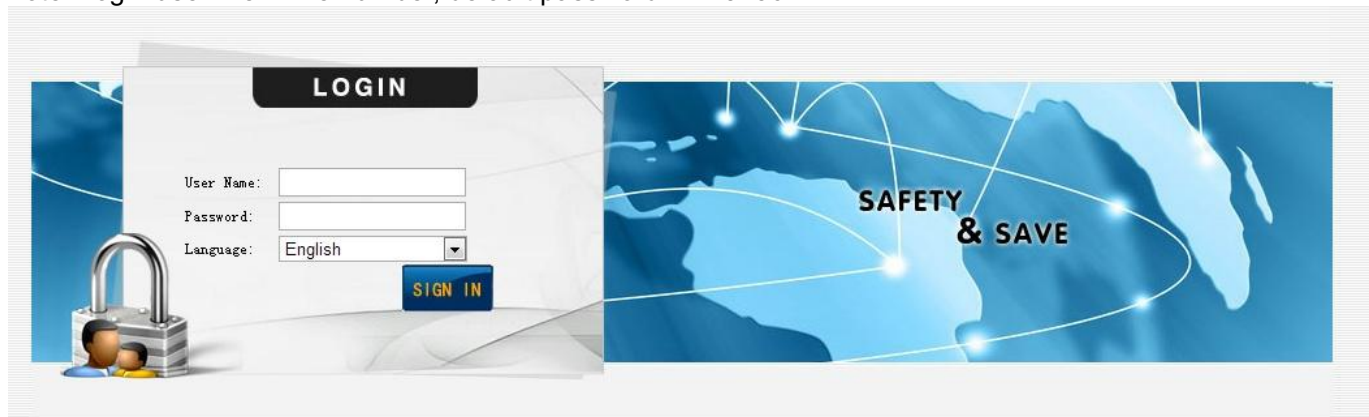


## 4. Platform Software

### 4.1 Login

Visit <http://139.159.44.26:8080> Login page is as below:

Note: Login user = e-Drive number, default password = 123456



After login successfully and enter software, the home page is as below:





## 4.2 Query Daily Driving Data

Main menu -> Driving data -> Daily driving data



## 4.3 Query Monthly Driving Data

Main menu -> Driving data -> Monthly driving data

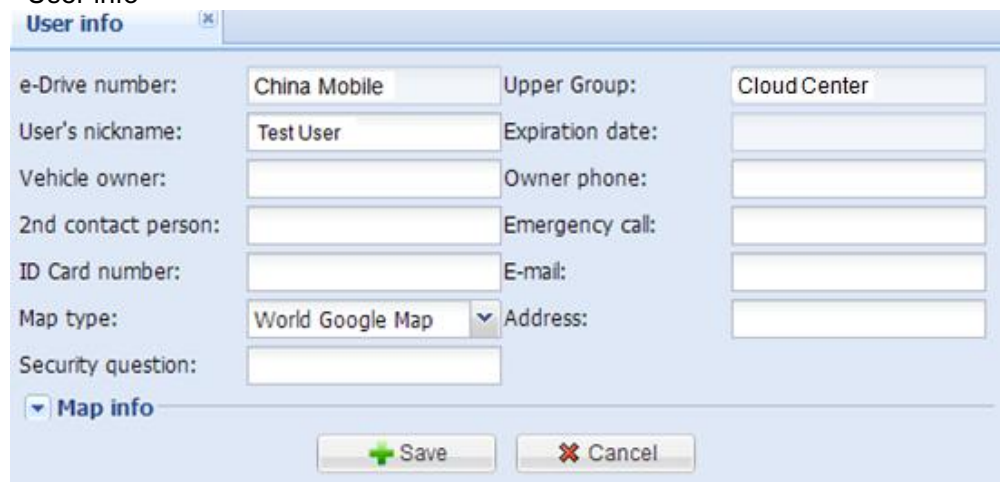


## 4.4 Query Yearly Driving Data

Main menu -> Driving data -> Yearly driving data

## 4.5 Edit Personal Information

Main menu -> User info



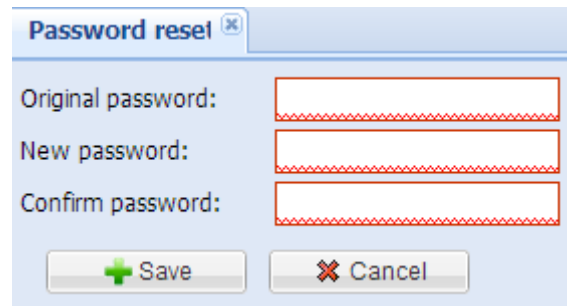
The screenshot shows the 'User info' form. It contains the following fields:

- e-Drive number: China Mobile
- User's nickname: Test User
- Vehicle owner:
- 2nd contact person:
- ID Card number:
- Map type: World Google Map
- Security question:
- Upper Group: Cloud Center
- Expiration date:
- Owner phone:
- Emergency call:
- E-mail:
- Address:

At the bottom, there are 'Save' and 'Cancel' buttons.

## 4.6 Edit Password

Main menu -> Password reset



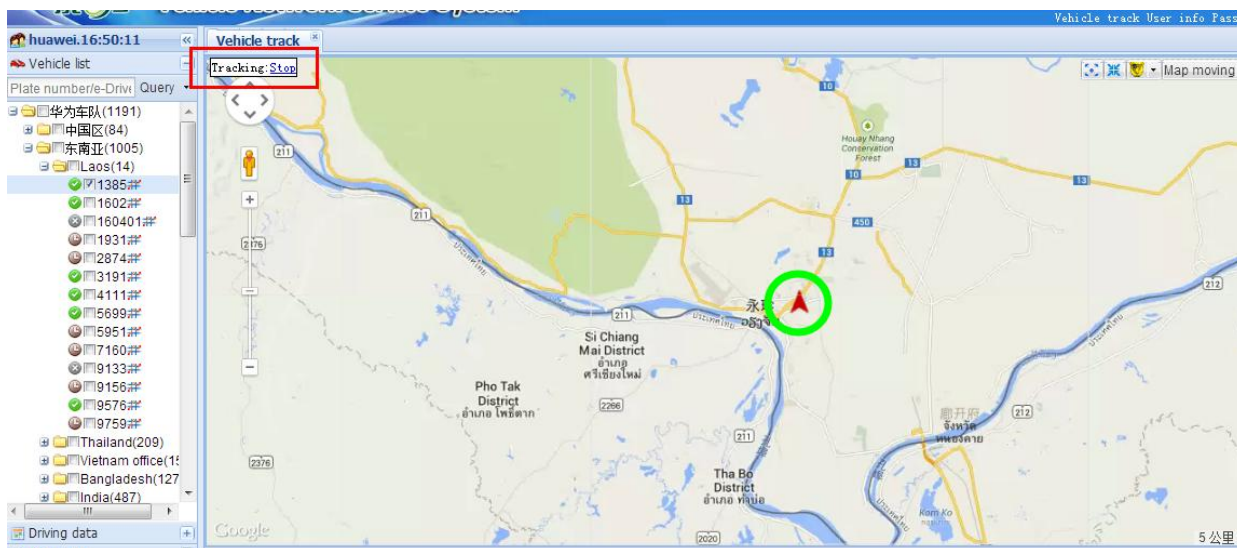
A dialog box titled "Password reset" with a close button (X). It contains three input fields for "Original password:", "New password:", and "Confirm password:". Below the fields are two buttons: a green "+" button labeled "Save" and a red "X" button labeled "Cancel".

## 4.7 Vehicle tracking via Platform

Real time tracking the vehicle with the arrow change to red color.

**How to enter ;** Logon system, main menu>vehicle list>select the desired query vehicle t>vehicle tracking

**Main page :**



**How to stop:** Left click to stop tracking.

### Track playback

**Function introduction :**

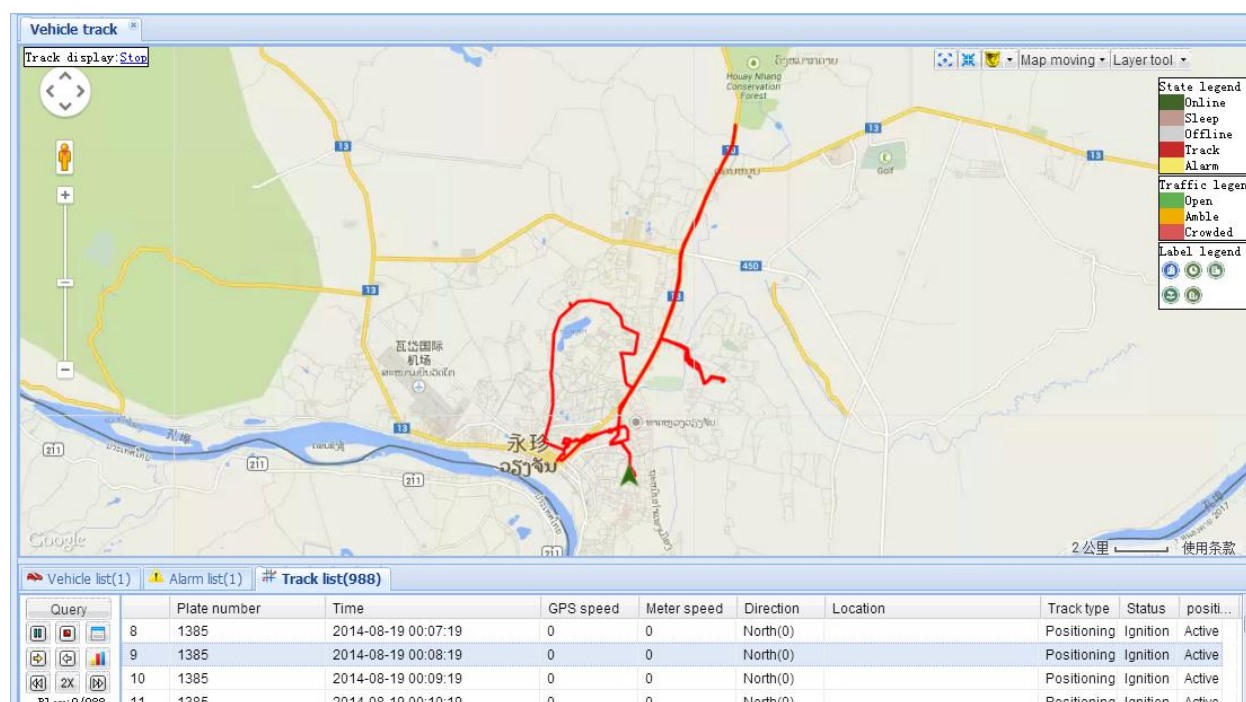
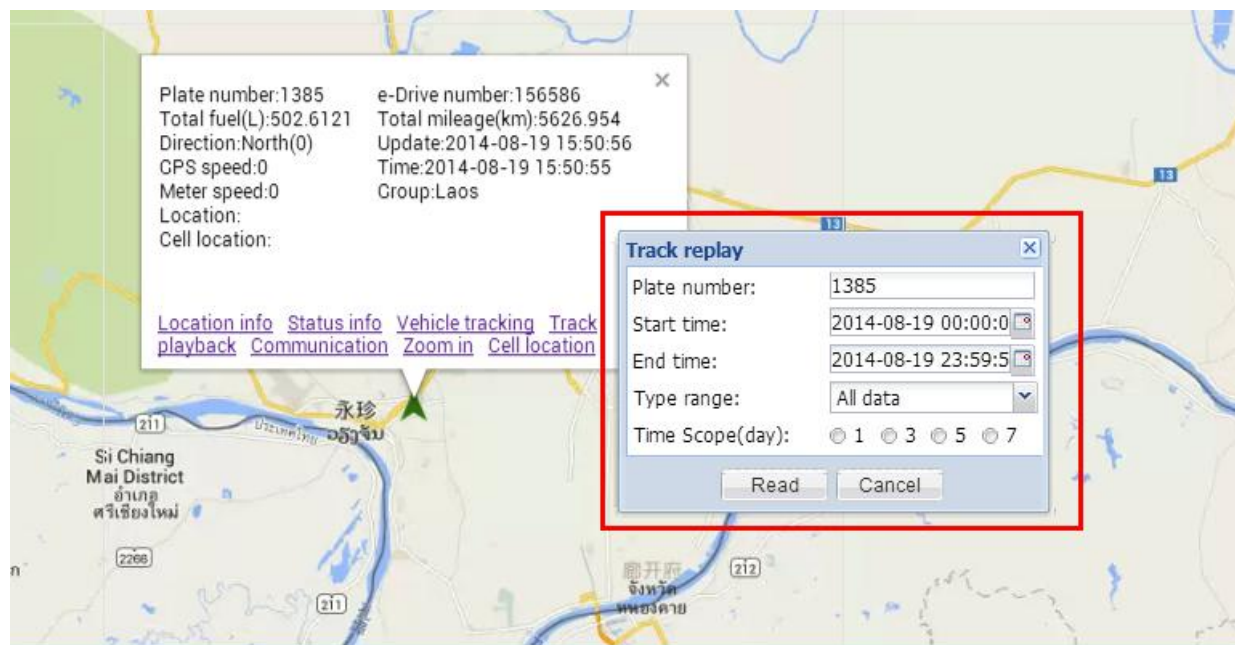
Play back the track of the vehicle. Show the real time, license plate, direction and GPS speed at the same time.

If there is no geographic position and null fix data when replaying, click the tracing point to get the location from the cellular base. If done, the right geographic location will be shown. Otherwise, the system will show: no LBS or failed to read.



How to enter: Login system, main menu>vehicle list>select the desired query vehicle t>track playback

Main page :



Introduction :

Read: To read the track playback.

Cancel: To cancel the playback.

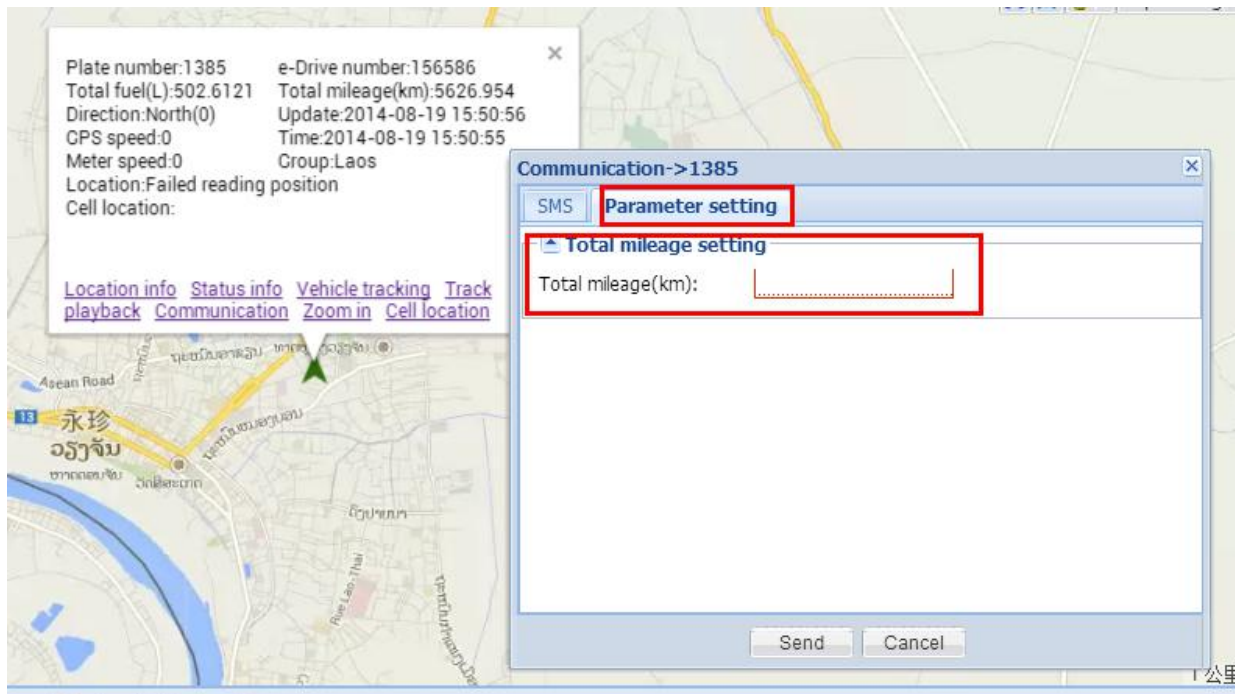
**Track display: Stop** : Left click the Stop (in the top left corner of the picture) to stop track playback.

## Communication

To set the initial mileage.

**How to enter:** Login system, main menu>vehicle list>select the desired query vehicle t>communication

**Main page :**



Send: Left click 'send' to send message to OBD dangle or cell phone.

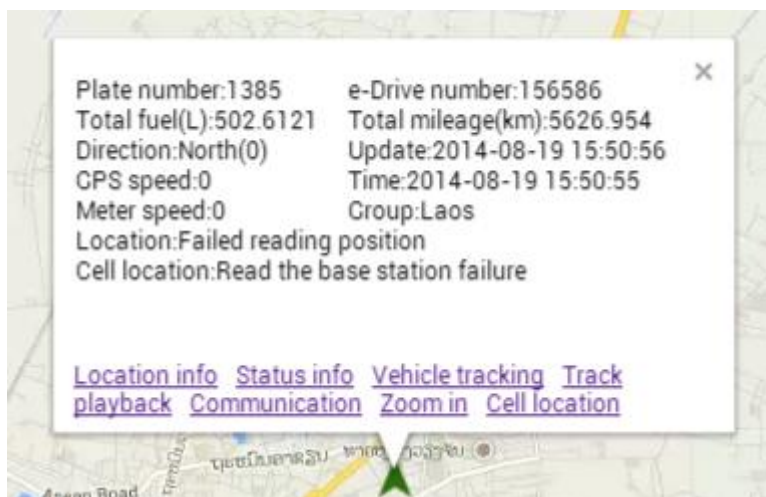
Cancel: Left click to cancel the action.

## Cell location

Due to the GPS locating is slow, or even can't work especially in the underground parking, tunnel and remote mountainous areas when the devices begin to work. Under this circumstance, LBS is started to work. With the dangle to get the information of the cellular base and the usage of Google Map's API, the users can get the detailed geography information.

If the dangle get the information of the cellular base, it will request the location from Google automatically and show the detailed information of the cellular base. Otherwise, 'No information' will be shown. If located successfully, 'Cell location' shows 'Located, reading the description'. Otherwise, 'Failed to locate' will be shown. If succeed in reading the location, 'Cell location' shows the normal information. Otherwise, 'Located, fail to read the information.' will be shown.

**How to enter:** Login system, main menu>vehicle list>select the desired query vehicle t>cell location



**Main page :**

**Vehicle track detail**

The list of the vehicles' plate number, group, time, GPS speed, location, station, etc. that you choose.

**How to enter:** Login system, main menu>vehicle list>select the desired query vehicle t>vehicle track detail

**Main page :**

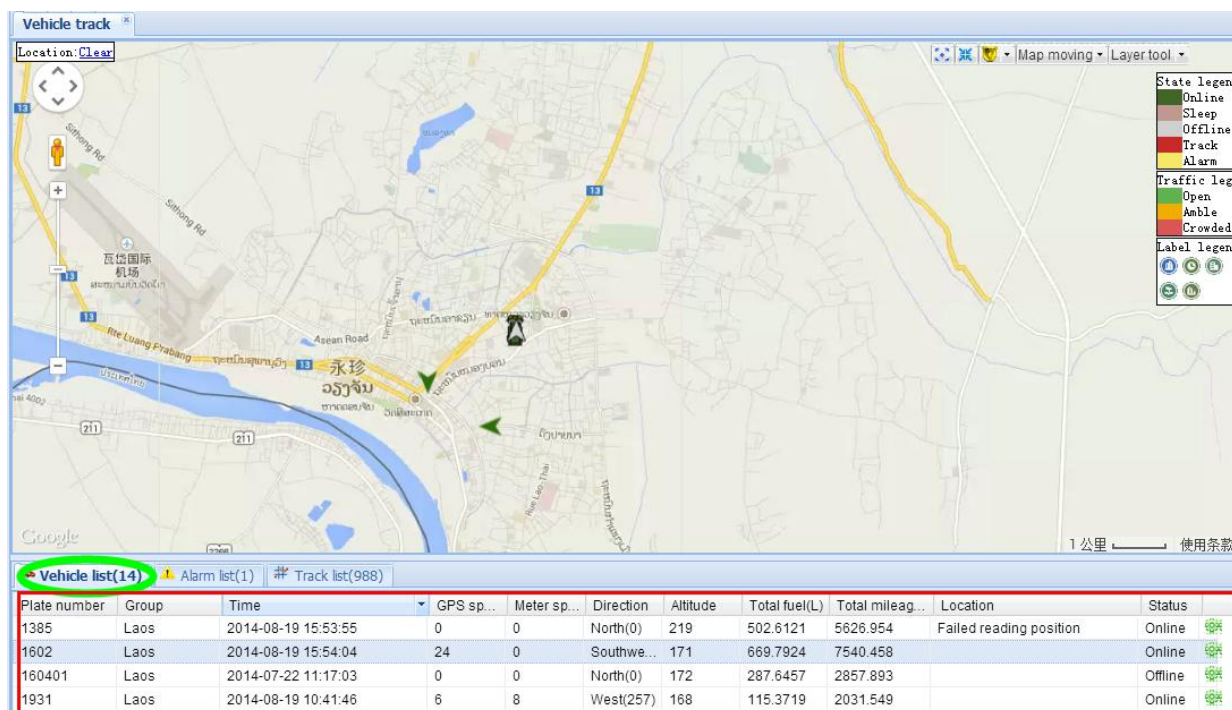


Plate number	Group	Time	GPS sp...	Meter sp...	Direction	Altitude	Total fuel(L)	Total mileag...	Location	Status
1385	Laos	2014-08-19 15:53:55	0	0	North(0)	219	502.6121	5626.954	Failed reading position	Online
1602	Laos	2014-08-19 15:54:04	24	0	Southwe...	171	669.7924	7540.458		Online
160401	Laos	2014-07-22 11:17:03	0	0	North(0)	172	287.6457	2857.893		Offline
1931	Laos	2014-08-19 10:41:46	6	8	West(257)	168	115.3719	2031.549		Online



## Alarm list

Check and handle the group's alarm.

**How to enter:** Login system, main menu>alarm list

**Main page :**

Plate number	Alarm time	Alarm type	Alarm content	Alarm number	Processing...
GZ9955R	2014-08-19 16:44:21	Geofence entrance alarm		14084378610...	Not proces...

## Track list

The historical trace list.

**How to enter:** Login system, main menu>check the track>track list

Query	Plate number	Time	GPS speed	Meter speed	Direction	Location	Track type	Status	posi...
4	1385	2014-08-19 00:03:19	0	0	North(0)		Positioning	Ignition	Active
5	1385	2014-08-19 00:04:19	0	0	North(0)		Positioning	Ignition	Active
6	1385	2014-08-19 00:05:19	0	0	North(0)		Positioning	Ignition	Active
7	1385	2014-08-19 00:06:19	0	0	North(0)		Positioning	Ignition	Active

**Main page :**

## 4.8 Map Operation

### Common map operation



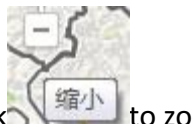
**Location: Clear**: Left click 'clear' to clear the information.



: Left click the arrow to move the map in different directions.



: Left click to zoom in the map into street accurately.



Left click to zoom out the map into the whole country.



: Show in full screen. Left click to quit.



: Reset the center. Left click to go back to the center of the map.





:The alarm service.

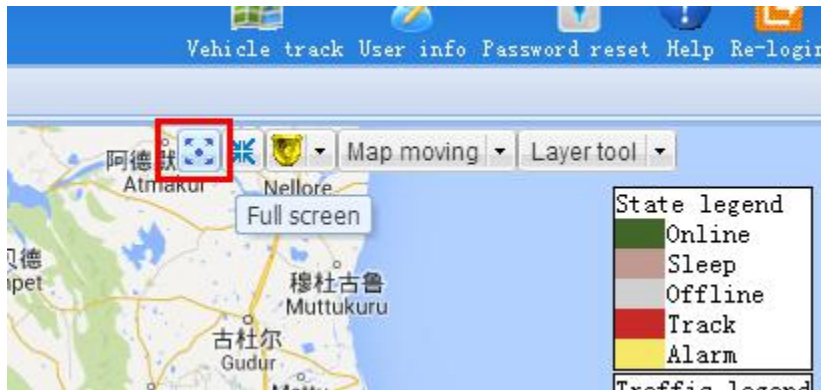


: Eagle Eye. Shown in the bottom right corner of the map. Drag to move the map.

## Full screen

Map is shown in the full screen for users to see clearly.

**How to enter:** Login system, main menu>



**Main page :**



**Introduction :**



: The map will be shown in the full screen.



: The list of the vehicles will be shown when left click this button, which is easy to do.

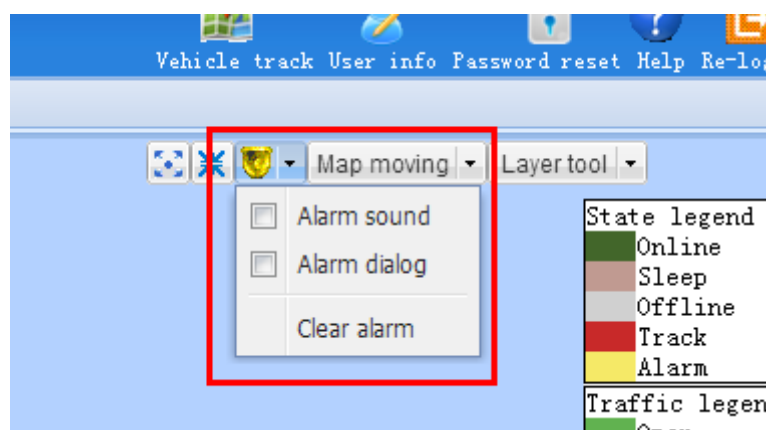
Attention: Left click the full screen to quit the full screen mode.

## Alarm

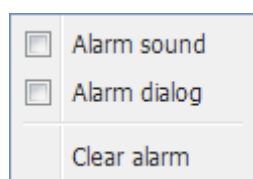


Two ways to alarm: sound and dialog. This icon will turn red when there is an alarm.

**How to enter:** Login system, main menu>



**Main page :**



- ☐ : Click to choose the way of alarming. Both can be chosen.
- ☐ Clear alarm: Left click to clear the alarm.

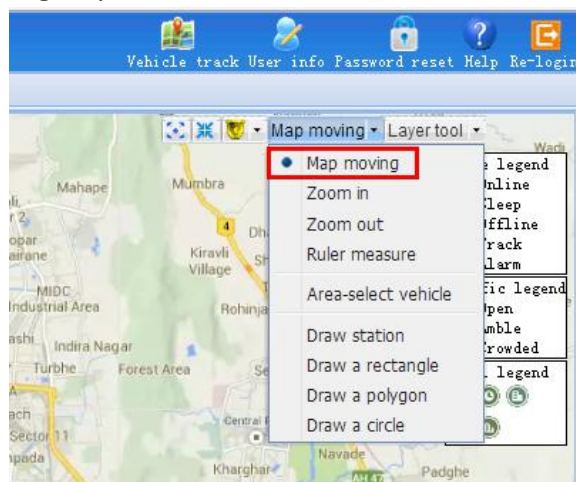
## Detail operation

### Map moving

Drag the cursor to move the map.

**How to enter :** Login system, main menu>

**Main page :**



**Introduction :**

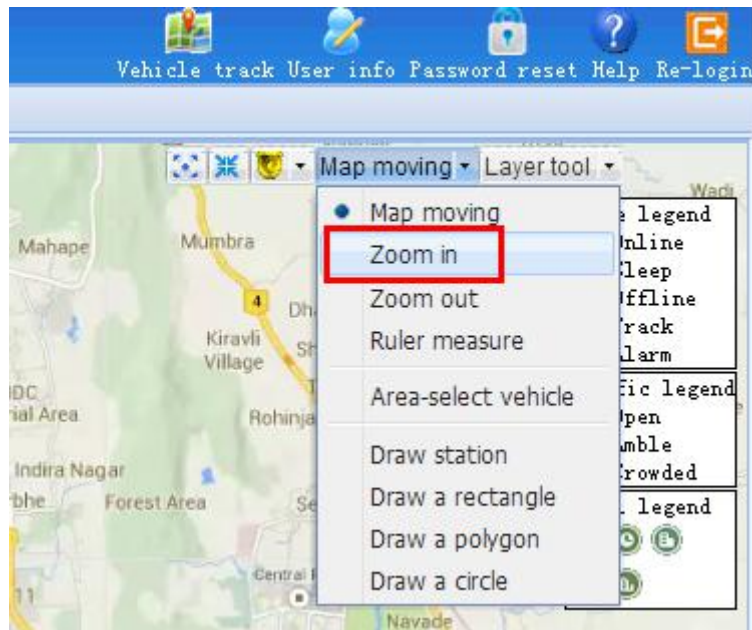
When the mouse is hovered over the map, the arrow will turn into a shape of hand. Drag the hand to move the map.

## Zoom in

Drag the cursor to zoom in somewhere in the map.

## How to enter:

Login system, main menu>



## Main page :



## Introduction :

**Drag cursor and operate**: Drag the cursor and operate.

**Release cursor to finish**: Release cursor to finish.



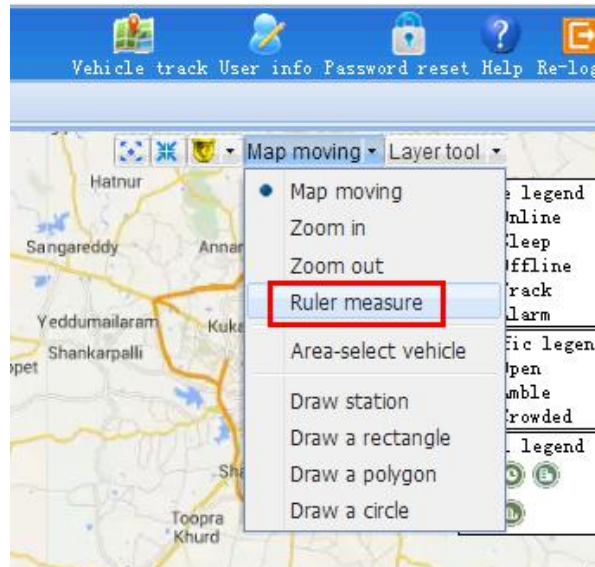


## Ruler measure

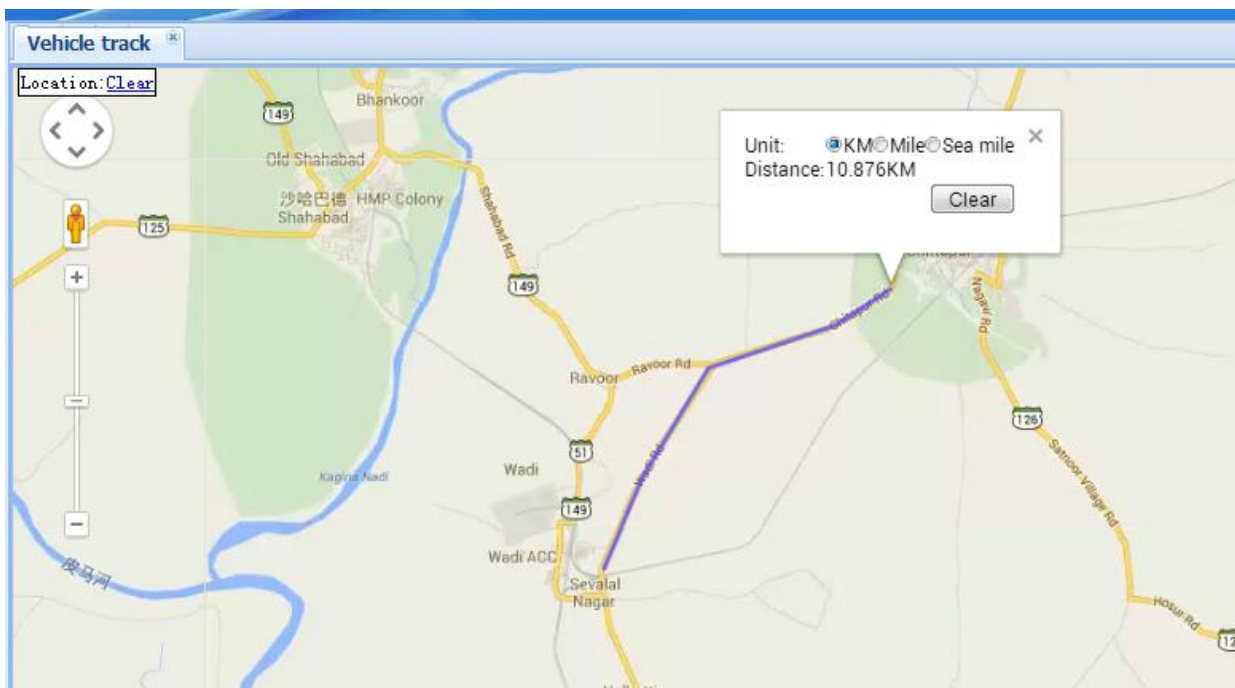
To measure the distance between the two points.

### How to enter:

Login system, main menu>



### Main page :



### Introduction :

**Click to ensure start point**: Left click to ensure the start point.



Distance is 72.444 km  
Click to ensure location, double click to finish

Before the end of measuring, left click to ensure location, double click to finish.

Distance is 39.103 km  
Click to move map when reach bound

Click to move map when reach bound.

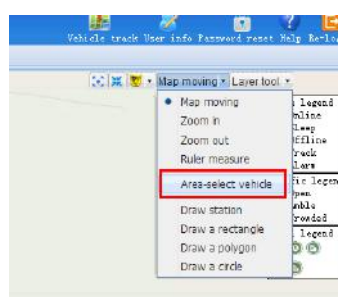
Unit: Distance unit can be chosen.

Cancel: To cancel this action.

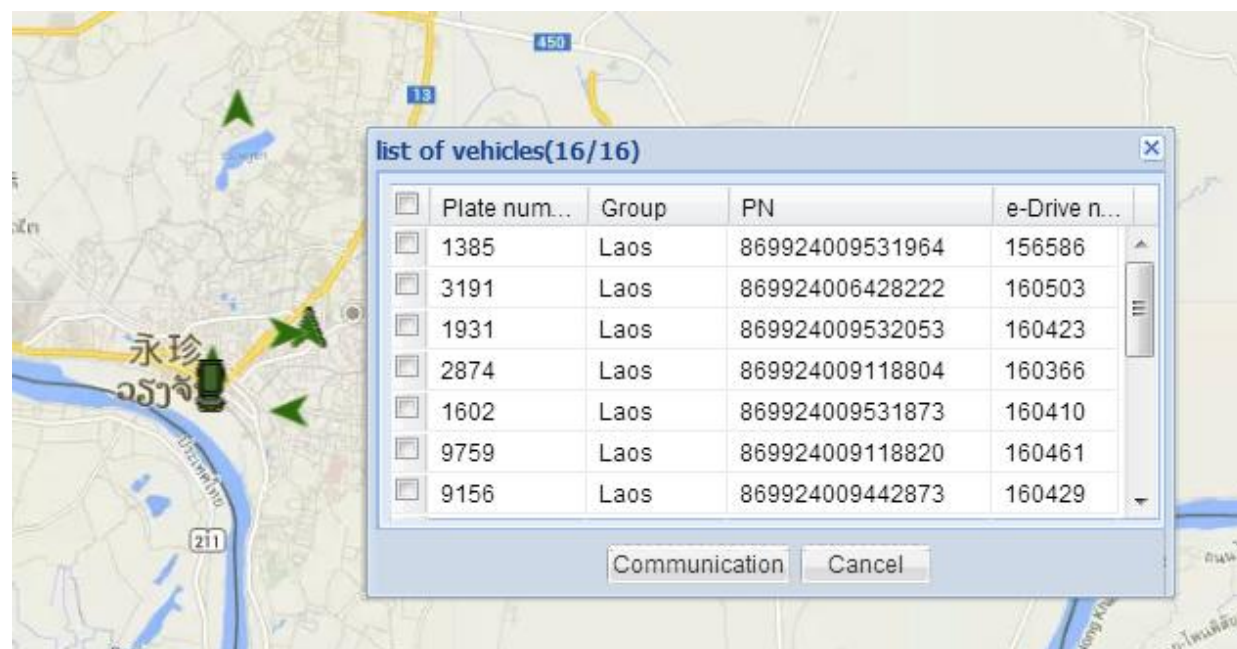
### Area-select vehicle

Through draw a plaid to select the vehicles in the plaid.

**How to enter:** Login system, main menu>



**Main page :**



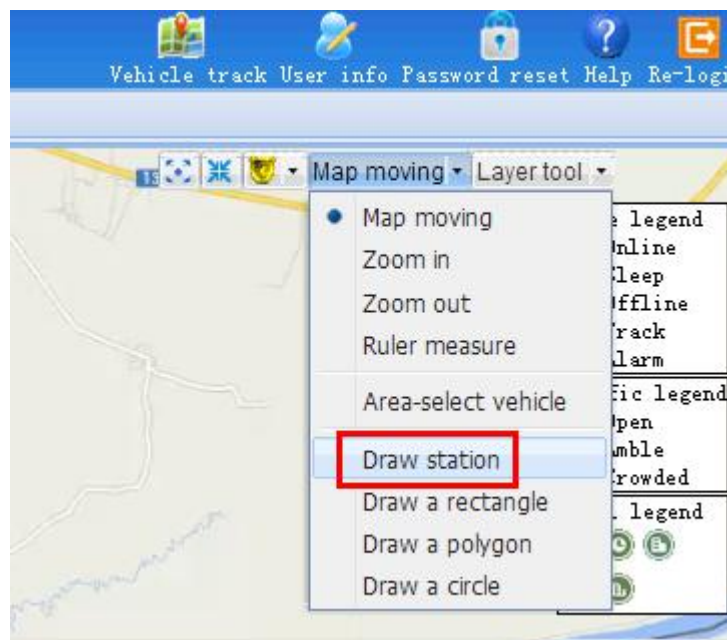
**Introduction :**

**Drag cursor and operate**: Hold down the left mouse button to draw a quadrilateral to defined the area.

### Draw station

Mark a place which in the map for user to check and request for service.

**How to enter:** Login system, main menu>



**Main page :**



The screenshot shows a 'Location station' form. The form has the following fields: Name (text input), Address (text input), Phone (text input), Type (dropdown menu with 'Other' selected), Plate number (text input with '160401'), and e-Drive number (text input with '160401'). There are two buttons at the bottom: 'Add Label' and 'Clear'.

**Introduction:**

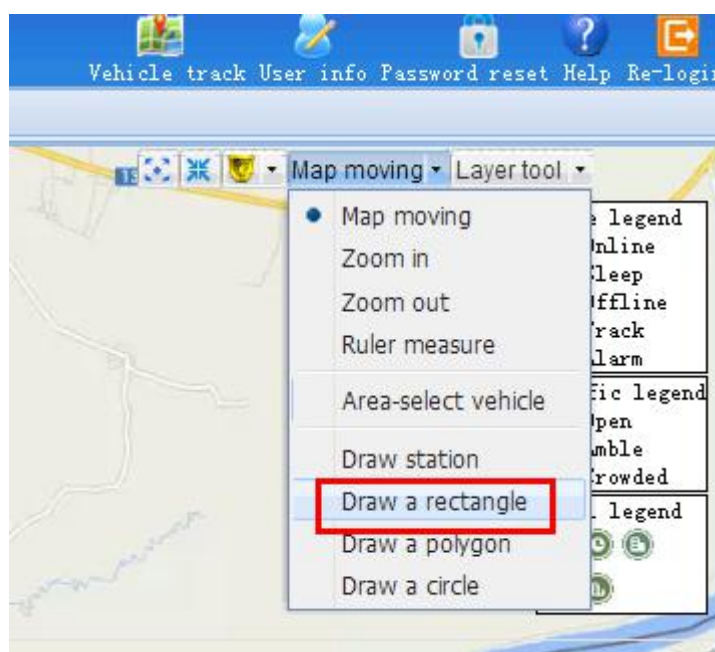
Add Label: Click the button to add the location to mark

Clear: Click the button to clear the mark

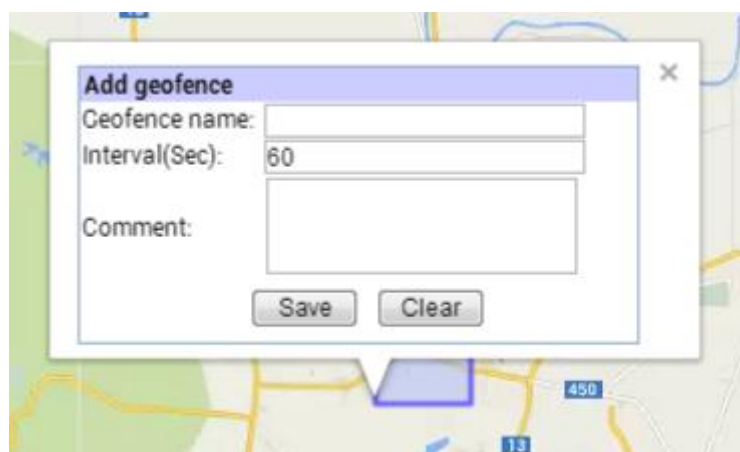
### Draw a rectangle

Draw a rectangular district, bind the vehicle on the district. When the vehicle leave the area, then device will remind the user. We can check and manage the district in the command of district management.

**How to enter:** Login system, main menu>



**Main page :**





### Instruction:

**Click to ensure start point**: click to ensure the area fencing start point.

**Click to ensure location, double click to finish**: double click to finish area fencing.

Save: click to save, save the area fencing.

Binding: binding the vehicle and area fencing.

Delete: delete binding information of the area fencing

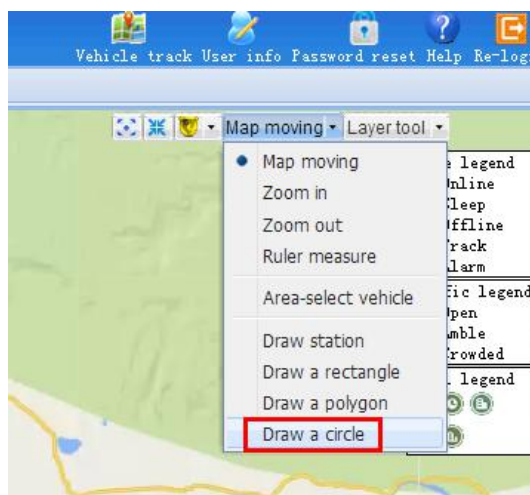
Clear: cancel the operation of area fencing.

### Draw a circle

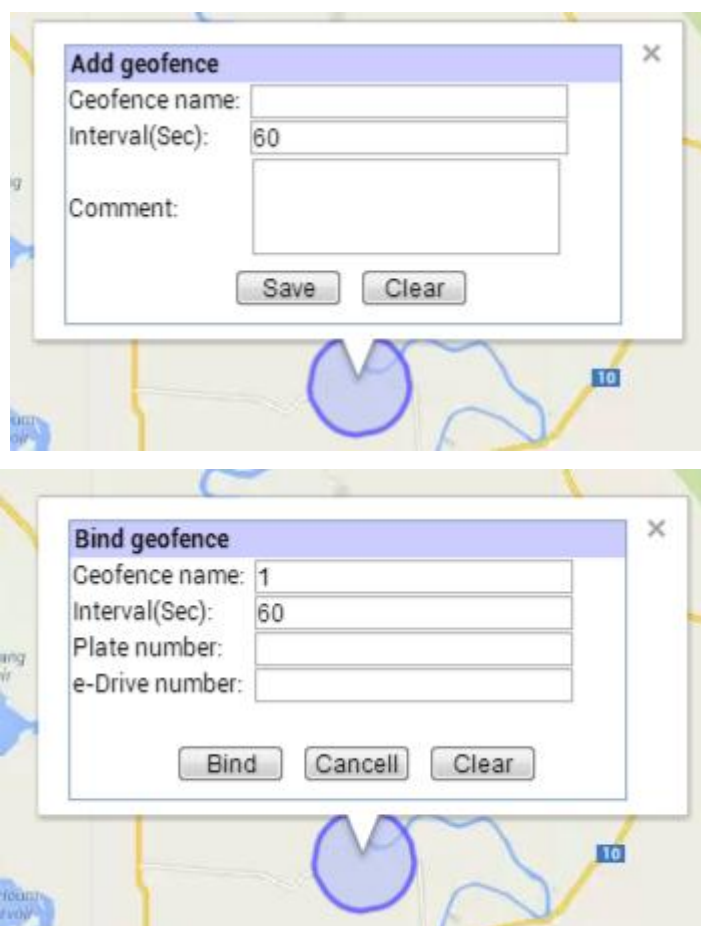
#### Function introduction :

Draw the circle area fence to bind the vehicle and area fence. If vehicle is out of the area fence, it will remind the driver. You can see the added area fence in area management.

**How to enter:** Login system, main menu>



**Main page :**



### Instruction:

**Drag cursor and draw a circle**: drag the mouse cursor to begin circle draw.

**Release cursor to finish**: release the cursor to finish the draw.

Save: click to save, save the area fencing.

Binding: binding the vehicle and area fencing.

Delete: delete binding information of the area fencing

Clear: cancel the operation of area fencing.

## Layer operation

[Label legend](#)

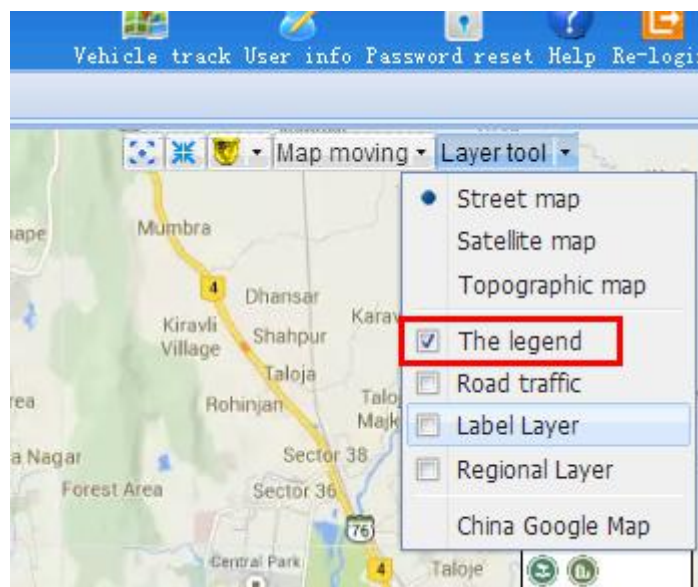
### Function introduction :

To illustrate the illustration on the map.

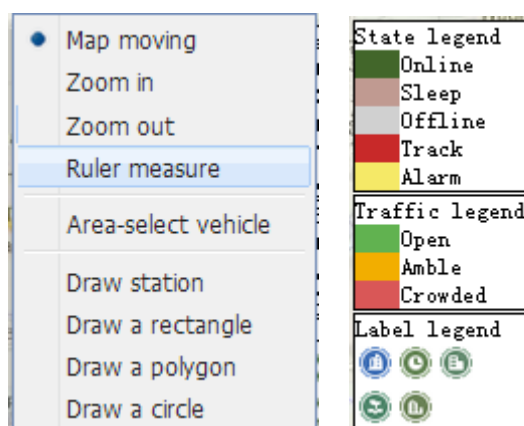
**How to enter:**



Logon system, main menu>




Main page :



**Instruction:**

Illustration instruction: status illustration and road condition illustration.

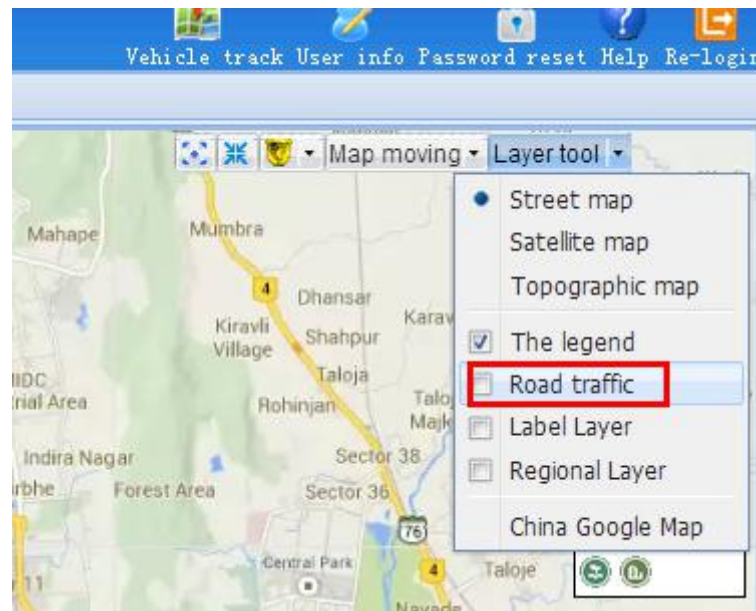
Status illustration:  Grey color arrow means vehicle offline: green means vehicle online: red mean real-time vehicle tracking: yellow means vehicle alarm.

Road condition illustration: To add the green line on either side of the road line, means road open; yellow means amble: red means congestion.

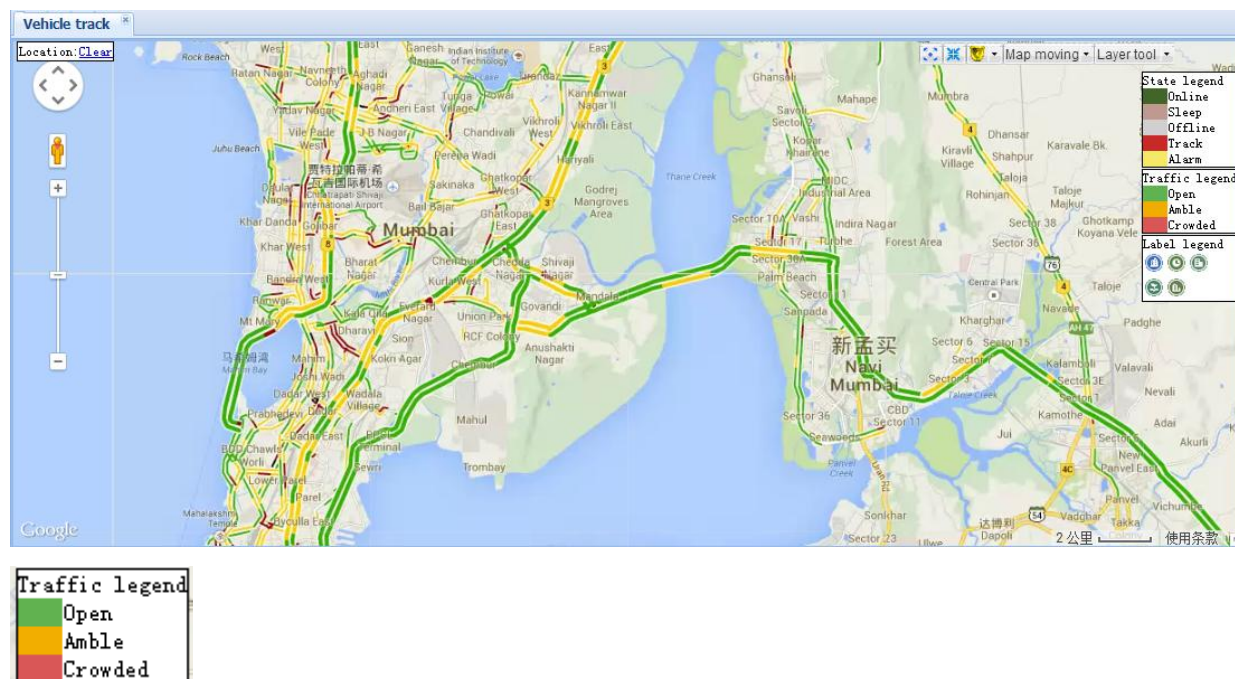
**Road traffic**

This is from a site map, line color shows real-time traffic road conditions, and this function is only for reference.

**How to enter:** Login system, main menu> the layer tools> real time road condition



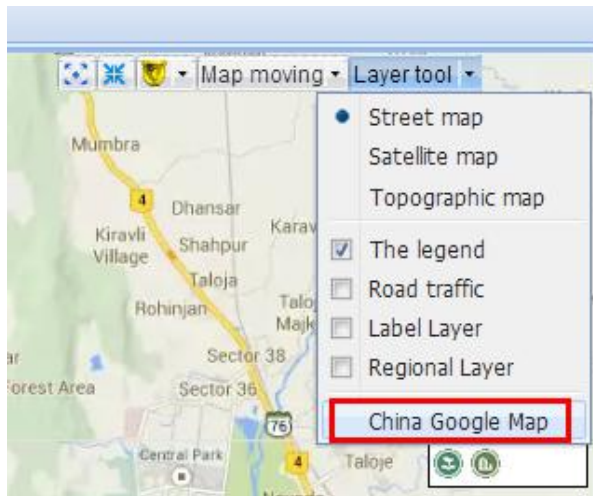
**Main page :**



**Instruction:** To add the green line on either side of the road line, means road open; yellow means amble: red means congestion.

**Map choice**

**How to enter:** Login system, main menu>layer tools



You can choose the map in information setting. Total 4 kinds: YiTu Tong Chinese version, TuMeng Chinese version, Google Chinese version, Google world version.

In China it will choose Google Chinese version for preference; for foreign countries, it will choose Google world version. For those regions which cannot use Google world version normally, suggest to use Google Chinese version.

## 5. Main Functions

### 5.1 Vehicle Protection

**Vibration alarm:** set protection status on smart phone APP. If device has inspected that vehicle is vibrating under sleeping status, device will wake up automatically and send alarm after being online.

**Starting alarm:** set protection status on smart phone APP. If device has inspected that engine is turned on under sleeping status, device will wake up automatically and send alarm after being online. Special situation: there will be illegally starting alarm if engine is turned on before the first-time online that device goes online before installation or wakes up regularly.

**Special situation:** device will issue illegal starting alarm if the vehicle is ignited before online at first time or timing wake-up. This is starting alarm under special situation. APP will tell there is illegal starting alarm.

**Moving alarm:** set protection status on smart phone APP. If device has inspected vehicle is moving under sleeping status, device will wake up automatically and send alarm after being online.

**Power disconnection alarm:** device will send power disconnection alarm message to the server. The alarm message will be shown on platform software.

### 5.2 Vehicle Positioning

When speed is more than 8km/h and turn is more than 50°, device will send position information including positioning time, GPS speed, meter speed, direction, altitude, position and ignition status information in order to improve driving trace accuracy.

When there is harsh acceleration, harsh deceleration, harsh turn, protection alarm and emergency alarm, device will send position information including positioning time, GPS speed, meter speed, direction and altitude etc.

Users can query driving trace on platform or smart phone APP calculated according to the above position information.

### 5.3 Emergency Rescue

Rollover alarm: if vehicle rolls over during driving (three-axis acceleration sensor detects that rollover degree is more than  $60^\circ$ ), device will send alarm and make emergency rescue call.

Impact alarm: if vehicle impacts during driving (three-axis acceleration sensor detects that acceleration is more than  $19.6 \text{ m/s}^2$ ), device will send alarm and make emergency rescue call.

Smart phone APP does not distinguish rollover alarm and impact alarm, both are considered as emergency alarm.

If there is impact or rollover during sleeping, device will wake up and send alarm after being online. If there is impact or rollover during working, device will send alarm immediately.

### 5.4 Device Status

Device indicators status: when device gets power at first time, three indicators will blink at same time and then turn off. The yellow and red indicators will blink after that, which means initialization has been finished. The yellow is online indicator, quick blinking means offline, slow blinking means online. The red is positioning indicator, quick blinking means not fixed position, and slow blinking means fixed position.

Device status query: when device is online, user can query status by smart phone APP, can obtain detailed working status and know current working status.

Uploading contents: device ID, protection status, online status, status update time, communication signal strength, satellites positioning status, accelerator sensor status, bus connection status, device firmware version, module version and runtime etc.

Device sleeping: if device starts at first time, device will keep online until device sleep after fixing position. If device does not fix position in 25 minutes, it will sleep soon. If device has already fixed position, it will sleep in 2 minutes. Device will wake up 1 time every 1 hour during sleeping, and then sleep again after 200 seconds.

### 5.5 Mileage and Fuel Consumption Collection

Mileage collection: device can collect GPS speed and meter speed to calculate interval mileage and send to platform. Platform works out total mileage according to interval mileages.

Fuel consumption collecting: device can connect BUS to collect interval fuel consumption data and send to platform. Platform works out total fuel consumption according to interval fuel consumption data, and make various fuel consumption diagrams.

### 5.6 Driving Behavior Optimizing

Device can collect harsh acceleration, harsh deceleration, high engine revolution times, mismatch between speed and revolution, over speed times and idle times etc and send to platform for calculation and statistics. Smart phone APP grades driving behavior according to platform data.

Over speed: if driving speed is over than preset speed and last preset time, it will be considered as over speed.

Harsh acceleration: when acceleration in 2 seconds is more than preset acceleration, it will be considered as harsh acceleration.

Harsh deceleration: if deceleration in 2 seconds is more than preset deceleration, it will be considered as harsh deceleration.

Harsh turn: if turn in 5 seconds is more than 50° and driving speed is more than 3.5 km/h, it will be considered as harsh turn.

High revolution: if revolution is more than preset revolution, it will be considered as high revolution.

Speed not matches revolution: device obtains vehicle speed and engine revolution, and then check whether the matching relation between the revolution and the speed has obeyed the preset matching relations.

Idle times: if vehicle keeps static status or speed is always less than preset value, it will be considered as idle status. The idle times will add one more every 10 minutes if vehicle is in idle status. Idle times are judged by ignition and speed.

## 5.7 Remote Update

Device supports automatically update and manual update.

Automatically update: platform configure update files. Platform sends synchronization parameters when device is online. If it is different version, device will start to update automatically.

Manual update: platform sends update command when device is online. If it is different version, device will start to update. Device will restart and run new program after finishing update.

Device can keep waking up during update until finishing update.

## 5.8 Trouble Code Diagnosis

Device supports various protocols. It can read vehicle fault information and send to server. User can check detailed fault information on smart phone APP.

## 5.9 APN Setting and Parameters by SMS commands

Please ensure the device is power on before setting. If setting is successful, you will receive success confirmation.

The SMS commands are as below:

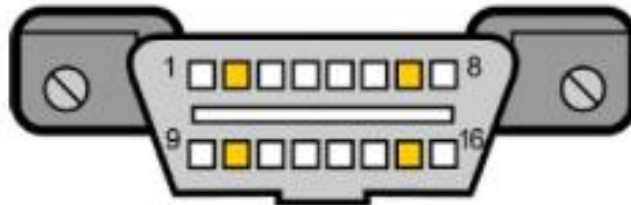
No.	Function	Format	Note
1	Set all	g1,set,IP:PORT:APN:USER:PASSWORD	Eg: g1,set,139.159.44.26:7000:celcom:user:password If user name & password set to 0, it means blank
1	Set IP and port	g1,setip,IP:PORT	Eg: g1,setip,139.159.44.26:7000 You can also set domain name instead of IP
2	Set APN	g1,apn,APN	Eg: g1,apn,celcom Please contact your mobile operator to know APN
3	Set APN user name	g1,user,USER	Eg: g1,user,internet Please contact your mobile operator to know APN user name
4	Set APN password	g1,psw,PASSWORD	Eg: g1,psw,PASSWORD Please contact your mobile operator to know APN user name
5	Reboot	g1,reset	Product will reboot after getting the command
6	Check settings	g1,info	Check whether all settings are correct
7	Get GPS info	g1,gps	Get GPS position
8	Relay control	g1,relayon g1,relayoff	g1,relay1o: turn on relay g1,relay1c: turn off relay



## Specifications

<b>Appearance Features</b>	
16 Pin Connector	Insert in OBDII port in vehicle
Three Indicators	When device connects power at first time, three indicators will light and blink together then turn off. Yellow and red indicators will blink late. This mean device has been initialized.
Blue Indicator	Quick blinking means offline, slow blinking means online.
Green Indicator	Quick blinking means no GPS signal, slow blinking means GPS signal received.
Red Indicator	Sleeping status: Indicator will blink but blue and green indicators will be off. Working mode: Indicator will be off.
USB Port	Locally update firmware and debug program
GPS Antenna	Internal
Communication Antenna	Internal
<b>Technology Parameters</b>	
CPU	NXP ARM7
GPS Module	JRC
Communication Module	GSM850/900/1800/1900MHz
3D Accelerometer	Range : $\pm 2g/\pm 4g/\pm 8g$ Dynamic, Optional Output data rate(ODR): 1.56-800Hz
Protocol	ISO 15765-4 (CAN) ISO 14230-4 (Keyword Protocol 2000) ISO 9141-2 (Asian, European, Chrysler vehicles) SAE J1850 VPW (GM vehicles) SAE J1850 PWM (Ford vehicles)  ISO 15765 ISO 11898 (raw CAN)  SAE J1939 protocol  Non-legislated OBD protocols: Single Wire CAN (SW-CAN) – GM proprietary network Medium Speed CAN (MS-CAN) – Ford proprietary network

General Statement	
Material	ABS
Size	65cm x 55cm x 24cm
Weight	80g
Battery	50mAh li-polymer
Battery	DC 9 - 32V
Current	70mA (Working), 20mA(Sleeping)
Working Temperature	-30°C-75°C
Working Humidity	95% (Non-condensed)



## Interface

PIN	Function	PIN	Function
1	NC	9	NC
2	SAEJ1850 bus +	10	SAEJ1850 BUS-
3	NC	11	NC
4	Vehicle body GND	12	NC
5	Signal GND	13	NC
6	CANBUS HIGH	14	CANBUS LOW
7	K line	15	L or K2 line
8	NC	16	Power +

## IMEI

There is IMEI on device, it is used to identify device and it is also called PN:

PN : Product number, 15 digits, the only identification for device