

# D-1X

## GNSS/ 2.5G GSM/GPRS Vehicle Tracker

### User Manual



## Document History

Version	Date	Updates
1.0	Dec 20, 2017	• Creation

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## 1. Installation guideline

You can positioning and remoting your vehicle, and assets through D-1X by connecting it with a data cable and SIM card. You ' ll need to make sure that your vehicle has ACC, Power, Engine control inputs, connect the cable, and configure D-1X to cellular mode.

### 1.1. Pin assignments



**Figure 1**

**D-1X Pin assignment**

Name	Description	Note
Power +	Power	Input voltage is VDC 9V to 40V
Engine Control	Fuel pump cutoff relay	Maximum current up to 150mA
ACC	Ignition switch input	Input voltage is VDC 7V to 60V
Power -	Ground	

**D-1X LED Description**

Color	Name	Event	Status
Red	GPS Indicator	GPS Off	Dark
		GPS is in fixing	Solid
		GPS is fixed	Every 1 seconds on and 1seconds off
Green	GSM Indicator	Power off	Dark
		Power off and SIM card has been installed	Solid
		Network searching for service	2 seconds off and fast blink
		Cellular service has been registered	4 seconds off and slow blink



**Figure 2**

### Data cable pin assignments

Color	Name	Description
Red	Power +	Connect to VDC 9V to 40V
Green	Engine Control	Connect to fuel pump cutoff relay
Yellow	ACC	Connect to ignition switch input
Black	Power -	Connect to ground

### 1. 2. SIM Card installation

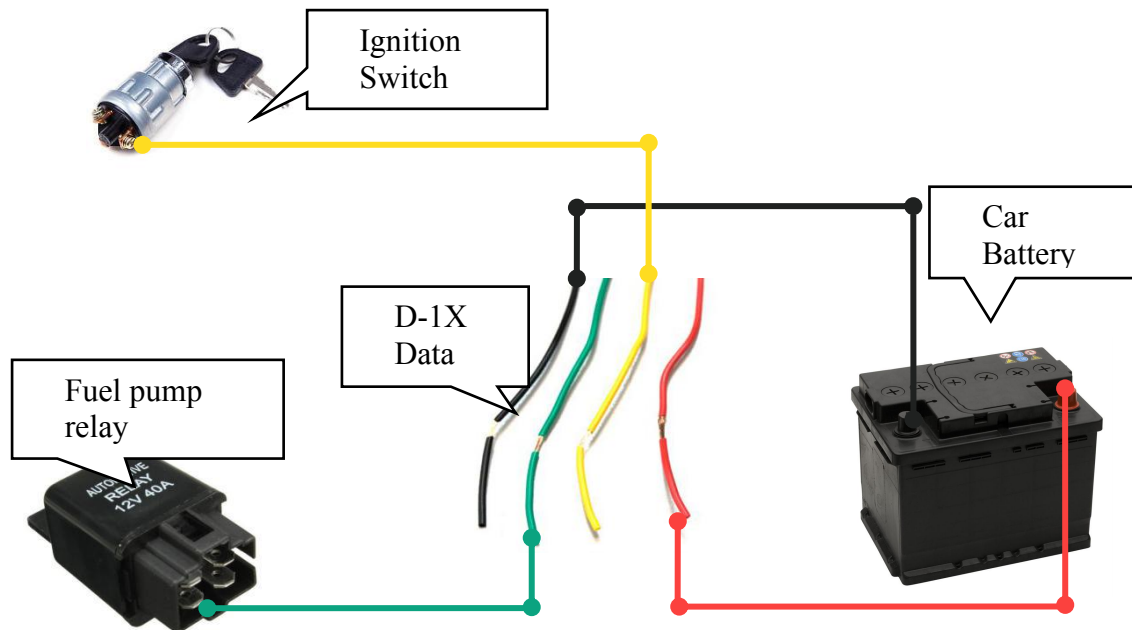
Make sure the SIM card is the right size (Mini-SIM, 25mm x 15mm) for your device. Then, pull the rubber cover and insert your SIM card with the gold contacts facing down into the slot and push the cover back into the D-1X.



**Figure 3**

### 1. 3. Data cable connection

The step to connect a data cable, is to find the input port (Refer to Fig. 2) on your vehicle. For the only purpose of tracking the Power and ACC lines are required. But the engine control line is optional.

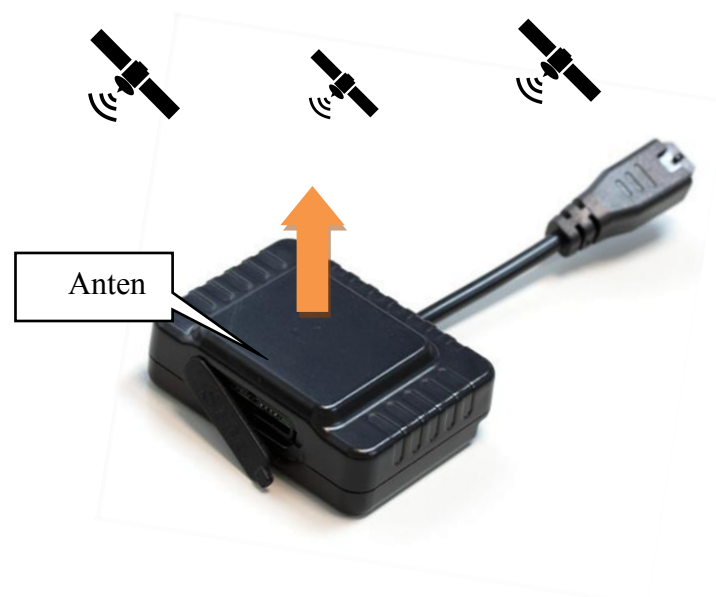


**Figure 4**

### 1. 4. D-1X Connection

The step to connect a D-1X tracker, is to find the plug on the other side of cable. Then, insert the plug into D-1X's jack. Once D-1X has power, the LEDs will begin to blink. It is means your components are correctly connected.

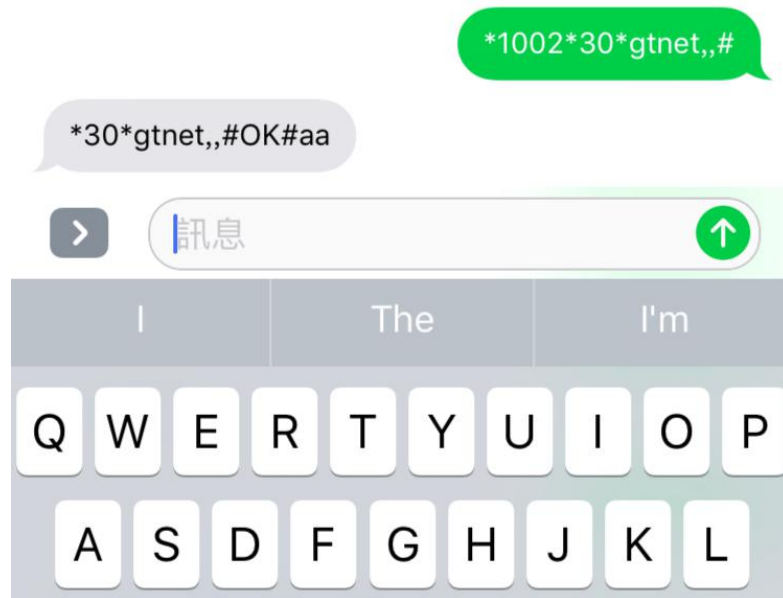
Note. Select a location with a direct line of sight in the direction of the satellite.



**Figure 5**

### 1. 5. Setting cellular services provider number

Send “\*1002\*30\*APN,#” SMS text message from mobile phone to D-1X tracker and receive replies success message “\*30\*APN,#OK” . APN stands for Access Point Name. It is the connection between your cellular service provider and D-1X tracker. Activating APN settings on your device, allows data services to work.

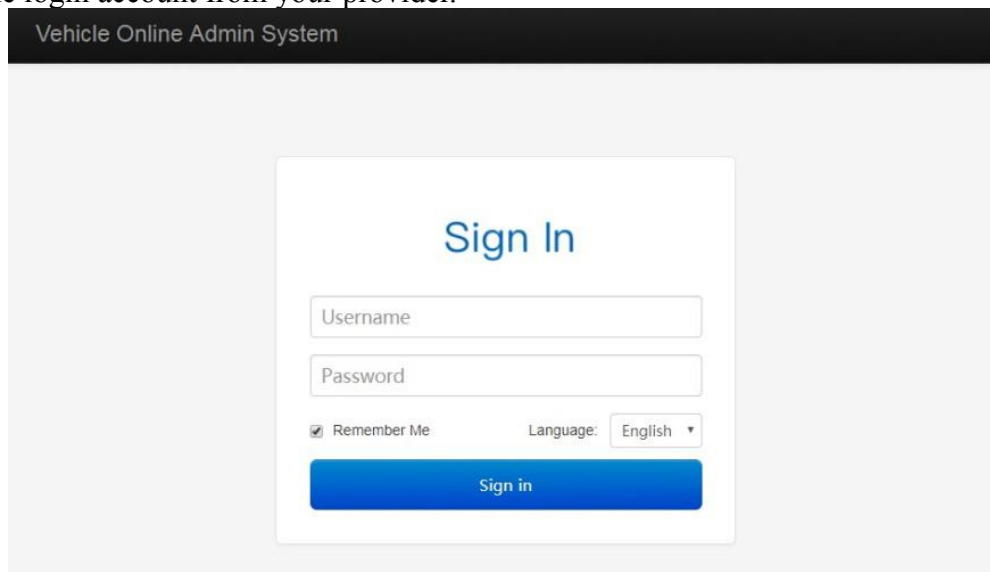


**Figure 6**

### 1. 6. Logging into D-1X vehicle online admin system

Visit LOCOSYS cloud platform <http://console.wisegps.cn/>, filling the user name and password.

Note. Get the login account from your provider.



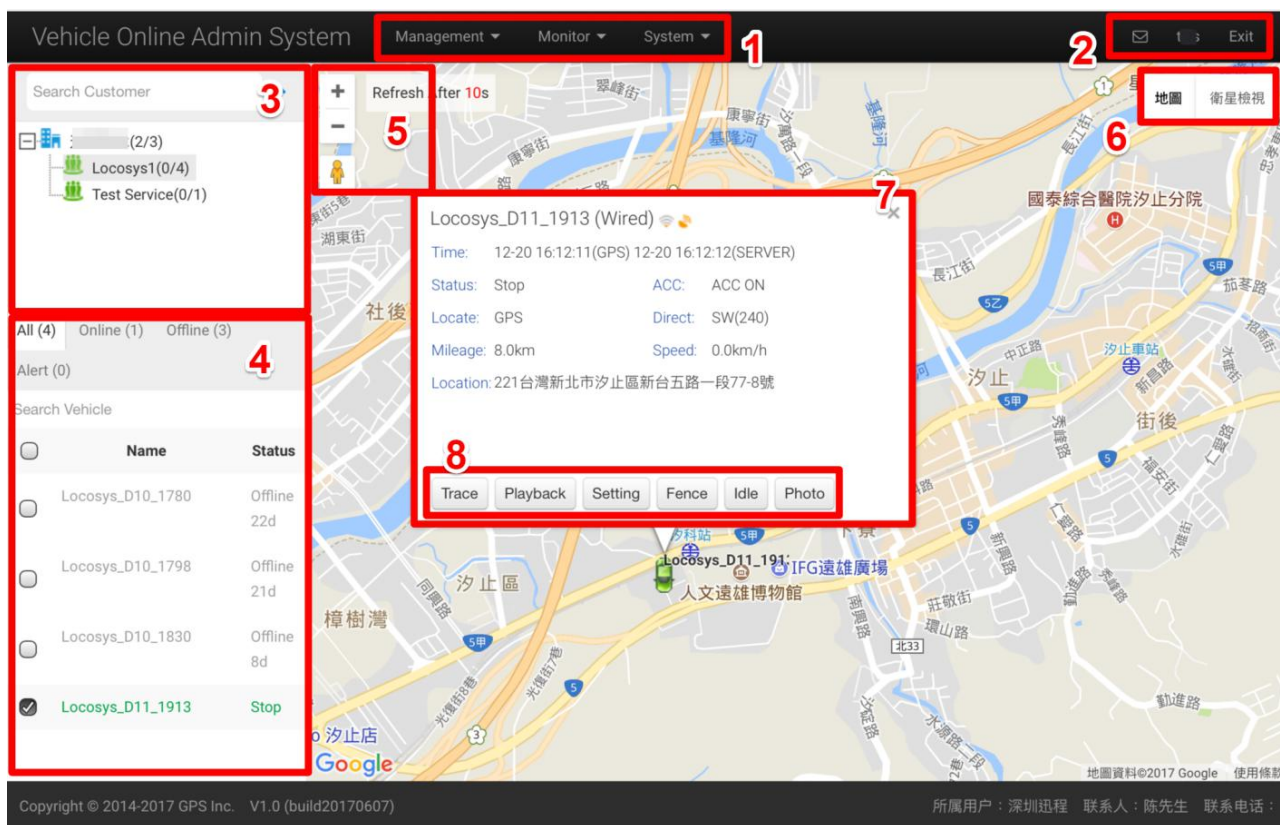
**Figure 7**

If there are any problem with uploading data from your D-1X to the cloud platform. Please refer to the troubleshooting section.



## 2. Vehicle online admin system

### 2.1. Front-end interface



**Figure 8**

#### 1) Top panel

- Management (Please refer to section 2.2)
- Monitor (Please refer to section 2.3)
- System (Please refer to section 2.4)

#### 2) User account panel

- Alert shortcut
- User name
- Log out

#### 3) Customer panel

- Customer list: allows to view all available customers and group objects.
- Search bar: allows to find customer by name.

#### 4) Customer object detail panel

- Visibility checkbox: turns on or off vehicles visibility on map.
- Vehicle name
- Status (Offline/Run/Stop/Alerts)

#### 5) Map controls

- Map zoom control: changes map zoom level.
- Drawing control: draw a circle or a polygon for geofence setting.

#### 6) Maps

- Allow to change currently used Google map view or satellite view.



## 7) Information car balloon

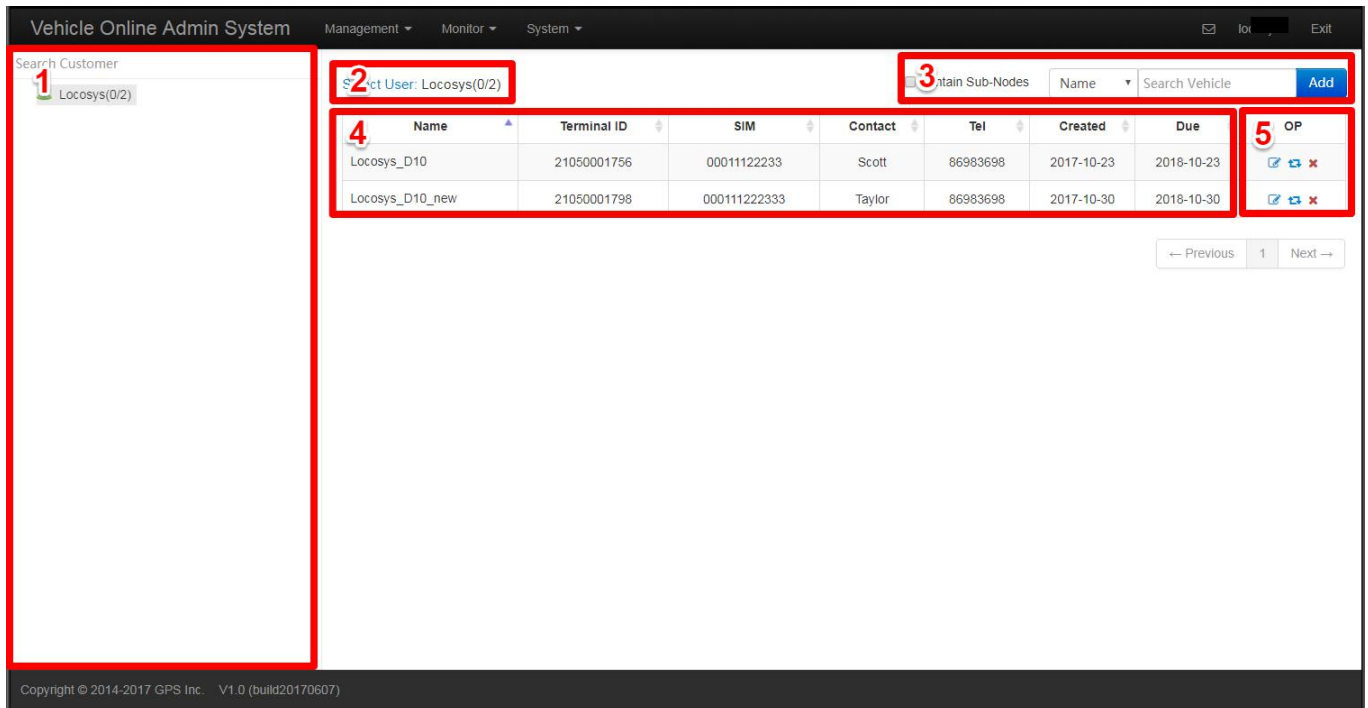
Map shows tracker location. To see more details about vehicle, such as address, speed, direct, time and etc. Just click on vehicle name in group object detail panel.



**Figure 9**

- Vehicle Name
  - GSM indicator
    - Gray icon: No GSM connection
    - Orange icon: GSM is connected
  - GPS indicator
    - Gray icon: GPS is fixing.
    - Orange icon: GPS is fixed.
  - Time
    - GPS time stamp: MM-DD hh:mm:ss (GPS)
    - GSM time stamp: MM-DD hh:mm:ss (SERVER)
  - Status: show vehicle state.
    - Offline
    - Run
    - Stop
    - Alerts (Overspeed/Cut Power/Enter Geo/Exit Geo/Vibration)
  - ACC: shows ignition state.
    - ON: Vehicle is traveling.
    - OFF: Vehicle may turn off now.
  - Locate:
    - BAD: GPS is fixing.
    - GPS: GPS is fixed.
  - Direct: show the direction of tracker.
  - Mileage: show the traveling mileage.
  - Speed: show the speed of tracker.
  - Location: show the location address of tracker.
- ## 8) Object controls
- Trace: Open another map for tracking single device.(Please refer to section 2.3.1)
  - Playback (Please refer to section 2.3.2)
  - Setting (Please refer to section 2.3.6)
  - Fence (Please refer to section 2.3.5)
  - Idle: Open idle list and check idle data. (Only for D-11)
  - Photo: Open image manager and check image data when tracker has installed camera.

## 2.2. Management



**Figure 10**

- 1) Left customer panel
- 2) Customer name
- 3) Management control
  - Add customer (Please refer section 2.2.1)
  - Import device (Please refer section 2.2.2)
  - Add vehicle (Please refer section 2.2.3)
- 4) Group object detail panel
- 5) Object detail operation
  - Edit device information

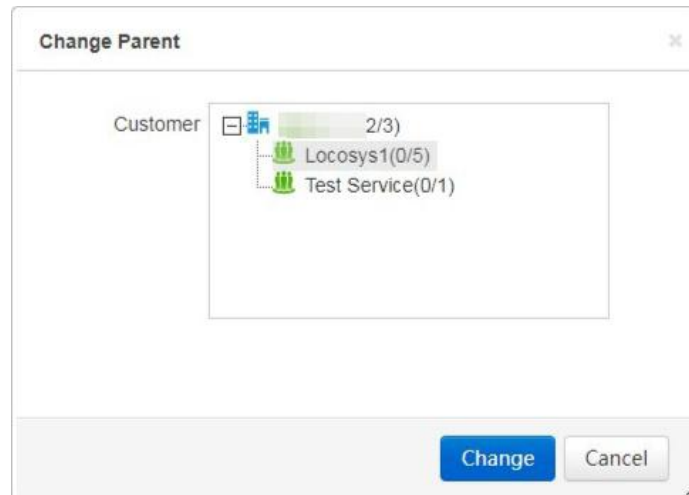
The 'Edit Device' form is displayed. It contains the following fields:

- Terminal ID: 21050001913
- Model: D-11
- Device Type: Wired
- Name: (empty)

At the bottom of the form are 'Save' and 'Cancel' buttons.

**Figure 11**

- Change Parent



**Figure 12**

## ● Delete

### 2. 2. 1. Customer

Customer management is an approach to manage a lot of tracking devices. It's allows user to create user sub accounts and manage their user roles.

Note: user roles with different rights must be created first.

Select User: (2/3) ☐ Contain Sub-Nodes  Search Customer

Name	Type	Contact	Phone	Customer	Vehicle	Created	OP
Locosys1	Company	Manager	88636983698	0	4	2017-10-19	<a href="#">✎</a> <a href="#">✎</a> <a href="#">✕</a>
Test Service	Company	admin	18027653240	0	1	2017-09-01	<a href="#">✎</a> <a href="#">✎</a> <a href="#">✕</a>

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**Figure 13**

Add Customer

Username

Username

Password

Password

Pass Again

Pass Again

Type

Dealer

Role

Vehicle manager

Add Role

Name

Name

Contact

Contact

Phone

PhoneX

Save

Cancel

**Figure 14**

## 2.2.2. Device

Device management allows to import tracking device, manage tracking device and view last connection time and GPS status. It's allows user to import a new device when you get a tracker with their terminal ID.

Select User: Locosys1(0/4) ☐ Contain Sub-Nodes Termin. ▾ Search Device **Import** Assign Refresh

<input type="checkbox"/>	Terminal ID	Name	ICCID	Model	Version	GPS Status	Comm Status	Imported At	OP
<input type="checkbox"/>	21050001913	Locosys_D11_1913		D-11		GPS(No. 77-8, Section 1, Xintaiwu Roa...	Offline ( >1d )	12-12 14:49:10	<a href="#">🔍</a> <a href="#">✖</a>
<input type="checkbox"/>	21050001830	Locosys_D10_1830		D-10		BAD(121.646040, 25.061907)	Offline ( >1d )	11-02 11:30:16	<a href="#">🔍</a> <a href="#">✖</a>
<input type="checkbox"/>	21050001780	Locosys_D10_1780		D-10		GPS(121.645753, 25.061922)	Offline ( >1d )	11-02 11:29:30	<a href="#">🔍</a> <a href="#">✖</a>
<input type="checkbox"/>	21050001798	Locosys_D10_1798		D-10		GPS(121.645693, 25.061918)	Offline ( >1d )	10-30 14:12:49	<a href="#">🔍</a> <a href="#">✖</a>

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**Figure 15**

You can click “Import” blue button to add a new physical device into system.

Import Device

Select File **Browser**

Model

Device Type

Import Device

**Import**

Cancel

**Figure 16**

## 2. 2. 3. Vehicle

Vehicle management allows to add vehicle, manage vehicle, extend object expiration date. It's allows user to add a new virtual vehicle when you have device in list already.

Select User: Locosys1(0/4) ☐ Contain Sub-Nodes Name ▾ Search Vehicle Add

Name	Terminal ID	SIM	Contact	Tel	Created	Due	OP
Locosys_D10_1780	21050001780	11122233344	Taylor	86983698	2017-11-02	2018-11-02	<a href="#">🔗</a> <a href="#">🔄</a> <a href="#">✖</a>
Locosys_D10_1798	21050001798	33345678999	Jack	86983698	2017-11-28	2018-11-28	<a href="#">🔗</a> <a href="#">🔄</a> <a href="#">✖</a>
Locosys_D10_1830	21050001830	333444555678	Linda	86983698	2017-11-02	2018-11-02	<a href="#">🔗</a> <a href="#">🔄</a> <a href="#">✖</a>
Locosys_D11_1913	21050001913	999955551111	Martin	86983698	2017-12-12	2018-12-12	<a href="#">🔗</a> <a href="#">🔄</a> <a href="#">✖</a>

← Previous 1 Next →

**Figure 17**

You can click “Add” blue control button to create new vehicle object into system.

**Add Vehicle(Customer: Locosys1(0&#x2F;5))** ✕

Info **Device**

Name  Contact

Department   Tel

Model  Remark

SIM

**Figure 18**

**Add Vehicle(Customer: Locosys1(0&#x2F;4))** ✕

Info **Device**

Terminal ID

**Figure 19**

## 2.3. Monitor

### 2.3.1. Tracking

Tracking mode has number of important features and allows to see available vehicle list, current object position, last connection time, speed, address, ACC On/Off, important notifications, change map type, vehicle controls and etc.

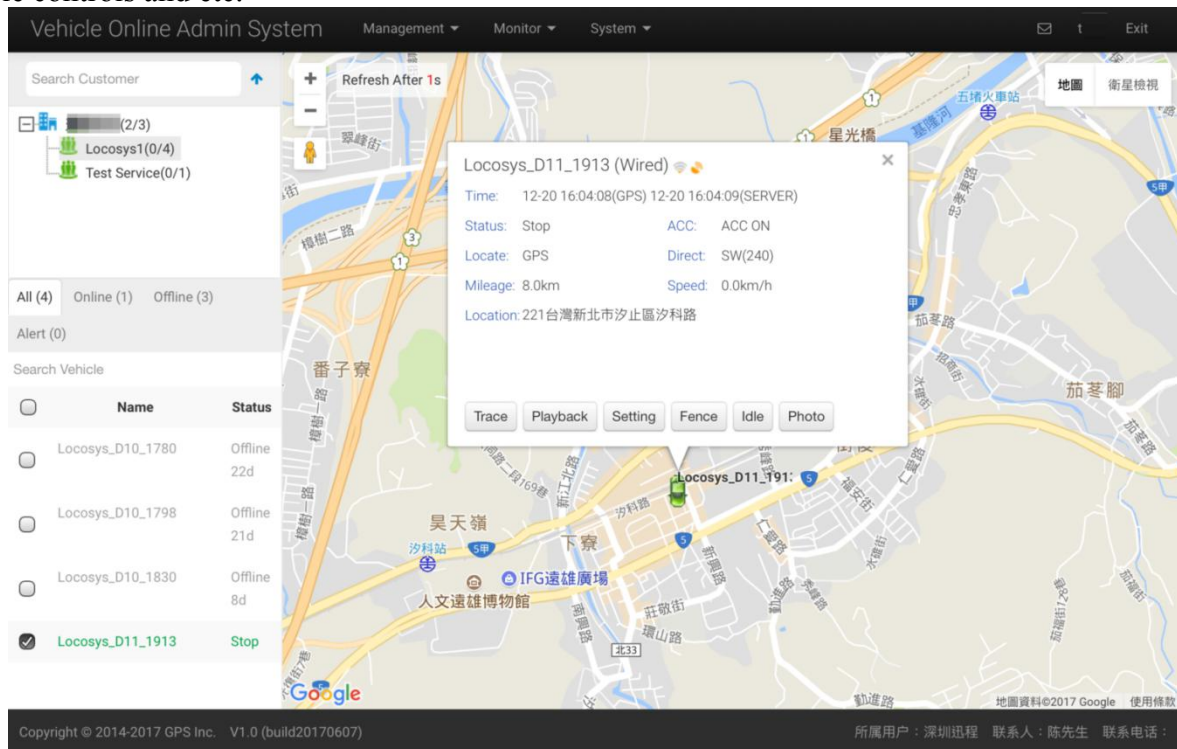


Figure 20

You also can click vehicle control button "Trace", enter real time tracing mode.

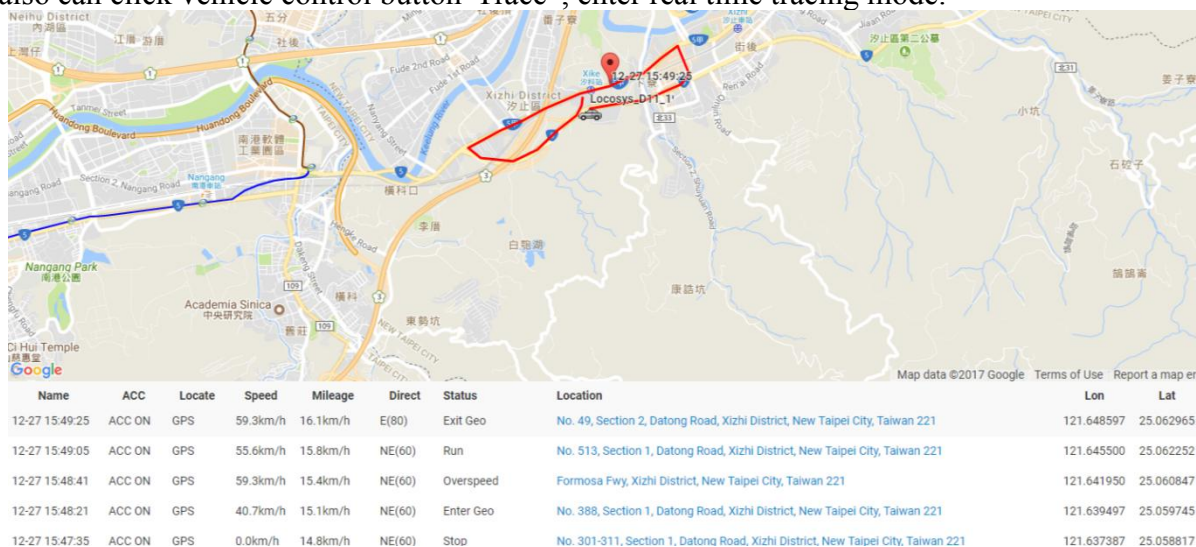


Figure 21



## Vehicle Status:

### Run/Stop - Green Car

Locosys1(0/4)

All (4) Online (1) Offline (3) Alert (0)

Search Vehicle

Name	Status
D11_1913	Stop

D11\_1913 (Wired) 📶

Time: 01-05 12:16:25(GPS) 01-05 18:16:48(SERVER)

Status: Stop ACC: ACC ON

Locate: BAD Direct: SW(220)

Mileage: 44.0km Speed: 0.0km/h

Location: 📍

Trace Playback Setting Fence Idle Photo

### Offline - Gray Car

Locosys1(0/4)

All (4) Online (0) Offline (4) Alert (0)

Input Name/Terminal ID to sea

Name	Status
D11_1913	Offline 14d
D10_1830	Offline 28d
D10_1798	Offline 35d
D10_1780	Offline 14d

D10\_1798 (Wired) 📶

Time: 12-20 16:42:39(GPS) 12-20 16:42:41(SERVER)

Status: Offline

Locate: GPS Direct: SE(130)

Mileage: 9.0km Speed: 0.0km/h

Location: No. 77-8, Section 1, Xintaiwu Road, Xizhi District, New Taipei City, Taiwan 221

Trace Playback Setting Fence Idle Photo

### Alert - Red Car

Locosys1(0/4)

All (4) Online (1) Offline (3) Alert (1)

Search Vehicle

Name	Status
D11_1913	Cut Power

D11\_1913 (Wired) 📶

Time: 01-05 12:16:48(GPS) 01-05 18:12:48(SERVER)

Status: Cut Power ACC: ACC OFF

Locate: BAD Direct: SW(220)

Mileage: 44.0km Speed: 0.0km/h

Location: No. 80, Section 1, Xintaiwu Road, Xizhi District, New Taipei City, Taiwan 221

Trace Playback Setting Fence Idle Photo

**Figure 22**



## 2. 3. 2. Playback

Playback shows all recorded data which server has collected from tracker for a given period of time. The record shows all possible information received from tracker, such as speed, received time, directs, location, etc. It is also could replay any journey taken by any tracker in your system.

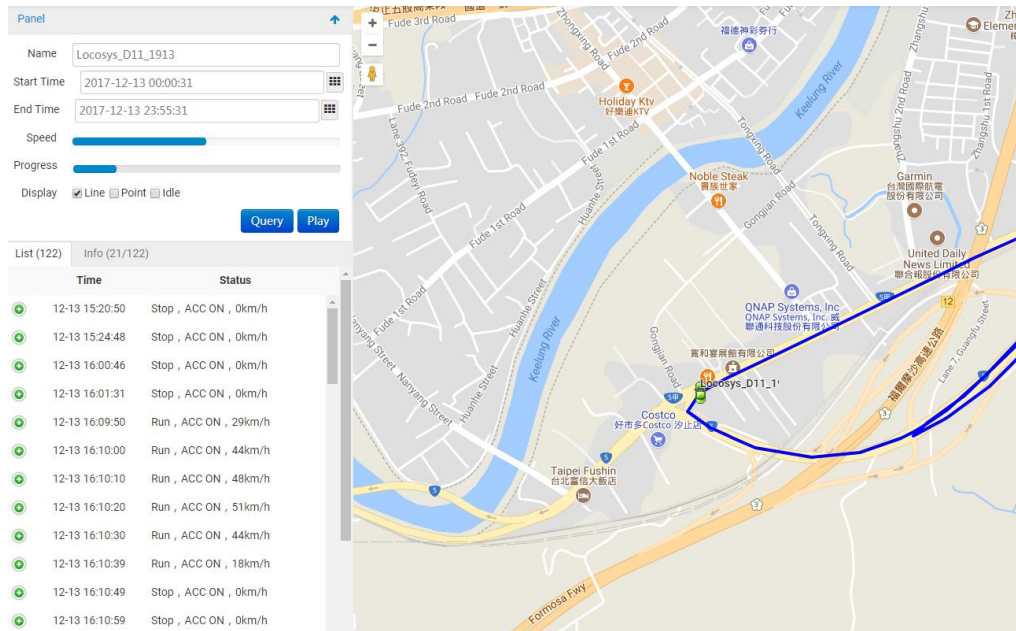









Figure 23

Select desired vehicle, time interval and display type. Then click “Query” control button. You also can click green button to get detail information.

This screenshot shows the same LOCOSYS Playback interface as Figure 23, but with red boxes highlighting specific controls: the 'Select Vehicle' dropdown menu, the 'Start Time' and 'End Time' input fields, the 'Speed' slider, the 'Display' checkboxes (Line, Point, Idle), and the 'Query' button.

Figure 24

List (122)	Info (1/122)
Time	Status
 12-13 15:20:50	Stop , ACC ON , 0km/h
Rcv Time:	12-13 15:20:51
Direct:	NE(40)
Locate:	GPS
Lon-Lat:	121.645878, 25.061948
Location:	No. 182, Section 2, Datong Road, Xizhi District, New Taipei City, Taiwan 221
 12-13 15:24:48	Stop , ACC ON , 0km/h
 12-13 16:00:46	Stop , ACC ON , 0km/h
 12-13 16:01:31	Stop , ACC ON , 0km/h
 12-13 16:09:50	Run , ACC ON , 29km/h
 12-13 16:10:00	Run , ACC ON , 44km/h
 12-13 16:10:10	Run , ACC ON , 48km/h

**Figure 25**

### 2. 3. 3. Alert

Alerts are used to trigger actions by important or disruptive activities. Customer will get only one latest system online notifications triggered by different alert types.

Vehicle Online Admin System

Management ▾

Monitor ▾

System ▾

2

txjs

Exit

Name ▾

Search Alert

<input type="checkbox"/>	Name ▾	Terminal ID ▾	Alert Type ▾	Alert Time ▾	Location ▾	OP
<input type="checkbox"/>	D11_1913	21050001913	Cut Power	2018-01-10 14:09:07	No. 81-2, Section 1, Xintaiwu Road, Xizhi District, New Taipei City, Taiwan 221	<input checked="" type="checkbox"/>
<input type="checkbox"/>	D10_1780	21050001780	Cut Power	2018-01-10 15:02:13	No. 81-2, Section 1, Xintaiwu Road, Xizhi District, New Taipei City, Taiwan 221	<input checked="" type="checkbox"/>

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1

Next →

**Figure 26**

- Vehicle Name
- Terminal ID
- Alert type
  - Over speed alert
  - Cut power alert
  - Enter Geo alert
  - Exit Geo alert
  - Vibration alert (Only for D-11)

- Alert time
- Location
- Operation

## 2. 3. 4. Report

Get detailed summary reports about journey, driving activity, alerts. Reports shows all recorded data which server has collected from tracker for a given period of time. It will help to analyze big amount of data of entire vehicle group.

### Stat Report

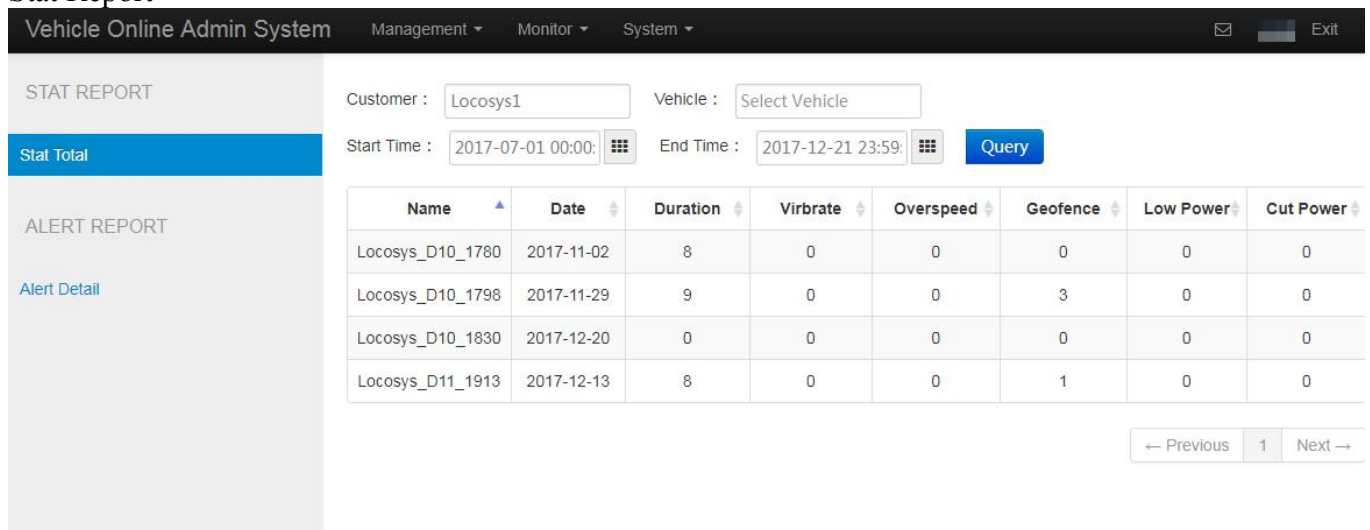


Figure 27

### Alert report

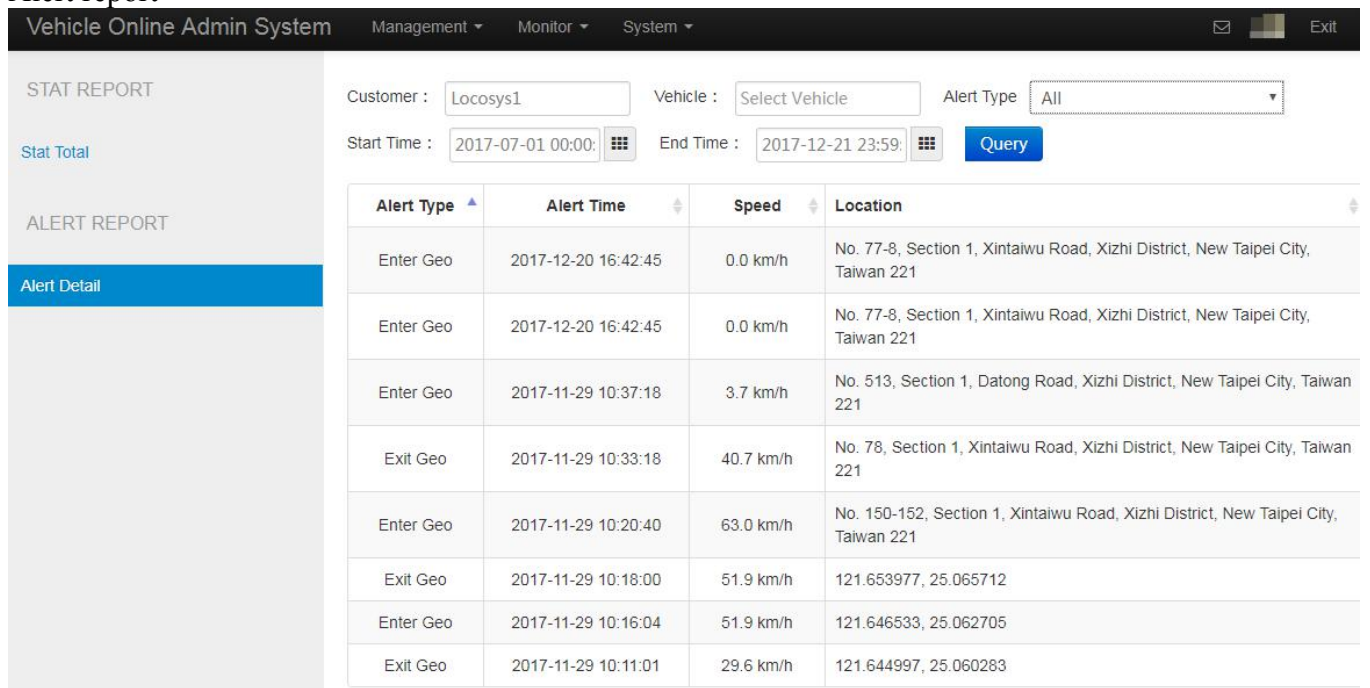


Figure 28

## 2. 3. 5. Geofence (Polygon/Circle)

With geofences you are able to make a virtual polygon/circle areas that have specific interest for you. The main reason to have geofences is to control whether the units stays within it or not, so that when the geofencing unit enters or exits the area a system online notification is generated.

### Polygon Geofence

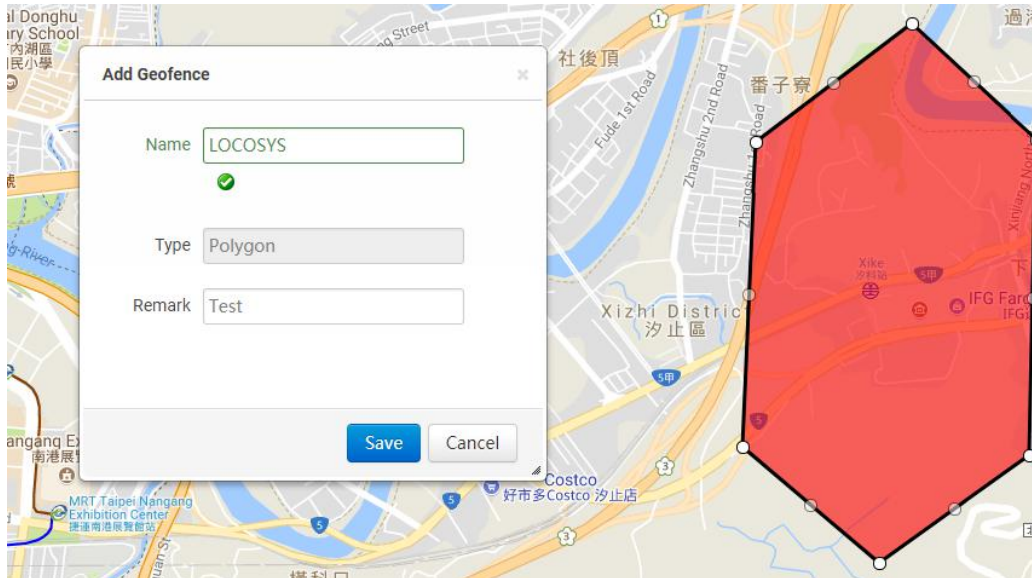


Figure 29

### Circle Geofence

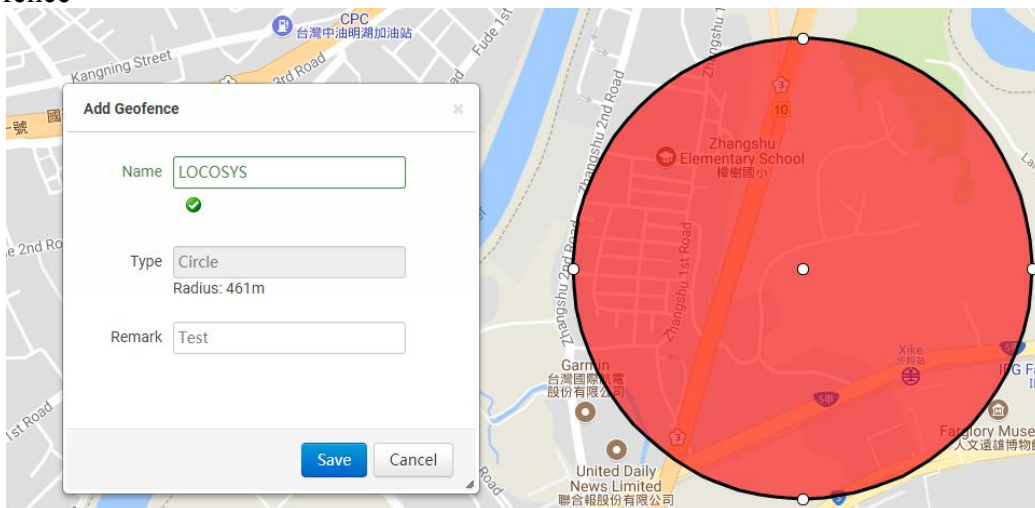


Figure 30

## Tips: How to bind a tracker with geofence?

Step1. Select desired geofence and click list control button.

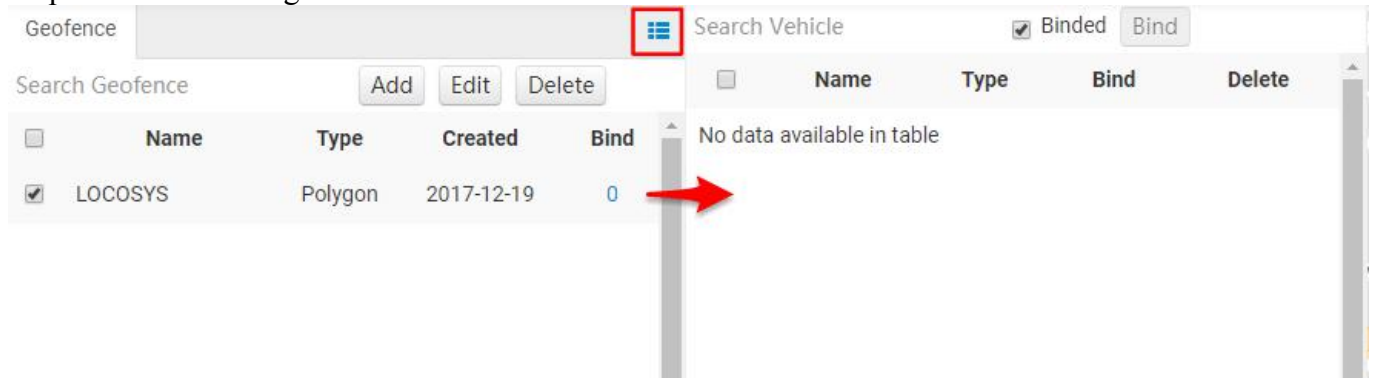


Figure 31

Step2. Remove check from “Binded” and view all not “Binded” vehicle.

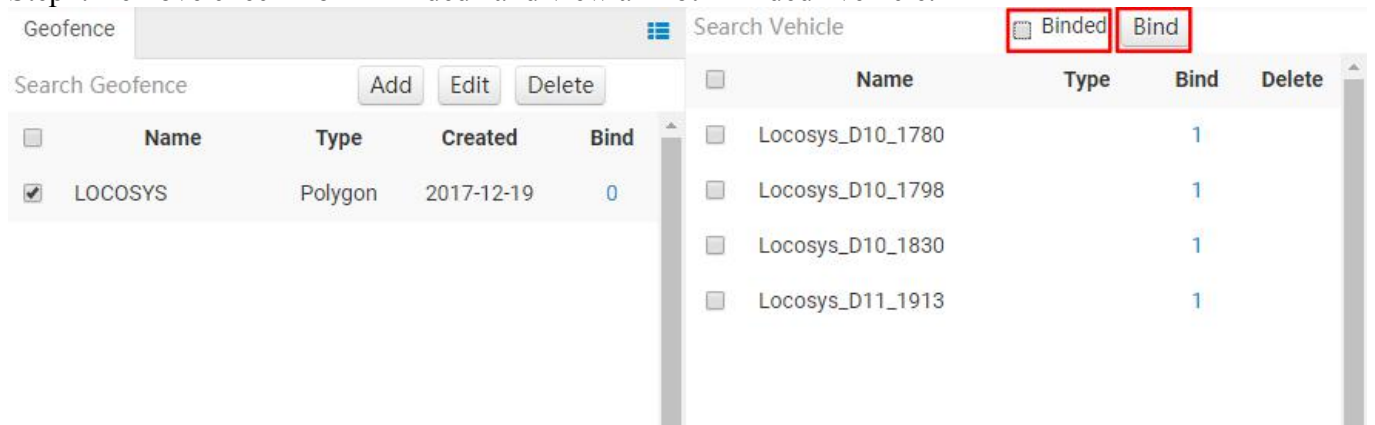


Figure 32

Step3. Check desired “Binded” vehicle and click Bind button.

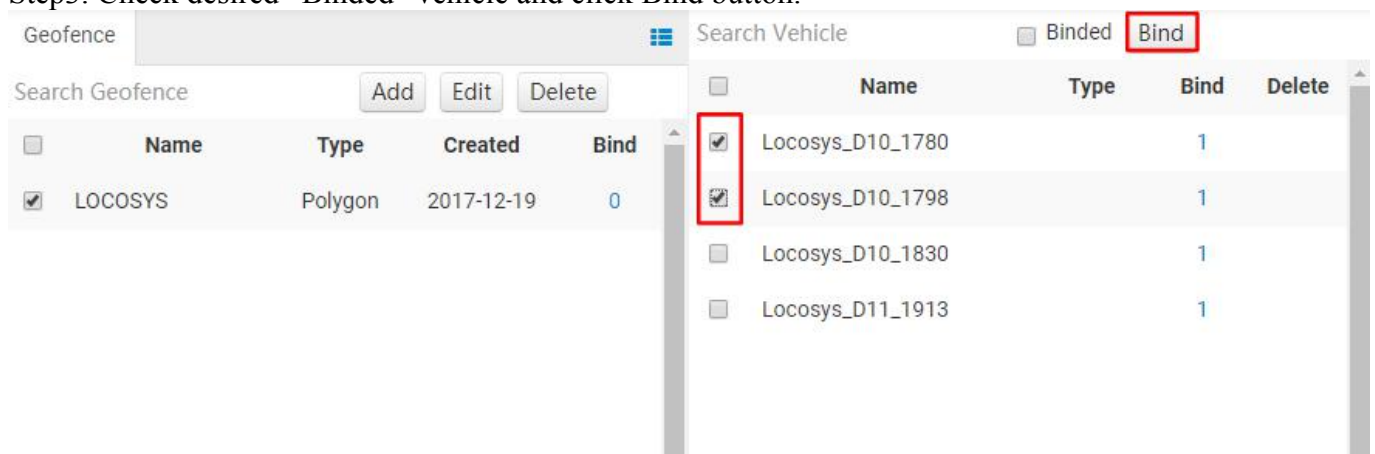
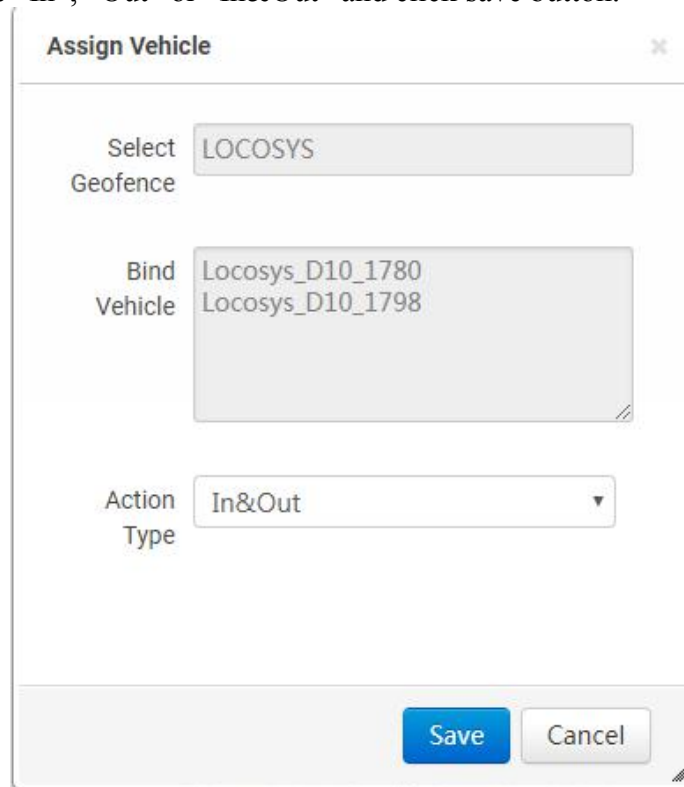


Figure 33



Step4. Select action type “In”, “Out” or “In&Out” and click save button.



The 'Assign Vehicle' dialog box contains the following fields:

- Select Geofence:** A text box containing 'LOCOSYS'.
- Bind Vehicle:** A list box containing 'Locosys\_D10\_1780' and 'Locosys\_D10\_1798'.
- Action Type:** A dropdown menu set to 'In&Out'.
- Buttons:** 'Save' and 'Cancel' buttons at the bottom right.

**Figure 34**

Step5. Check geofence “Bind” number. It should be increment after “Bind” operation.

Geofence					Search Vehicle			
Search Geofence								
<input type="checkbox"/>	Name	Type	Created	Bind	<input type="checkbox"/>	Name	Type	Bind
<input checked="" type="checkbox"/>	LOCOSYS	Polygon	2017-12-19	2	<input checked="" type="checkbox"/>	Locosys_D10_1780	In&Out	2
					<input checked="" type="checkbox"/>	Locosys_D10_1798	In&Out	2

**Figure 35**

### 2.3.6. Setting

System offers object control using commands which is extremely useful feature to control vehicles remotely.

The screenshot shows a 'Device Setting' window. It includes a 'Name' field containing 'Locosys\_D11\_1913', a 'Send Type' dropdown set to 'Send Now', a list of control options (Set Engine, Set Arm, Interval, Overspeed, Restart, Long setting, Upgrade), and a 'Limit' field set to '80 km/h'. The window has 'Save' and 'Cancel' buttons at the bottom right.

**Figure 36**

- 1) Vehicle name
- 2) Send types
  - Send Now
  - Send Online
- 3) Vehicle controls
  - Set Engine: Enable/disable engine functionality
  - Set Arm
  - Interval: set updating period in a given time interval.
  - Overspeed: set overspeed limit value for tracker.
  - Restart
  - Long setting
  - Upgrade
- 4) Parameters



Vehicle Online Admin System							
Customer : <input type="text" value="Select Customer"/>		Vehicle : <input type="text" value="Select Vehicle"/>		<input type="button" value="Set"/>			
<input type="checkbox"/>	Name	Terminal ID	Type	Remark	Send Type	Send Status	Send Time
<input type="checkbox"/>	Locosys_D10	21050001756	Vehicle control	Restore engine	Send Now	Success	2017-10-30 15:40:03
<input type="checkbox"/>	Locosys_D10	21050001756	Vehicle control	Restore engine	Send Now	Success	2017-10-30 15:34:59
<input type="checkbox"/>	Locosys_D10	21050001756	Vehicle control	Stop engine	Send Now	Success	2017-10-30 15:34:47
<input type="checkbox"/>	Locosys_D10	21050001756	Set device param	Set interval to 20s	Send Online	Success	2017-10-19 06:33:42
<input type="checkbox"/>	Locosys_D10	21050001756	Set device param	Set overspeed limit to 40km/h	Send Online	Waiting	2017-10-19 03:53:46
<input type="checkbox"/>	Locosys_D10	21050001756	Set device param	Set overspeed limit to 40km/h	Send Now	Waiting	2017-10-18 16:09:16
<input type="checkbox"/>	Locosys_D10	21050001756	Set device param	Set interval to 40s	Send Now	Success	2017-10-18 15:51:35
<input type="checkbox"/>	Locosys_D10	21050001756	Set device param	Set interval to 10s	Send Now	Success	2017-10-18 15:39:05
<input type="checkbox"/>	Locosys_D10	21050001756	Set device param	Set interval to 20s	Send Online	Waiting	2017-10-09 05:33:03
<input type="checkbox"/>	Locosys_D10	21050001756	Set device param	Set overspeed limit to 40km/h	Send Online	Waiting	2017-10-08 23:37:13

**Figure 37**

## 2. 4. System

### 2. 4. 1. Role

Role setting sections allows add or change different account role settings.

Add Role

Name

MonitorMan

✓

Remark

MonitorOnly

Privilege

Vehicle

Monitor

Tracking

Playback

Alert

Report

Geofence

Setting

System

Role

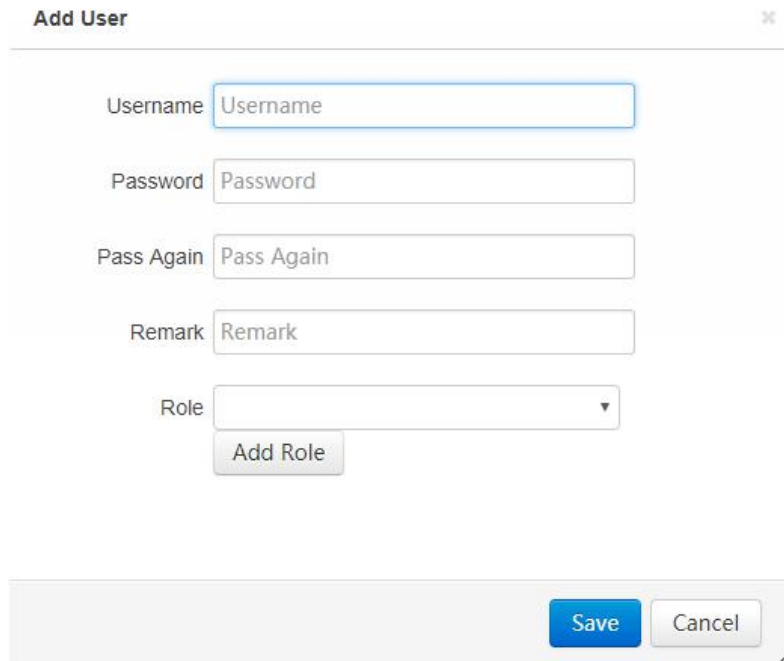
Save

Cancel

**Figure 38**

#### 2. 4. 2. User

User setting sections allows adding or changing different account settings, roles and personal information.



The image shows a web-based 'Add User' dialog box. It has a title bar with 'Add User' and a close button. The form contains five input fields: 'Username' (with placeholder text 'Username'), 'Password' (with placeholder text 'Password'), 'Pass Again' (with placeholder text 'Pass Again'), 'Remark' (with placeholder text 'Remark'), and 'Role' (a dropdown menu). Below the 'Role' dropdown is a button labeled 'Add Role'. At the bottom right of the dialog are two buttons: 'Save' and 'Cancel'.

**Figure 39**

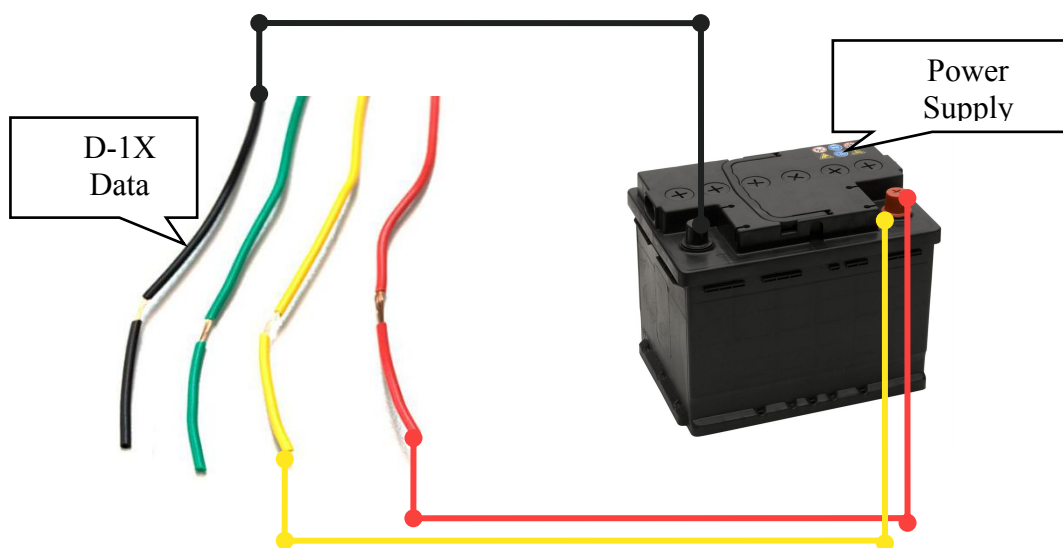
### 3. Troubleshooting

#### 3.1. The D-1X can't connect to server via GPRS ?

If there are any problem on your D-1X, you can reconfigure the device by

1. Check the SIM card has sufficient credit/balance and the SIM is enabled and activated for GPRS. Test this by putting the SIM into a mobile phone and make a phone call over 2G.
2. Select a location with a direct line of sight in the direction of the satellite. It is better to let the top antenna face to open sky (Fig.5).
3. Please refer to our guide below. Using only a power supply to build a self-test environment for cellular data service test.
4. Reconfigure your device.(Please refer to Section 1 Installation guideline)
5. Check your LEDs (both green and red) are keep blinking slowly.

Note. If you connect the D-1X to external power and remove its internal battery, it is fine. But make sure the external power supply is sufficient, at least 12V/1A.



**Figure 40 Self-test environment**

#### 3.2. I can't find the ON/OFF button, how can I turn on the D-1X ?

The device is working when you connected the D-1X to a power source.

#### 3.3. I have a SIM card, but I don't know about my APN ?

You can check your access point name (APN) by using one of the following procedures.

- Visit <https://www.apnsettings.org/>, then find your desire country and cellular service provider.
- In your Apple iPhone go to **Setting**→**Cellular**→**Cellular Data Network**→**APN**
- In your Android smart phone **Setting**→**Mobile Data Network**→**Access point name**