fifotrack FIMS USER GUIDE

Model: FIMS

Version: V1.4

www.fifotrack.com

Copyright and Disclaimer

- All copyrights belong to Shenzhen fifotrack Solution Co., Ltd. You are not allowed to revise, copy or spread this file in any form without consent of fifotrack.
- is trademark of fifotrack, protected by law.
- Please read this user guide carefully before installation to avoid any possible personal injury or property loss.

Document History

Version	Revision Date	Author	Detail
V1.3	Nov 15, 2015	Cici Wu	Revision Version
V1.4	Dec 30, 2016	Vito Hu	Reorganized Version

Reference Documents & Tools

Document	Version
<fifotrack Digital Temperature Sensor User Guide>	V1.1
<fifotrack Fingerprint User Guide>	V1.1
<fifotrack Fuel Sensor User Guide>	V1.1
<fifotrack iButton User Guide>	V1.2
<fifotrack RFID Reader User Guide>	V1.3
<fifotrack Ultrasonic Fuel Sensor User Guide>	V1.1
Tool	**Version**
GPRS Command Generator	V1.0
Download link: http://www.fifotrack.com/Support/Userguide/	

About FIMS User Guide

FIMS tracking software has rich features.
After proper settings, these features can meet different demands and bring more benefits to users.

Easy to start: Chapter 1 to Chapter 5 are basic settings of FIMS tracking software. Users who want easy start please check these chapters only.

Advanced settings: Chapter 6 to Chapter 10 are advanced settings of FIFM tracking software. It requires further understanding in fifotrack GPS tracker hardware and FIMS tracking software. However, the benefits are also great.

Contents

Document History **3**

Reference Documents & Tools **4**

About FIMS User Guide **5**

1 Request an Account **8**

1.1 Workspace overview 8

1.2 Necessary Account Setting 10

2 Add an Object to FIMS **11**

3 History **12**

4 Places **13**

4.1 Marker 13

4.2 Route 14

4.3 Zone 16

5 Report **17**

6 Setting Sensors **20**

6.1 Setting Digital I/O Sensor 21

6.2 Setting Power Supply Sensor 22

6.3 Setting other Sensor 22

6.4 View Sensor information 22

6.5 Export/Import Sensor Setting 23

7 Setting Events **23**

7.1 Add an Event 23

7.2 Setting Speeding Event 27

7.3 View Event Information 28

8 Setting Odometer **29**

8.1 Setting FIMS Odometer 30

8.2 Setting Object Odometer 30

9 Accessory Using **32**

9.1 RFID/iButton/fingerprint Using 32

9.2 Digital Temperature Sensor Using 36

9.3 Fuel Sensor Using 38

9.4 Ultrasonic Fuel Sensor Using 40

9.5 Camera 43

10 Sending Command 43

10.1 Control 44

10.2 Templates 45

10.3 Setting Output Control 46

1 Request an Account

Demo account:

PC Login page: www.fimsgps.com

Mobile login page: www.fimsgps.com/mobile

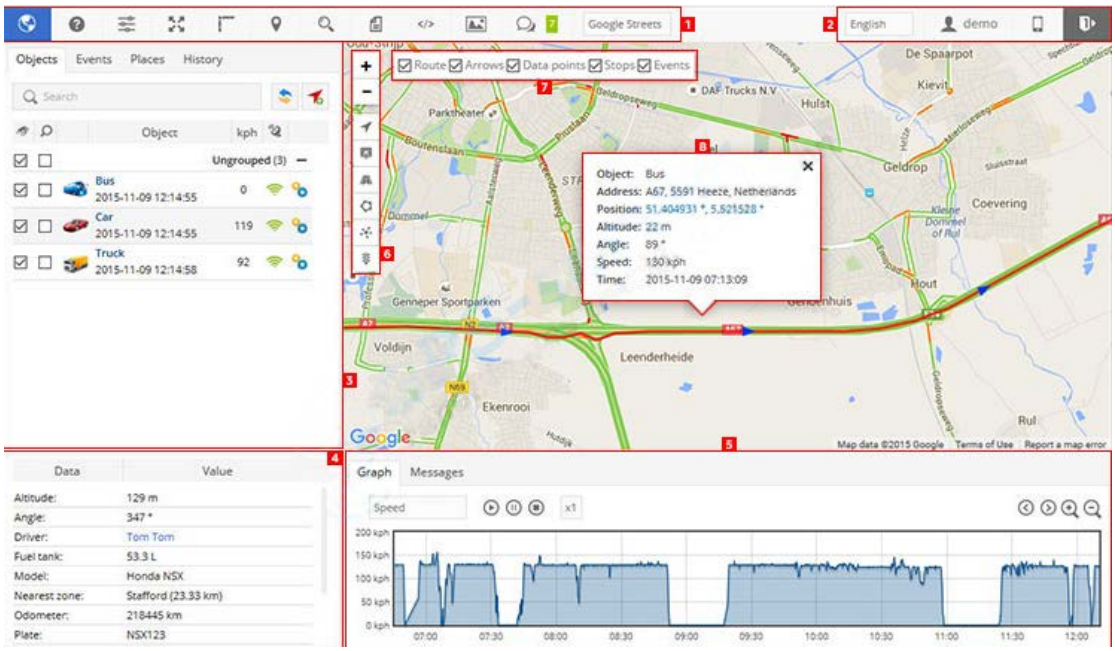
ID: fims

Password: 123456

Email to info@fifotrack.com to request an account.

1.1 Workspace overview

After login you will be redirected to the main page. Main page allows to access most common tracking features and settings, monitor object position on map ant get detailed information such as speed, coordinates, address, movement history and more.



1 Top panel.

2 User account panel.

3 Left panel.

4 Object details panel.

5 History panel.

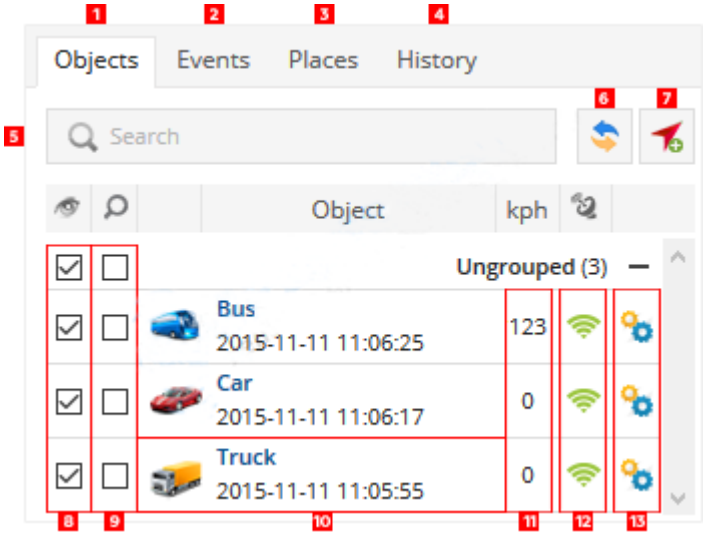
6 Map controls.

- Map zoom control
- objects
- markers
- routes
- zones
- Clusters - useful feature for those who has large number of objects and markers. Splits markers and objects into groups, which according to map zoom level will reveal content inside of it.
- Live/traffic (available only with Google maps).

7 Route control.

8 Object details.

Objects list tab allows to view available objects, find them on map, view object route history and edit object settings.



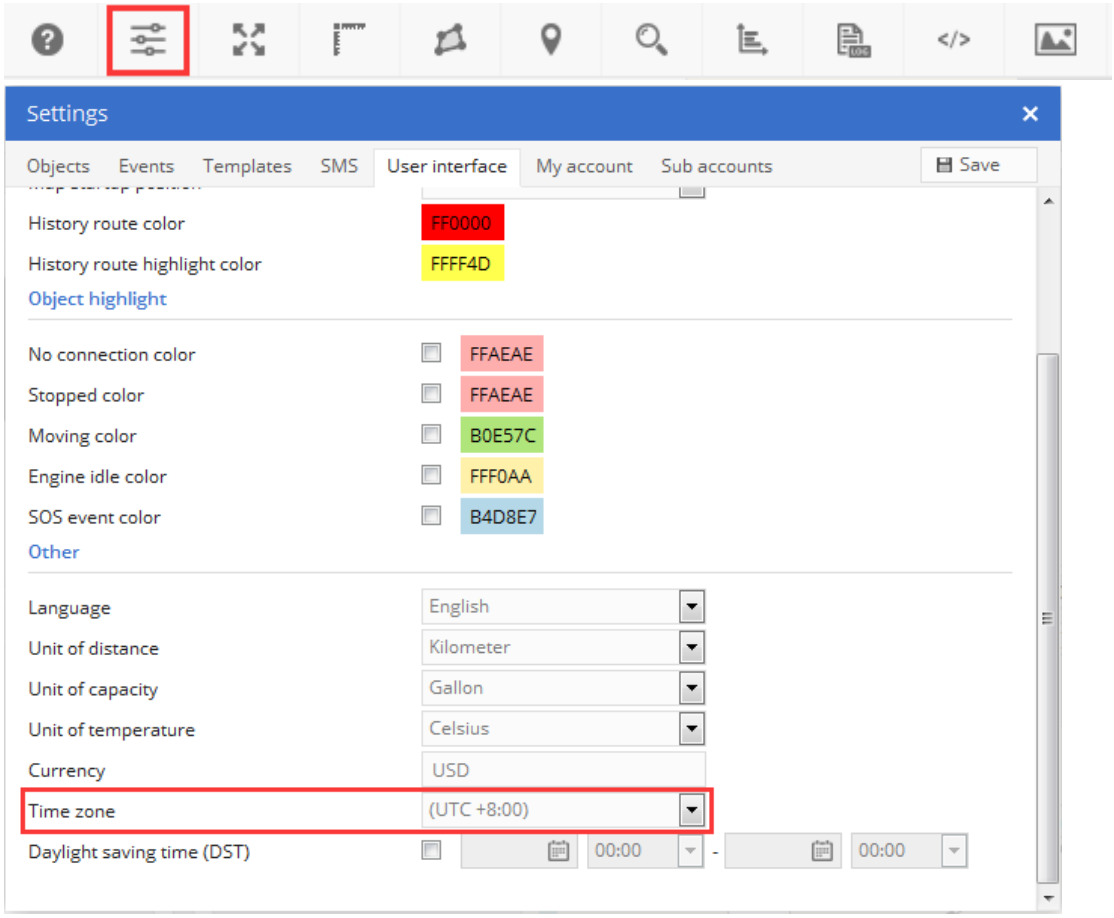
1. **Objects tab** - view current objects statistics.
2. **Events tab** - history of events can be viewed (over speeding, entering or leaving zones and etc.).
3. **Places tab** - allow creating, editing and deleting zones and markers.
4. **History tab** - view history, create reports, export them to various formats etc.
5. **Search** - allow finding objects by name.
6. **Reload** - reload objects list.
7. **Add object** - allow adding new object.
8. **Visibility checkbox** - turn on or off objects visibility on map.

9. **Follow checkbox** - center selected object in the middle of the screen every time GPS device has refreshed its position, if multiple objects selected - map zooms the way that all of them remain visible.
10. **Object information** - object name, date and time of last received location.
11. **Speed indicator** - show current object speed.
12. **GPRS indicator** - show GPRS and GPS status.
    - Grey icon - no GPRS and GPS
    - Orange icon - no GPS signal
    - Green icon - GPRS and GPS are OK
13. **Object control** - allow to see object history, control objects using commands and edit object settings.

1.2 Necessary Account Setting

After login, user time zone needs to be set first, because all date/time display, and all date/time selection for report is based on time zone.

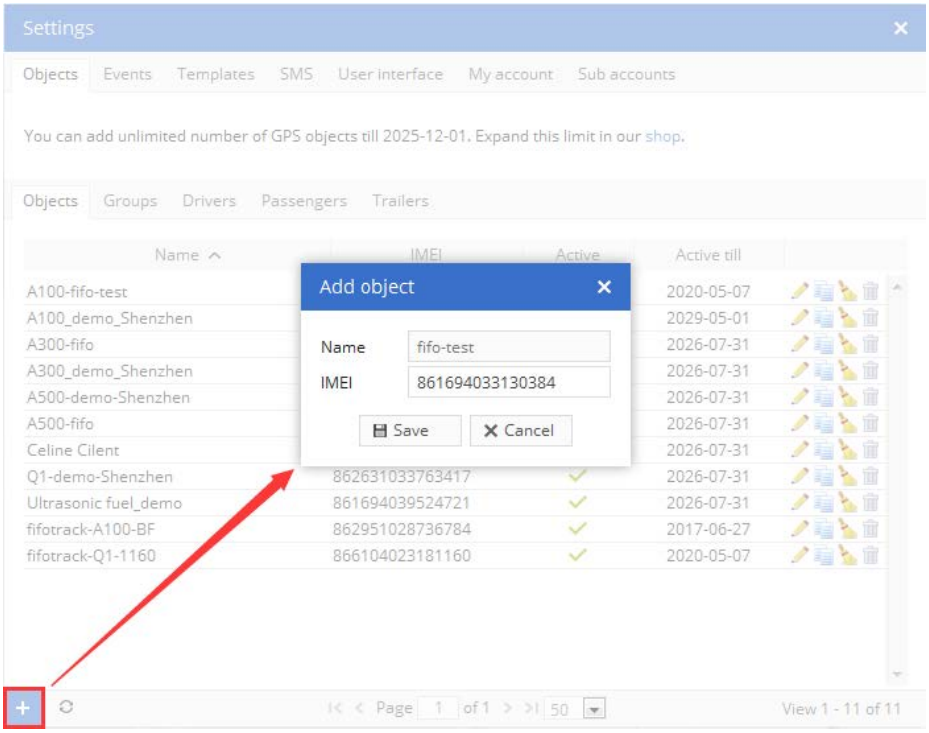
Click “Settings” icon→”User interface”; On the dialog, select local time zone shown as below, user can set other settings according to personal interests or actual using.



2 Add an Object to FIMS

On “Settings” dialog, click “Add” button to add an object to FIMS, user needs to input name and IMEI, while IMEI is used to identify uploading data, it can be read from object’s package.

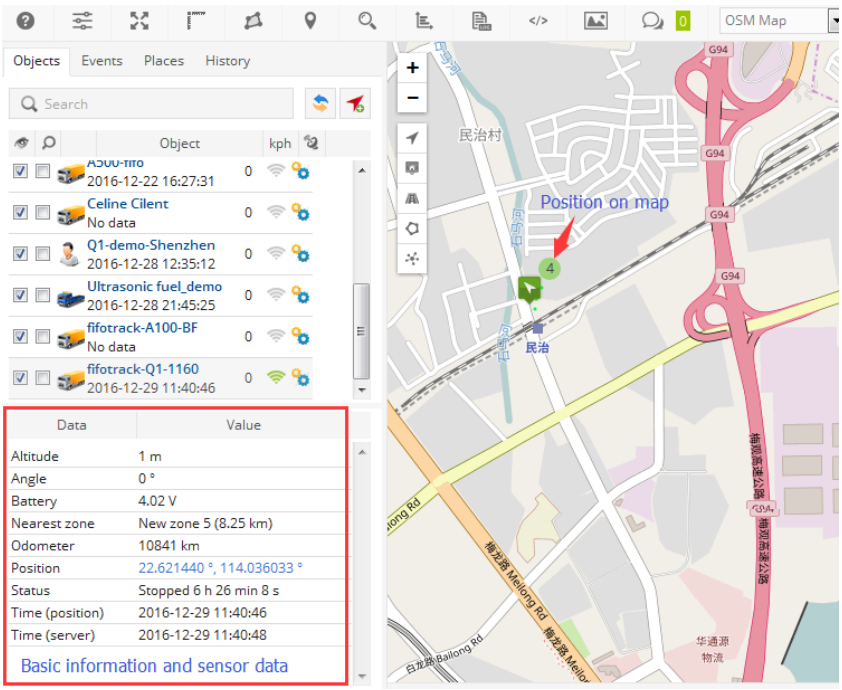
Default, object is set to link to FIMS, user needs to set APN, APN user name, APN password to object, and then, object will connect to FIMS, upload data after SIM inserted and power on.



NOTE:

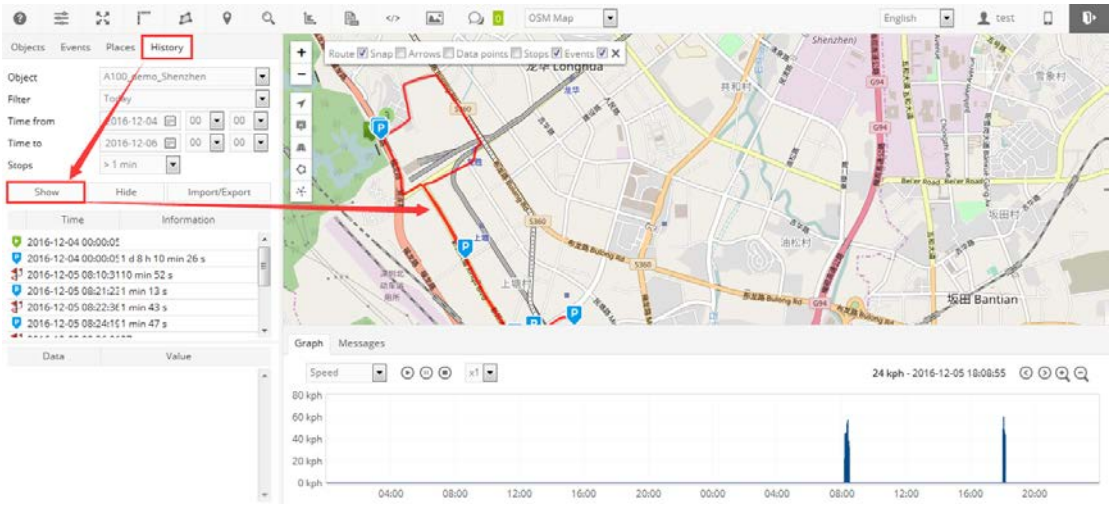
- Refer to user guide for the detail of object’s setting and installation
- For the first using, object needs to receive valid GPS signal, and then, object’s information will be shown on the map

When data with valid GPS signal uploaded to FIMS, object’s position and other information will be shown on FIMS, as below:



3 History

FIMS supports history display; Historical trace can be viewed on map. Click “History” button, select object and time period, click “Show”, and then, history will be shown on map.



Click “Import/Export” button, detailed history data can be exported according to the below formats:

- GSR
- GPX
- KML
- CSV

4 Places

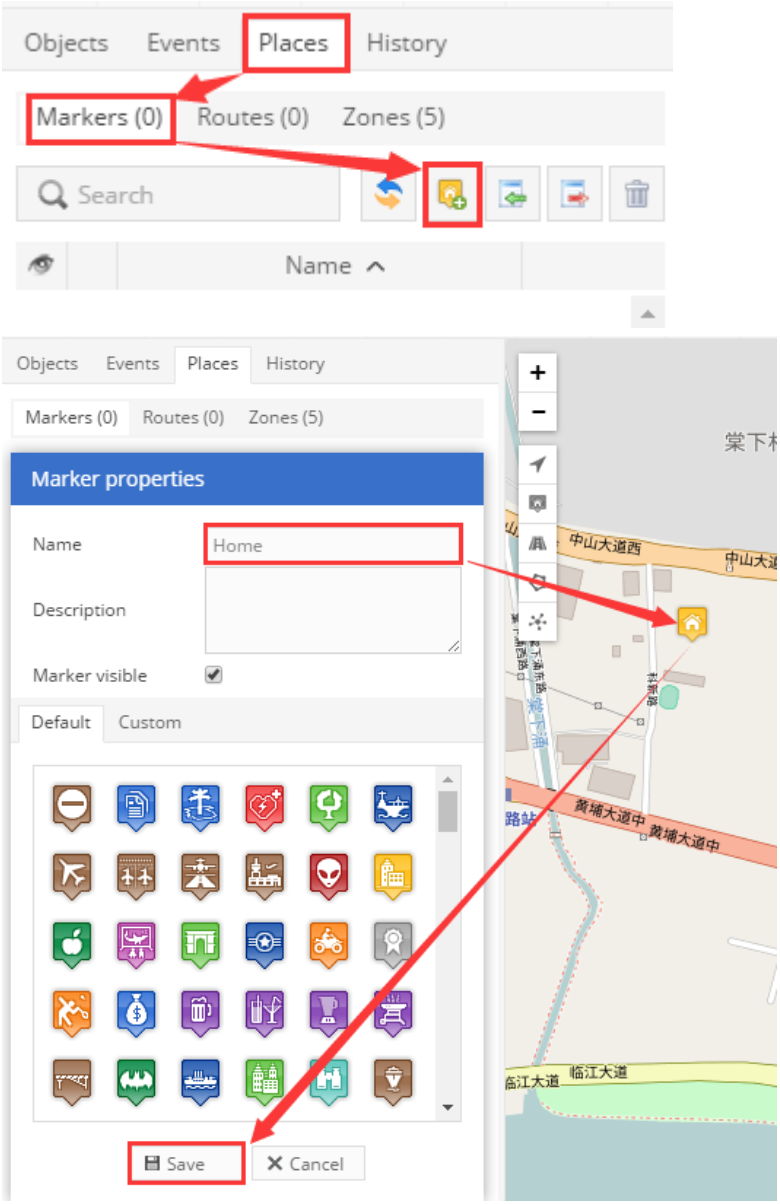
FIMS supports three kinds of places:

- Marker
- Zone
- Route

4.1 Marker

Marker is a point of interest, which is used to find point on map rapidly; To add marker, click "Places"→"Marker"→"Add marker", on the popup dialog, enter marker name, click on map at the interest point, click "Save" button, the a marker is added.

After marker is added, click one at marker list, map will move to the set place on map.



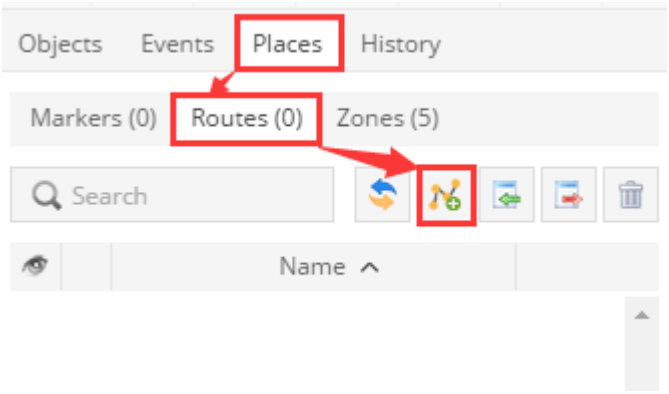
4.2 Route

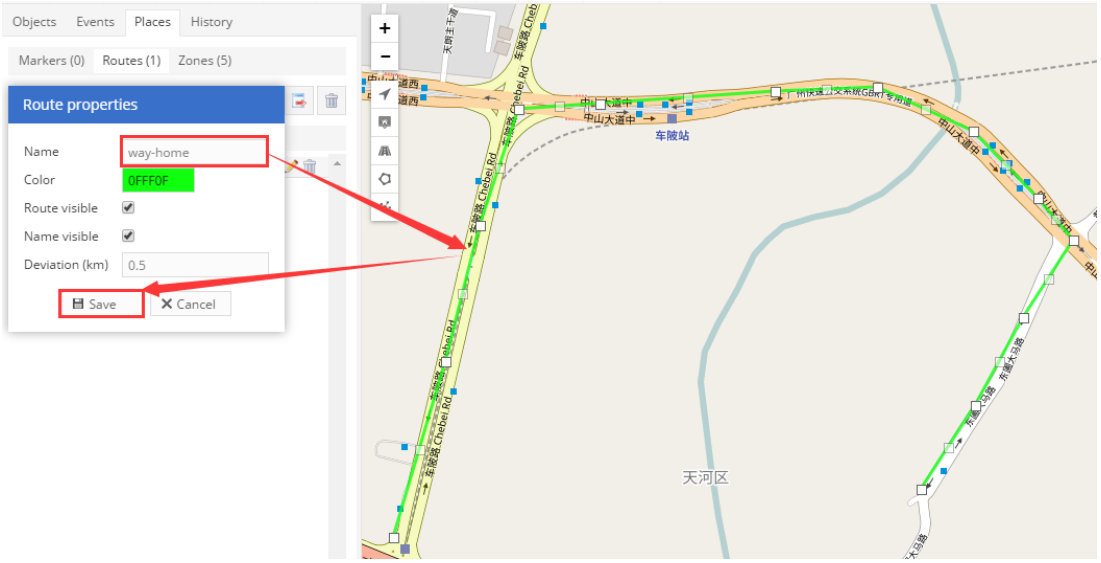
"Route" defines a planned path, which allows creating routes and using them to get notifications about entrance and exits. This feature allows monitoring object dependency to the route.

To add a route, click "Places"→"Routes"→"Add route", on the popup dialog, enter route name, click multiple points, and,

- Click on map to add a route point
- Double click to add the last point
- Drag point to modify place. Move mouse cursor onto point and left click to remove it

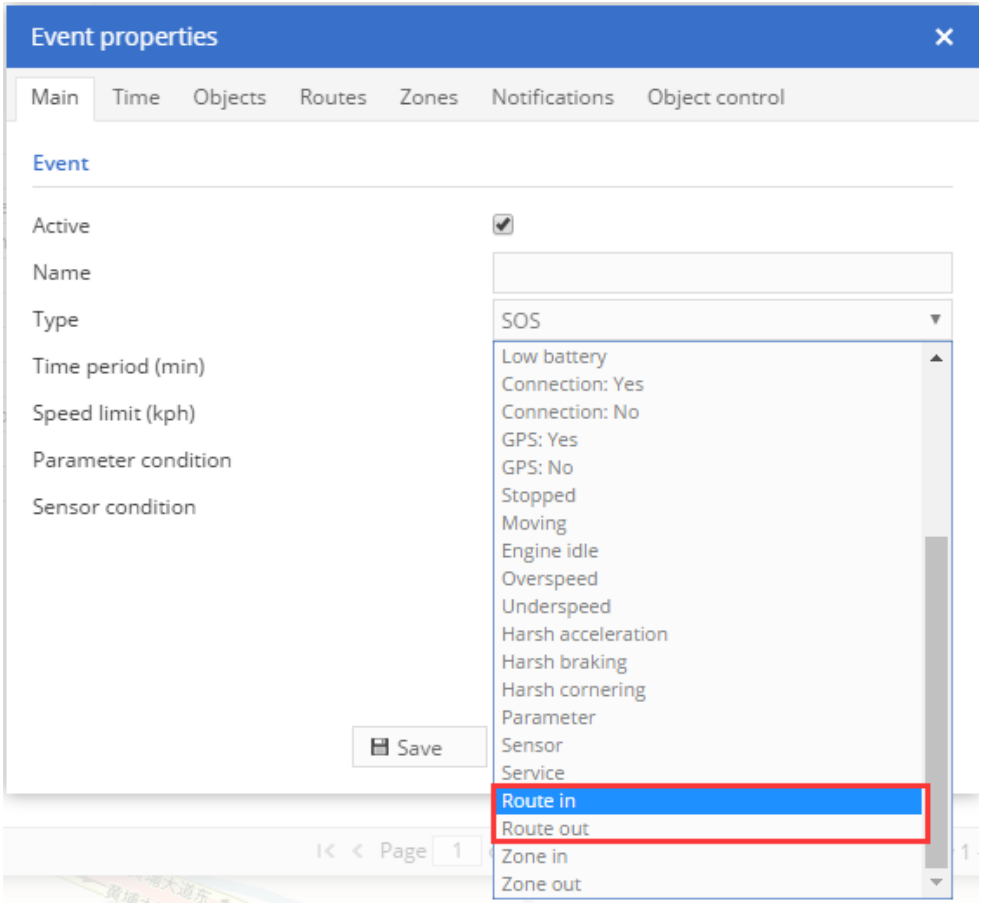
After points added, click "Save" button, and then, a route is added.

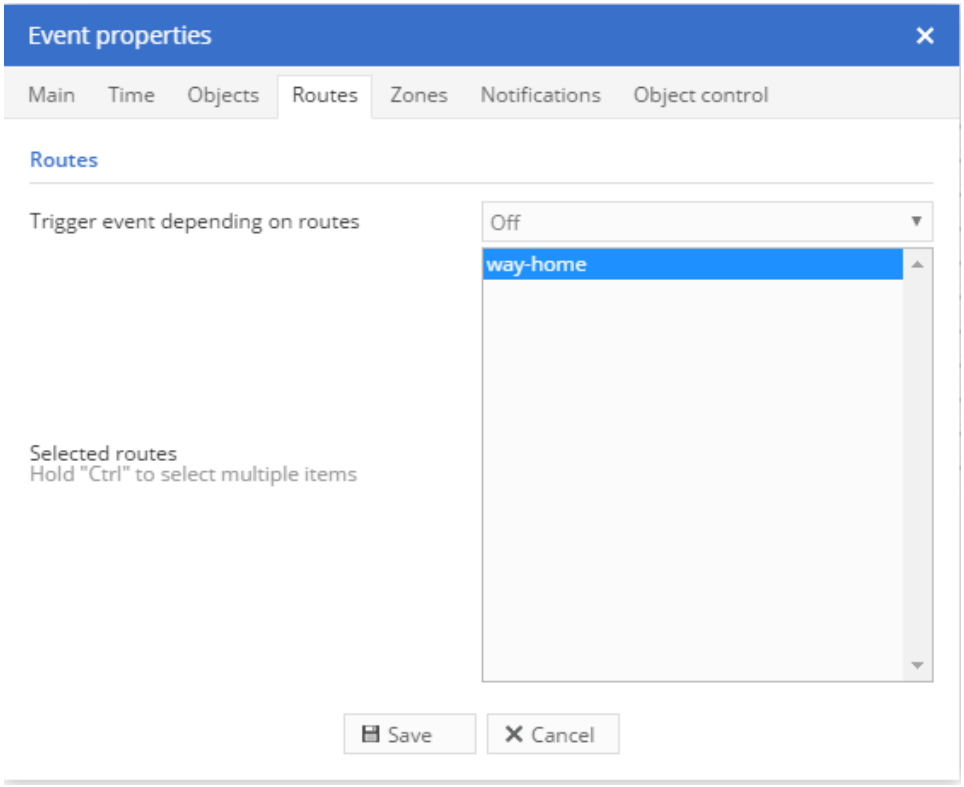




After route added, user can set "Route in"/"Route out" event:

- Select "Route in"/"Route out" for event type on "Main" page
- Select route name on "Routes" page





After route event added, FIMS will detect the status for route deviation, and send “Route in” or “Route out”.

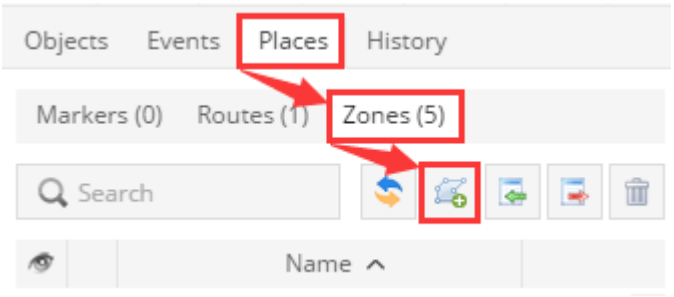
4.3 Zone

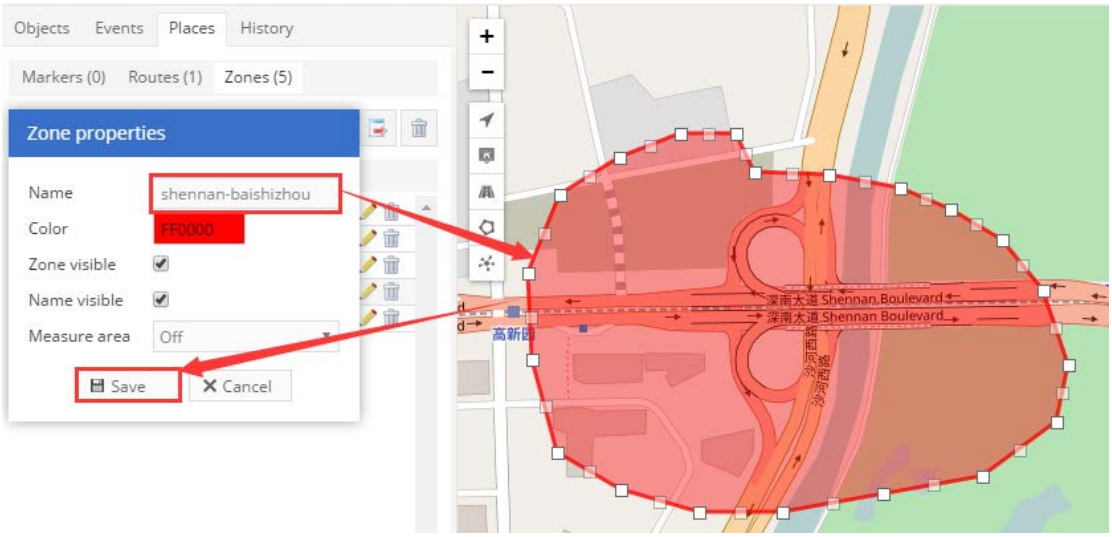
"Route" defines a polygon geo-fence, which allows creating area and using them to get notifications about entrance and exit. This feature allows monitoring object dependency to the area.

To add a zone, click "Places"→"Zones"→"Add zone", on the popup dialog, enter zone name, and click on map to:

- Click on map to add a zone point
- Double click to add the last point
- Drag point to modify zone. Move mouse cursor onto point and left click to remove it

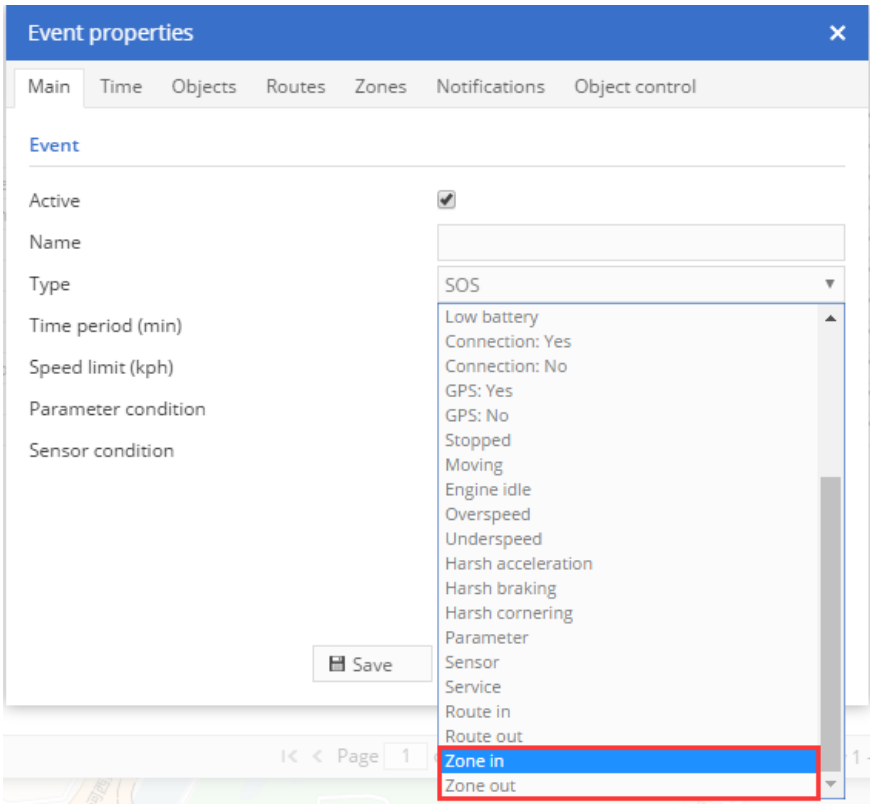
After points added, click "Save" button, a zone is added.

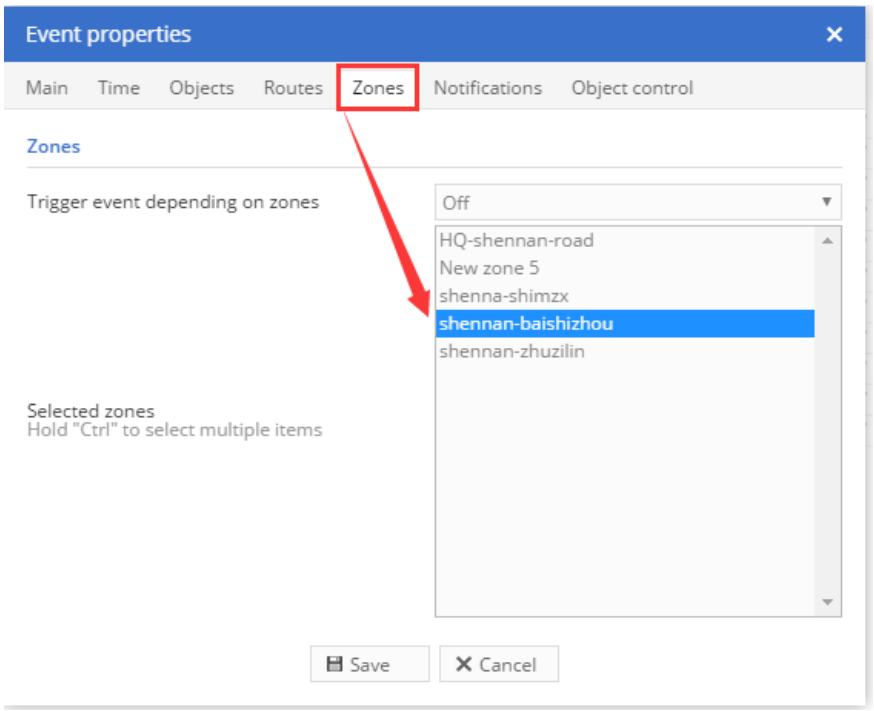




After route added, user can set "Zone in"/"Zone out" event:

- Select "Route in"/"Route out" for event type on "Main" page
- Select route name on "Routes" page





After zone event added, FIMS will detect whether object(s) enter or exit the selected zone, and send "Zone in" or "zone out".

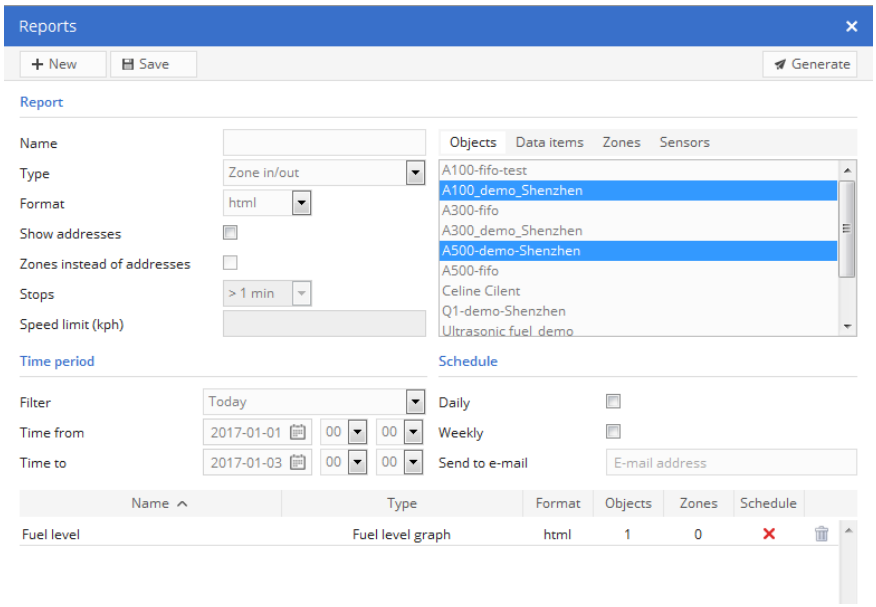
5 Report

FIMS supports various reports for data statistics, click "Reports" icon to open dialog,

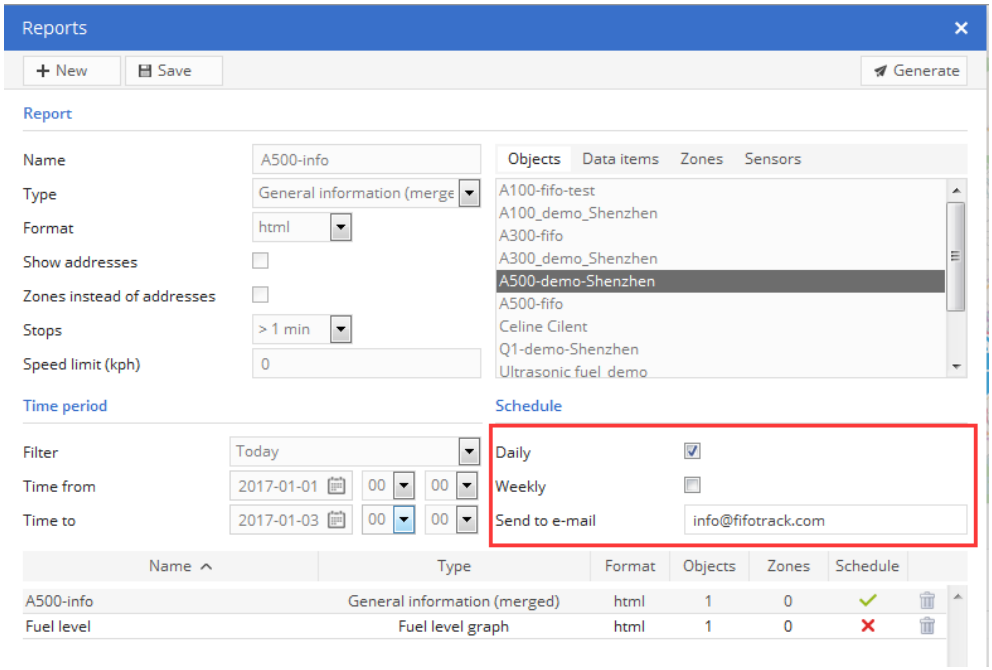
The following reports are supported on FIMS:

- General information
- General information (merged)
- Object information
- Drives and stops
- Travel sheet
- Events
- Overspeeds
- Underspeeds
- Zone in/out
- Service
- Driver behavior (RAG)
- Fuel fillings
- Fuel thefts
- Logic sensor information
- Ignition (ACC) graph
- Fuel level graph
- Temperature graph
- Sensor graph

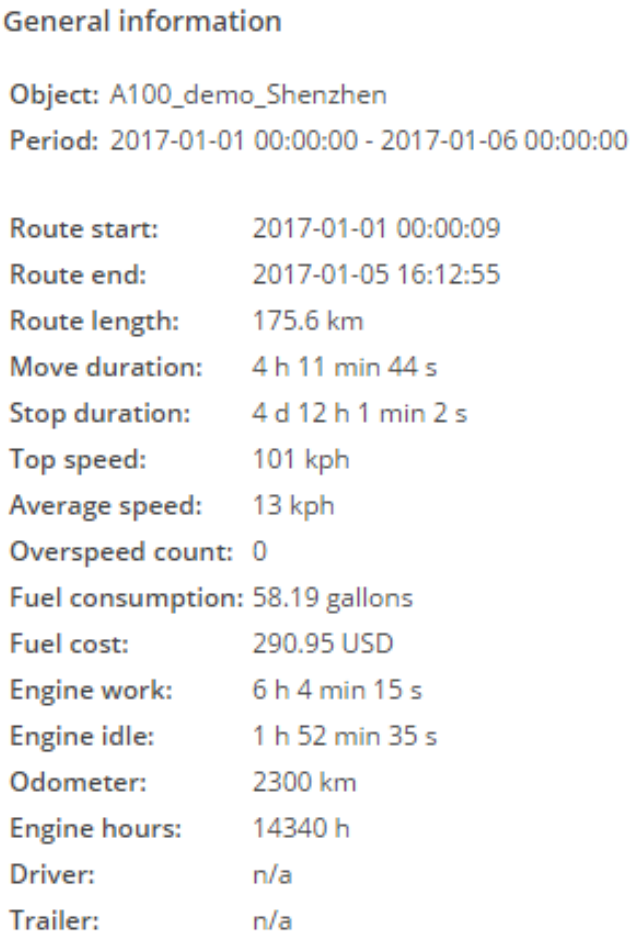
When “Reports” dialog opened, select report type, time period, on “Objects”, “Data items”, “Zones”, “Sensors”, press “Ctrl” to select multiple items, click “generate” at right corner to check reports.



User can set schedule report, then, FIMS sends email with selected report, as below:



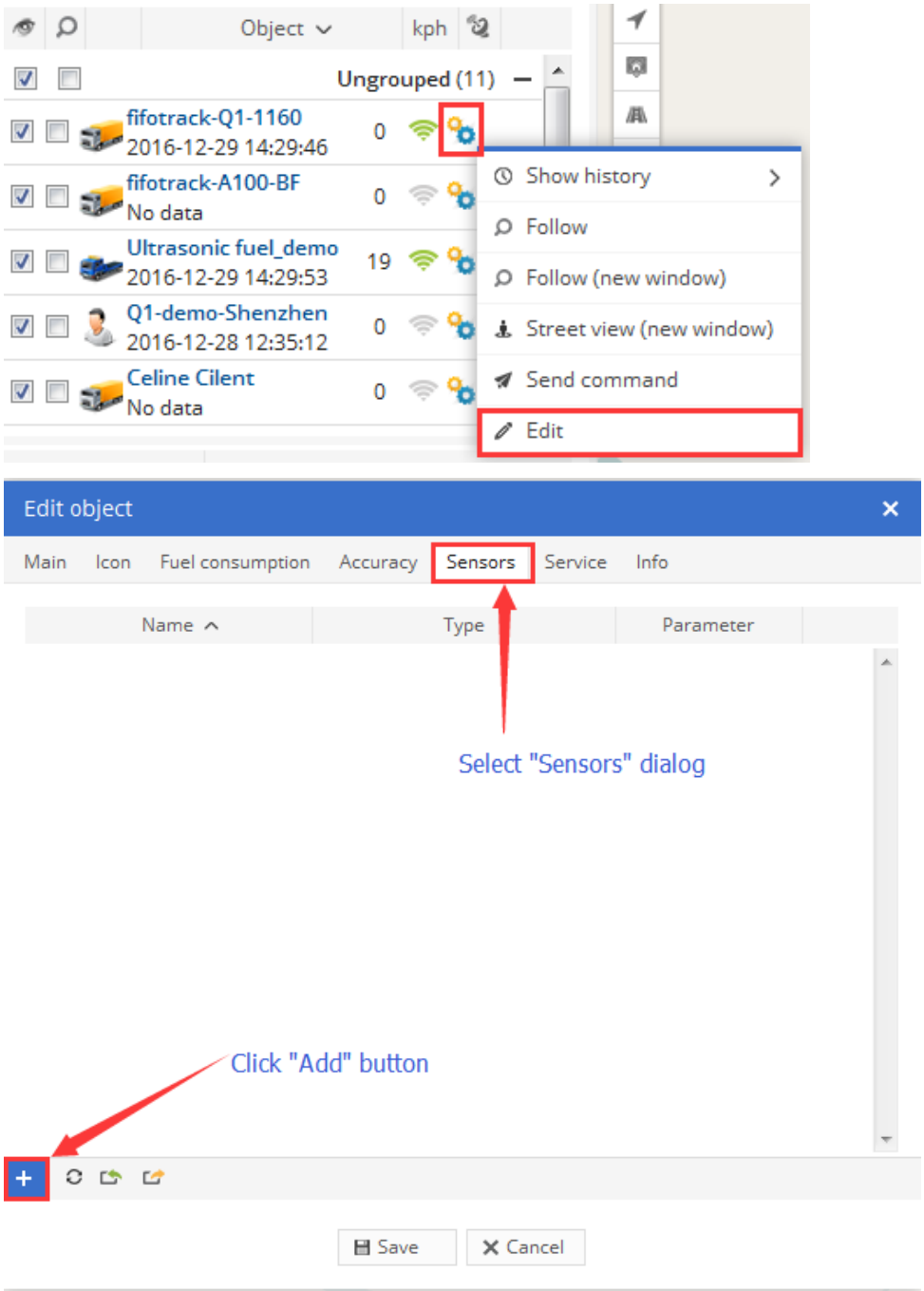
The below figure show “General information” report:

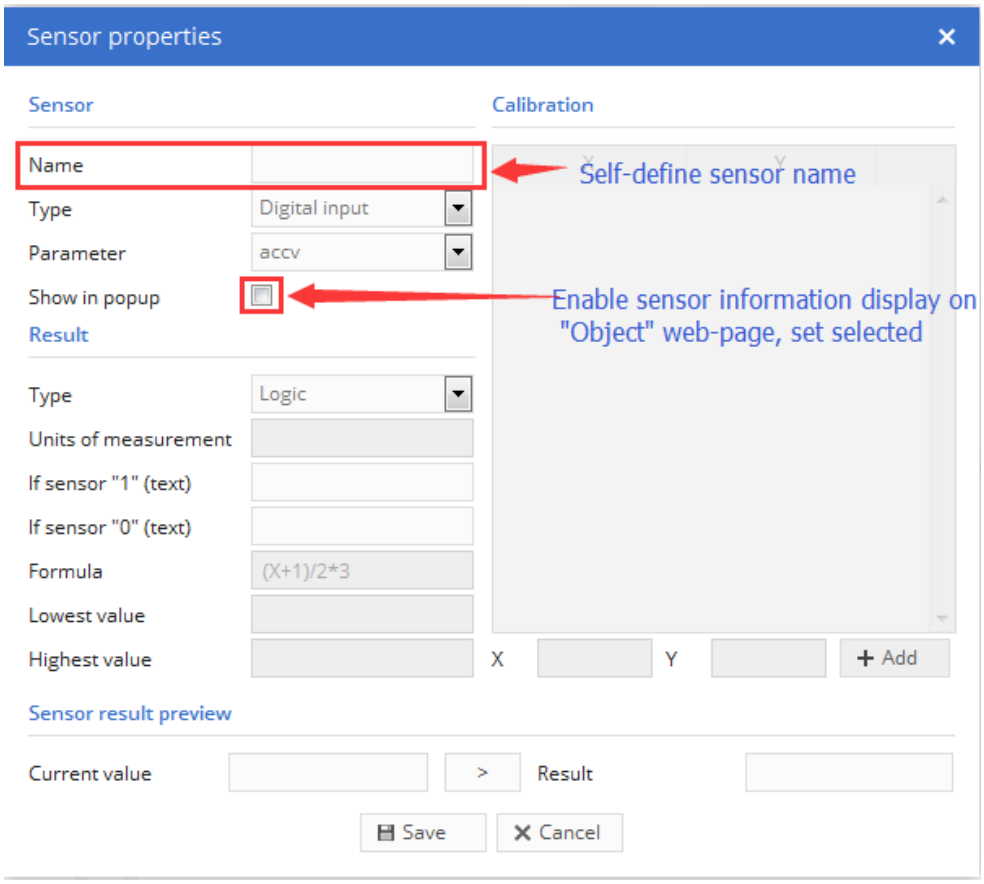


6 Setting Sensors

All data fields, including digital input/output, analog data, odometer, runtime, etc., uploaded from object to FIMS, are regard as sensor. To retrieve necessary data from object, it is needed to set sensor on object.

To open sensor setting dialog, click “Object control” icon-->”Edit”→”Sensors”→”Add”, and then, “Sensor Properties” dialog opened.





6.1 Setting Digital I/O Sensor

The below table describes how to set object's digital input/output, to display I/O status on "Objects" web-page, set "Show in popup" selected.

I/O(1)	Sensor--Type(2)	Parameter(3)	Result—Type(4)	If sensor "1"(5)	If sensor "0"(5)
SOS	Digital input	di0	Logic	ON	OFF
ACC	Ignition(ACC)	di1	Logic	ON	OFF
IN3	Digital input	di2	Logic	ON	OFF
IN4	Digital input	di3	Logic	ON	OFF
OUT1	Digital output	do0	Logic	ON	OFF
OUT2	Digital output	do1	Logic	ON	OFF

NOTE:

(1): Digital input/output supported by object

(2): "Type" in "Sensor" column on "Sensor Properties" dialog

(3): "Parameter" in "Sensor" column on "Sensor Properties" dialog

(4): "Type" in "Result" column on "Sensor Properties" dialog

(5): Logic string is self-define, here are common-use ones. For example, when user connects IN3 to vehicle's door sensor, it can be set to "Door Open" for "If sensor "1"", and "Door close" for "If sensor "0"".

6.2 Setting Power Supply Sensor

The below table describes how to set object's power supply, to display power status on "Objects" web-page, set "Show in popup" selected.

Power Type	Sensor--Type(1)	Parameter(2)	Result—Type(3)	Unit	Formula
Battery	Custom	accv	Value	V	(X*6.6)/4096
Ext-pwr	Custom	batc	Value	V	variable(4)

NOTE:

(1): "Type" in "Sensor" column on "Sensor Properties" dialog

(2): "Parameter" in "Sensor" column on "Sensor Properties" dialog

(3): "Type" in "Result" column on "Sensor Properties" dialog

(4): Formula to calculate ext-pwr is different according to object model

A100/A200/A300/A500: (X*3.3*16)/4096

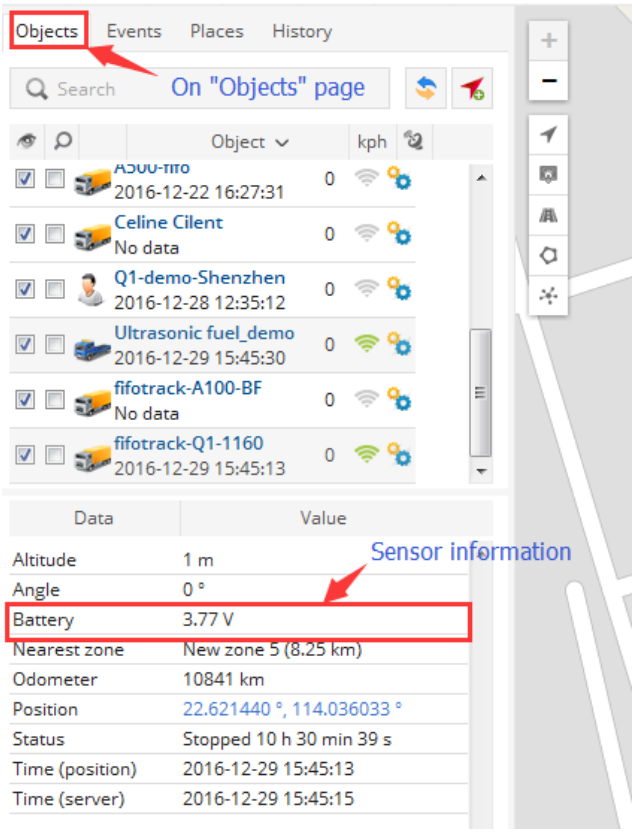
Q1: (X*6.6)/4096

6.3 Setting other Sensor

The other sensor setting will describe in the following chapters.

6.4 View Sensor information

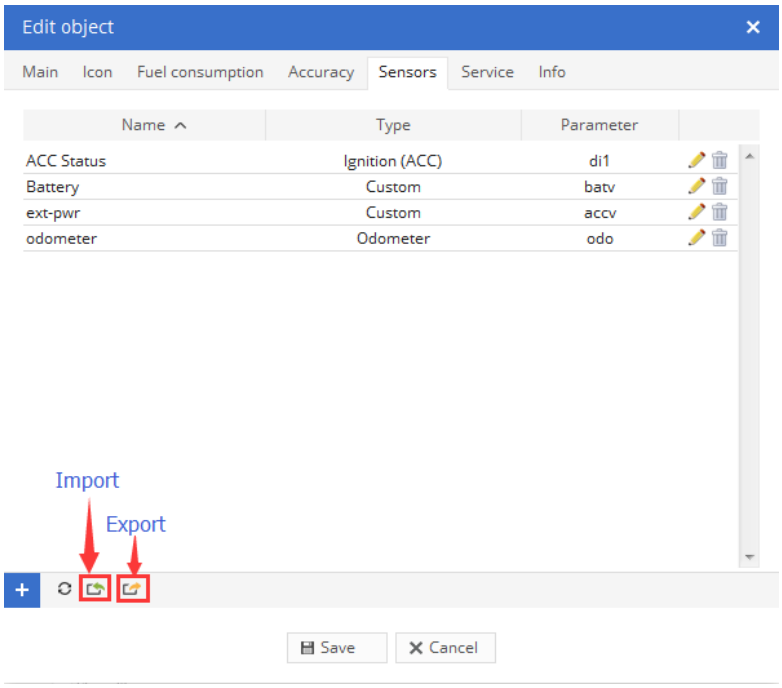
After setting, sensor information can be read on "Objects" web-page, and it will change when new object's data uploaded, shown as below:



6.5 Export/Import Sensor Setting

To reduce operation, FIMS supports export/import for sensor setting. After one object's sensor settings finished, user can export setting data to ".sen" file, which can be imported to other objects with the same model.

To export/import sensor setting, click the below icon in "Edit object" dialog:

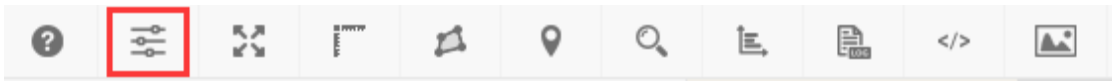


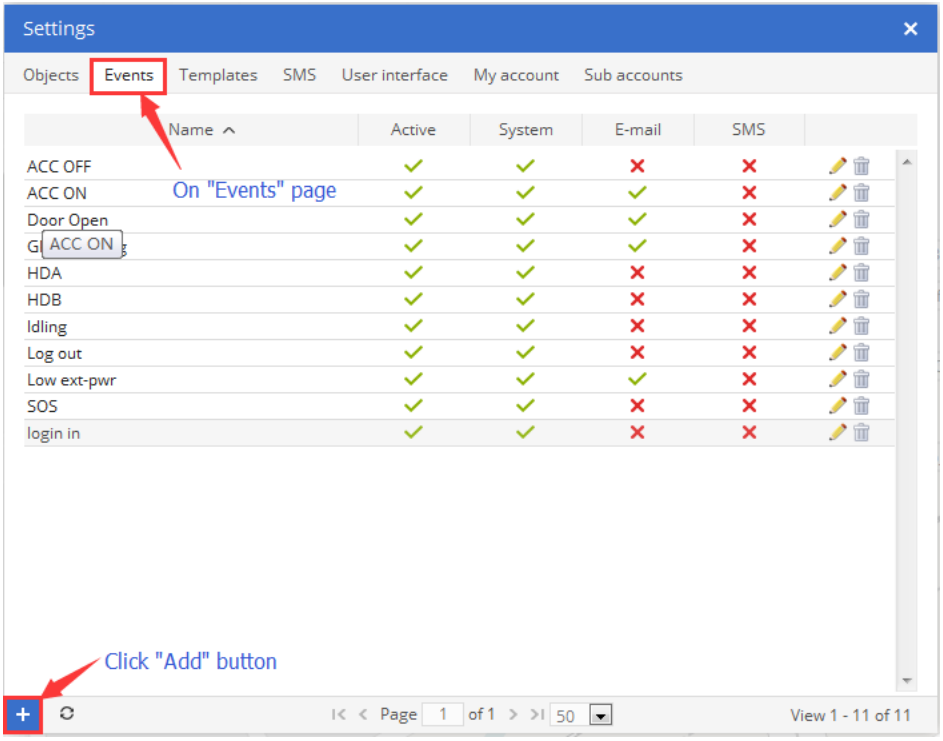
7 Setting Events

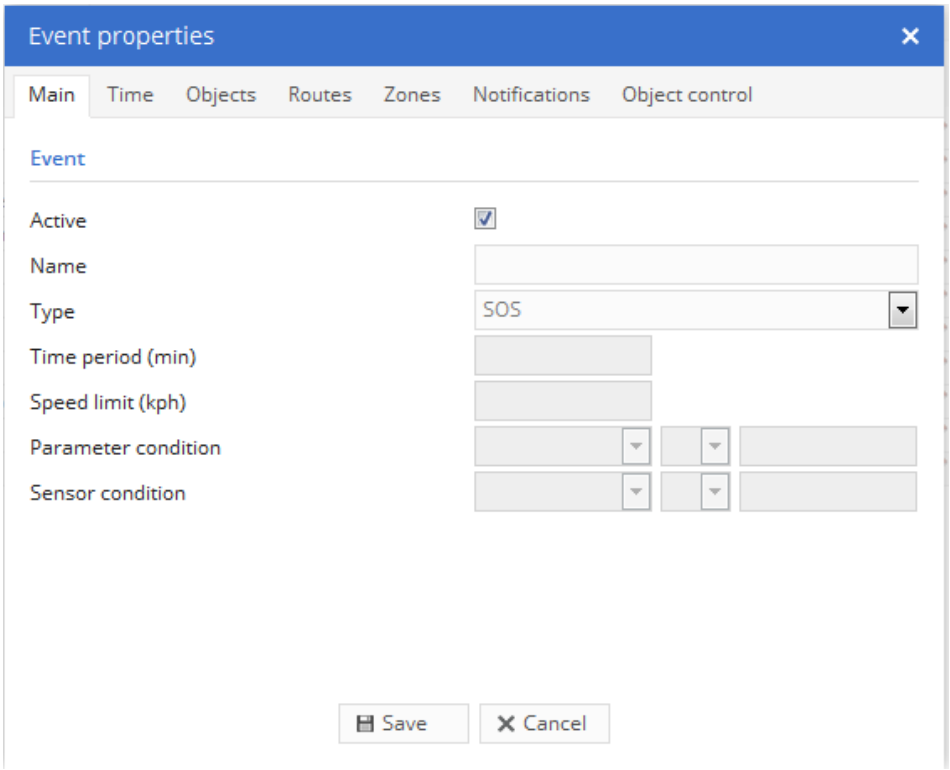
Events are used to simplify objects monitoring. FIMS supports event detection and event notification. Event can be detected by FIMS or by object's GPRS data. When event detected, FIMS can be set to send multiple notification, such as system popup message, e-mail, object control, etc..

7.1 Add an Event

Click "Settings" icon→"Events"→"Add", "Event Properties" dialog opened







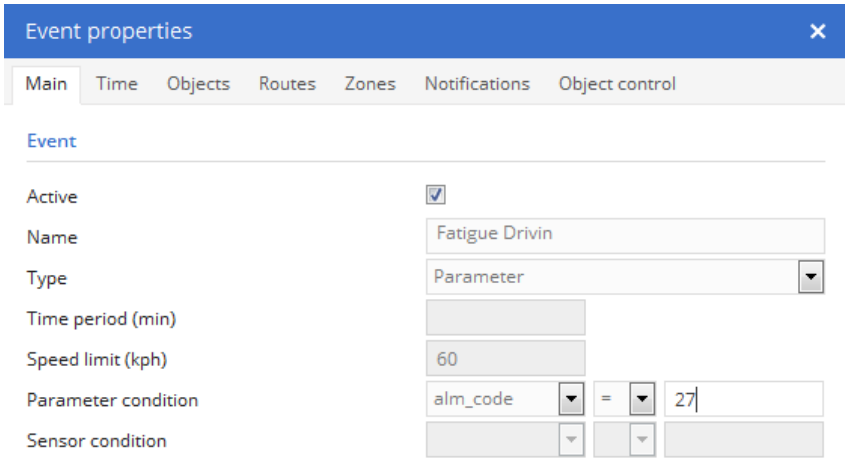
On “Event Properties” dialog, user can set some events directly, as below:

- SOS
- Power cut
- GPS antenna cut
- Signal jamming
- Low DC

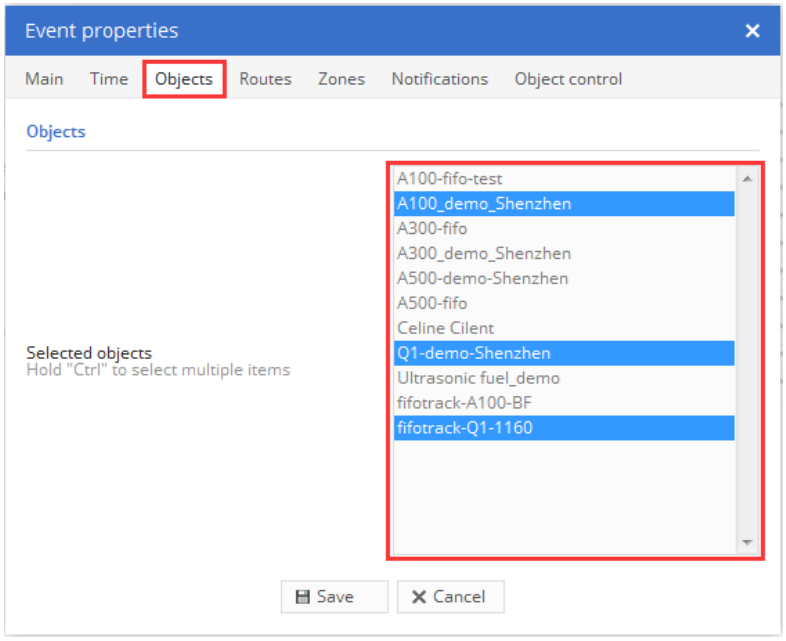
- Connect: Yes
- Connect: No
- Stopped
- Moving
- Engine idle
- Harsh acceleration
- Harsh braking
- Zone in
- Zone out
- Route in
- Route out

For event not supported on FIMS, using “Parameter” event type to add, operation as below:

<table>
<tr><th>Column</th><th>Content</th></tr>
<tr><td>Active</td><td>Set selected</td></tr>
<tr><td>Name</td><td>Self-define</td></tr>
<tr><td>Type</td><td>Parameter</td></tr>
<tr><td>Parameter condition</td><td>Set “alm_code=X”, while X means
<table>
<tr><th>X</th><th>Event Type/Name</th></tr>
<tr><td>4</td><td>IN2 active/ACC ON</td></tr>
<tr><td>5</td><td>IN2 inactive/ACC OFF</td></tr>
<tr><td>6</td><td>IN3 active</td></tr>
<tr><td>7</td><td>IN3 inactive</td></tr>
<tr><td>8</td><td>IN4 active</td></tr>
<tr><td>9</td><td>IN4 inactive</td></tr>
<tr><td>17</td><td>Internal Battery Low</td></tr>
<tr><td>25</td><td>Enter Sleep</td></tr>
<tr><td>26</td><td>Wakeup</td></tr>
<tr><td>27</td><td>Fatigue Driving</td></tr>
<tr><td>28</td><td>Fatigue Relieve</td></tr>
<tr><td>33</td><td>Exit Fence</td></tr>
<tr><td>34</td><td>Enter Fence</td></tr>
<tr><td>37</td><td>Login</td></tr>
<tr><td>38</td><td>Log out</td></tr>
<tr><td>39</td><td>Illegal Login</td></tr>
<tr><td>40</td><td>High Temperature Alarm</td></tr>
<tr><td>41</td><td>Low temperature Alarm</td></tr>
<tr><td>43</td><td>Accessory Communication Error</td></tr>
</table></td></tr>
</table>

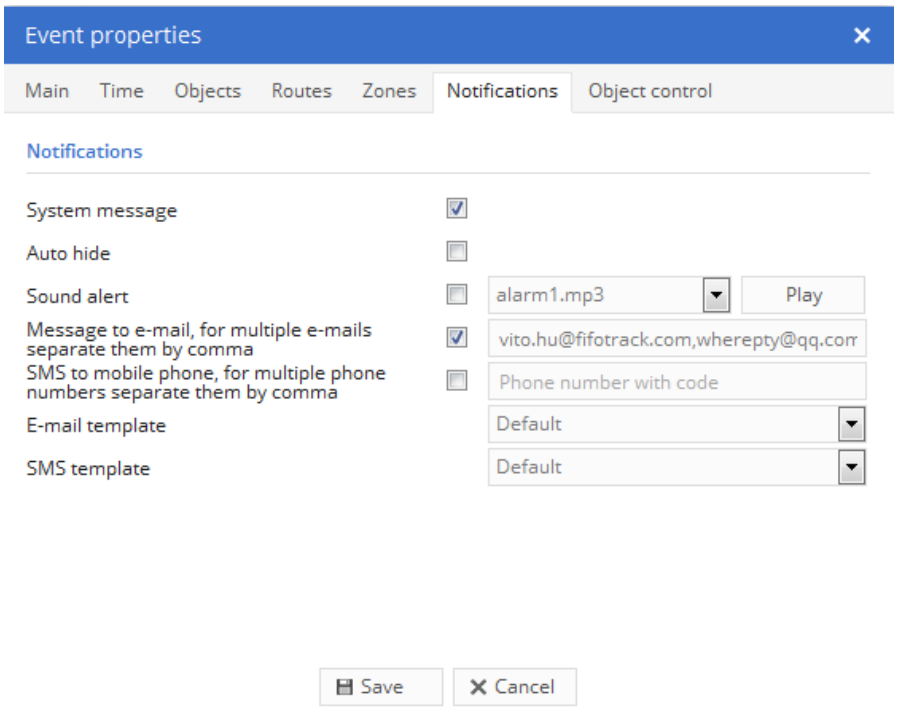


After setting on “Main” dialog, select event monitoring targets on “Objects” dialog, press “Ctrl” to select multiple objects, shown as below:



Setting notification operations after event detected in “Notifications” dialog, there are several options to be set:

- System message – Popup information on map when event detected
- Sound alert – Play sound when event detected
- E-mail – Send e-mail with specified e-mail template when event detected
- SMS – Send a SMS to specified phone number via SMS gateway, object’s setting command, event notification can be sent by SMS. E-mail to info@fifotrack.com for SMS gateway APK and operation guide.

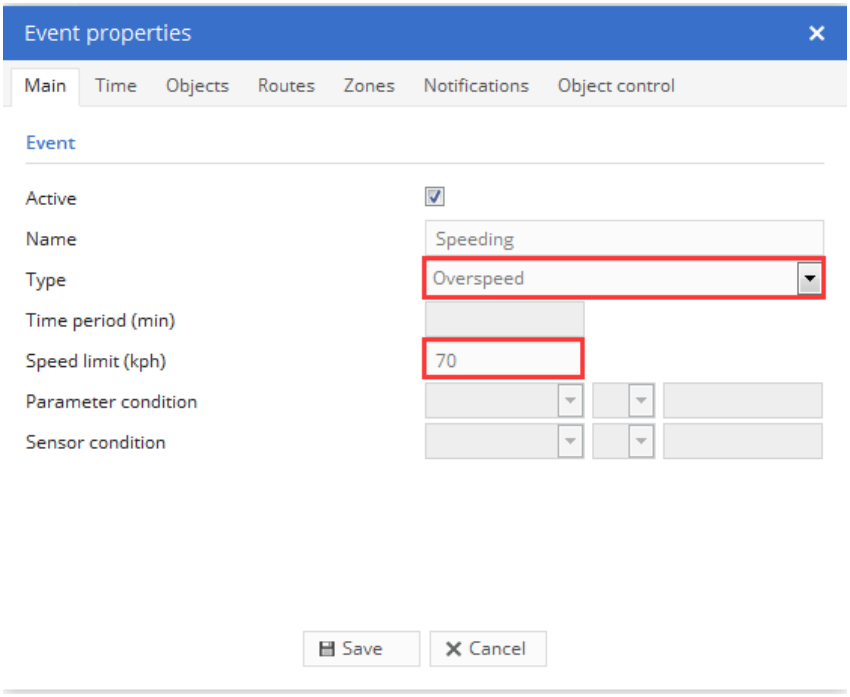


After setting on “Main”, “Objects”, “Notifications” dialog, click “Save” button, and then, an event is added.

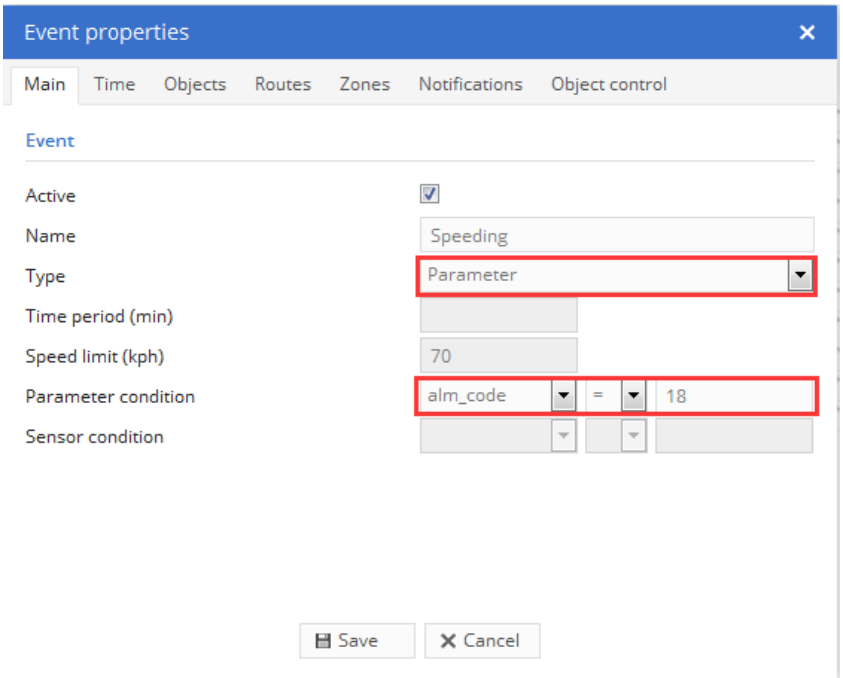
7.2 Setting Speeding Event

Speeding event is special, which can be detected by FIMS, or by object. As a result, there are two different settings on FIMS.

Default, when select “Overspeed” in “event type” column, it is needed to set “Speed limit” at the same time. FIMS compares object’s real-time speed to “Speed limit”, and sends speeding event when object speed exceeds. Setting details as below:

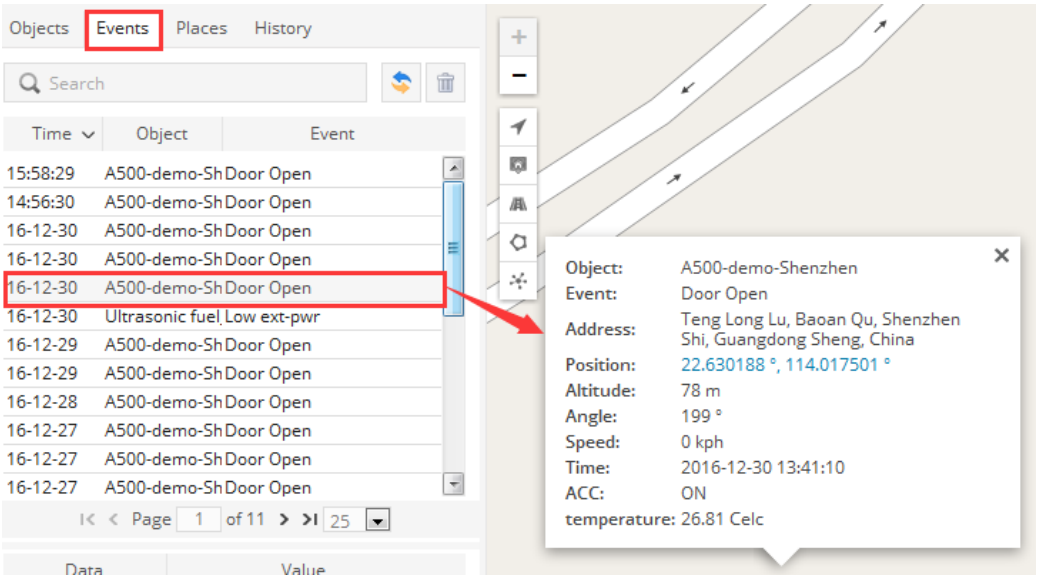


When user needs real-time speeding monitoring, it is suggested to set speeding event as below; besides, using B08 command to set speed limit in object. After setting, object compares GPS speed to speed limit setting by B08, and sends speeding event to FIMS when GPS speed exceeds.



7.3 View Event Information

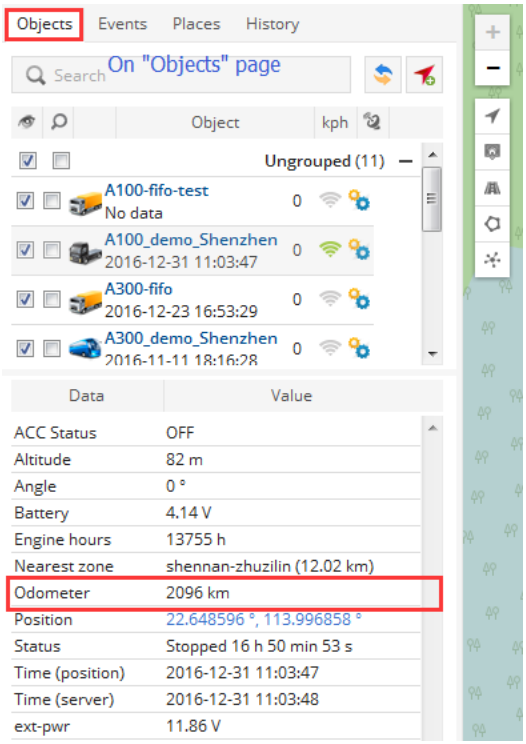
After adding event setting, all event information can be viewed on “Events” web-page, click item, detailed information will be shown on map.



8 Setting Odometer

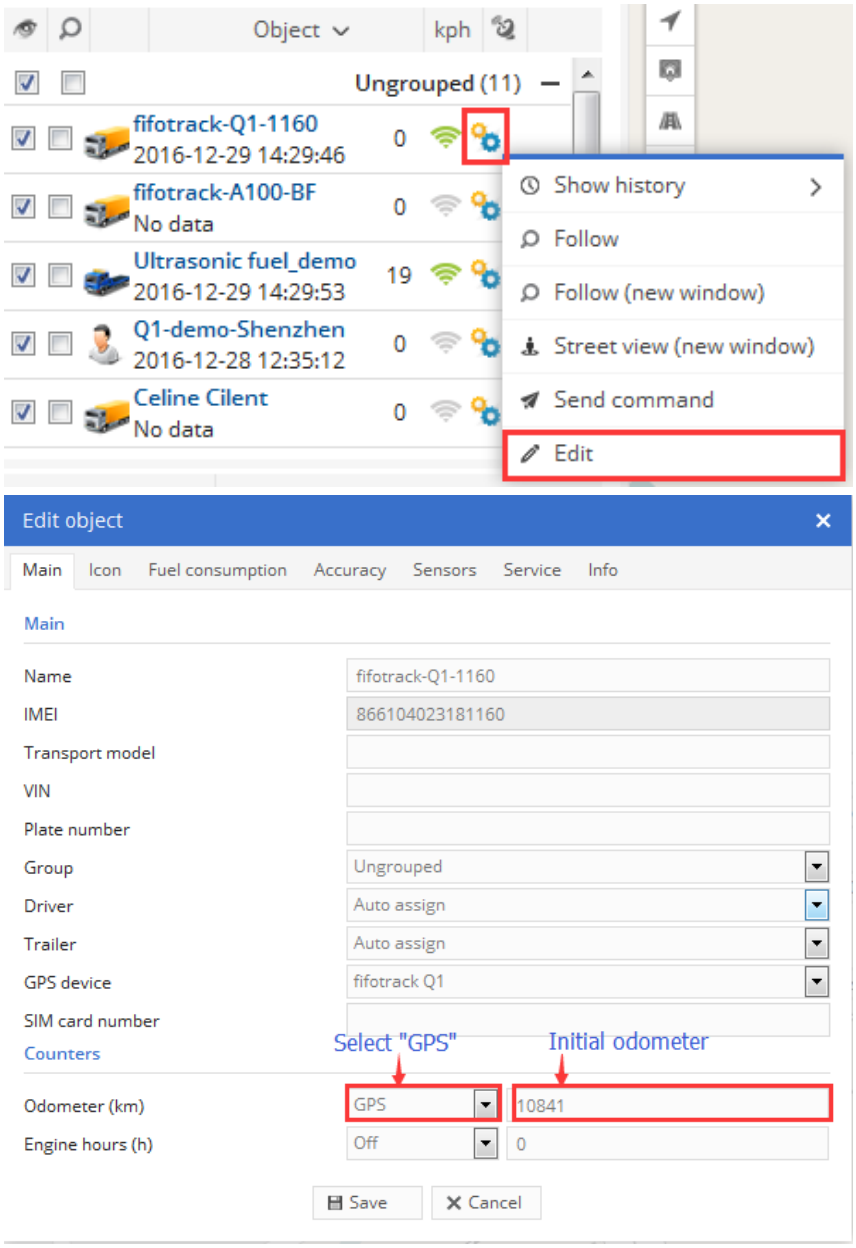
Default, FIMS calculates odometer according to latitude and longitude uploaded by object. Besides, object will calculate odometer in firmware, which is more accurate. As a result, user can set to select which odometer used on FIMS.

After odometer source setting, odometer data is shown on “Objects” page, as below:



8.1 Setting FIMS Odometer

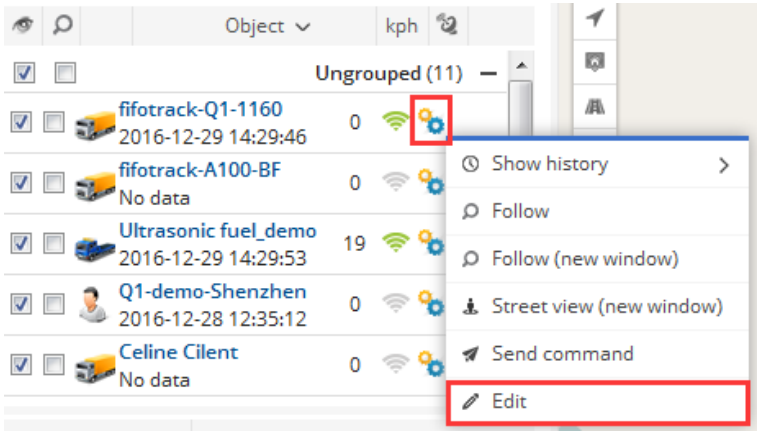
Default, after object added, odometer is calculated using latitude and longitude. Also, it can be set on "Edit Object" dialog, click "Object control" icon-->"Edit"→"Main", FIMS odometer and initial value can be set in "Counter" column. As below:

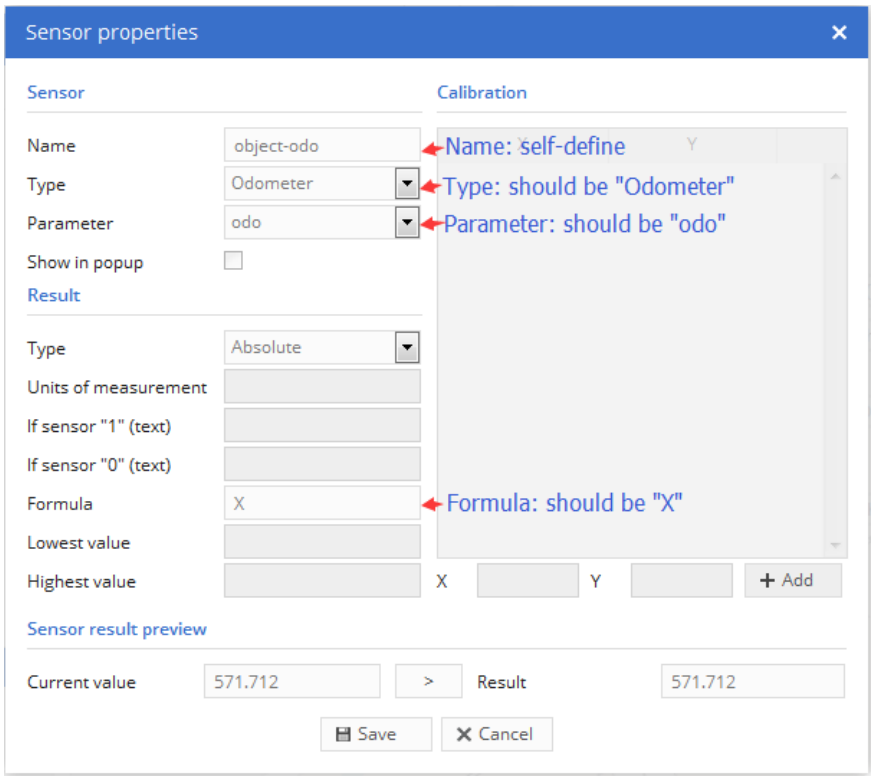


8.2 Setting Object Odometer

To get more accurate value, object odometer can be set on FIMS. Object calculates odometer every second, using GPS speed. To enable this function, it is needed to set odometer sensor first:

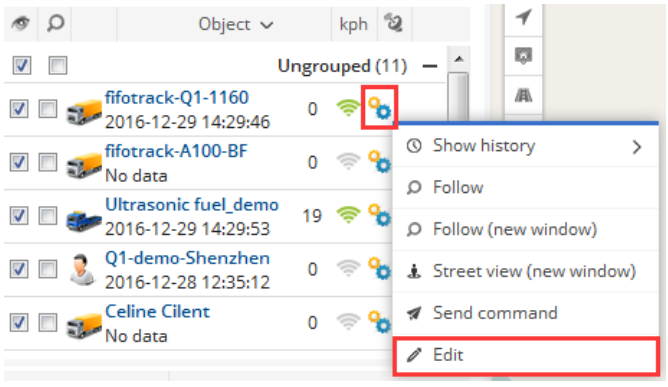
Click "Object control" icon-->"Edit"→"Sensors"→"Add", set "Odometer" sensor on the dialog.

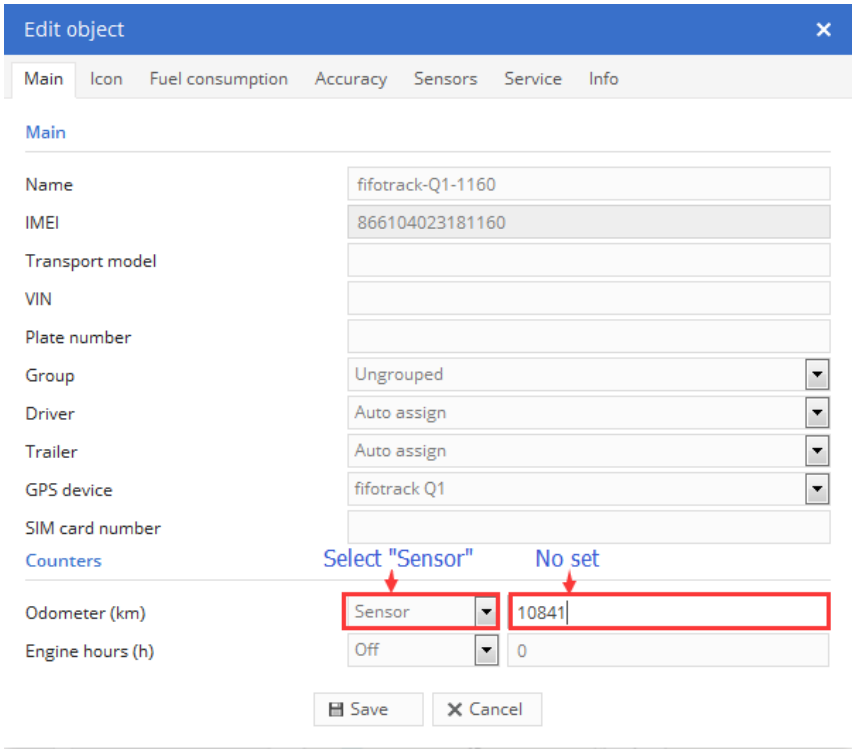




After sensor set, enable object odometer as below:

click “Object control” icon-->”Edit”→”Main”, FIMS odometer and initial value can be set in “Counter” column. As below:





9 Accessory Using

Object supports multiple accessories, which can be used on FIMS:

- RFID reader
- iButton Reader
- fingerprint
- Digital temperature sensor
- Fuel sensor
- Ultrasonic fuel sensor
- Camera

To use accessory on FIMS, it is needed to do some settings. The following chapters describe operations on FIMS, to operate and install accessories, refer to corresponding user guide.

9.1 RFID/iButton/fingerprint Using

RFID/iButton/fingerprint is used to identify driver's information, whose settings are the same on FIMS.

Settings for RFID/iButton/fingerprint include two steps:

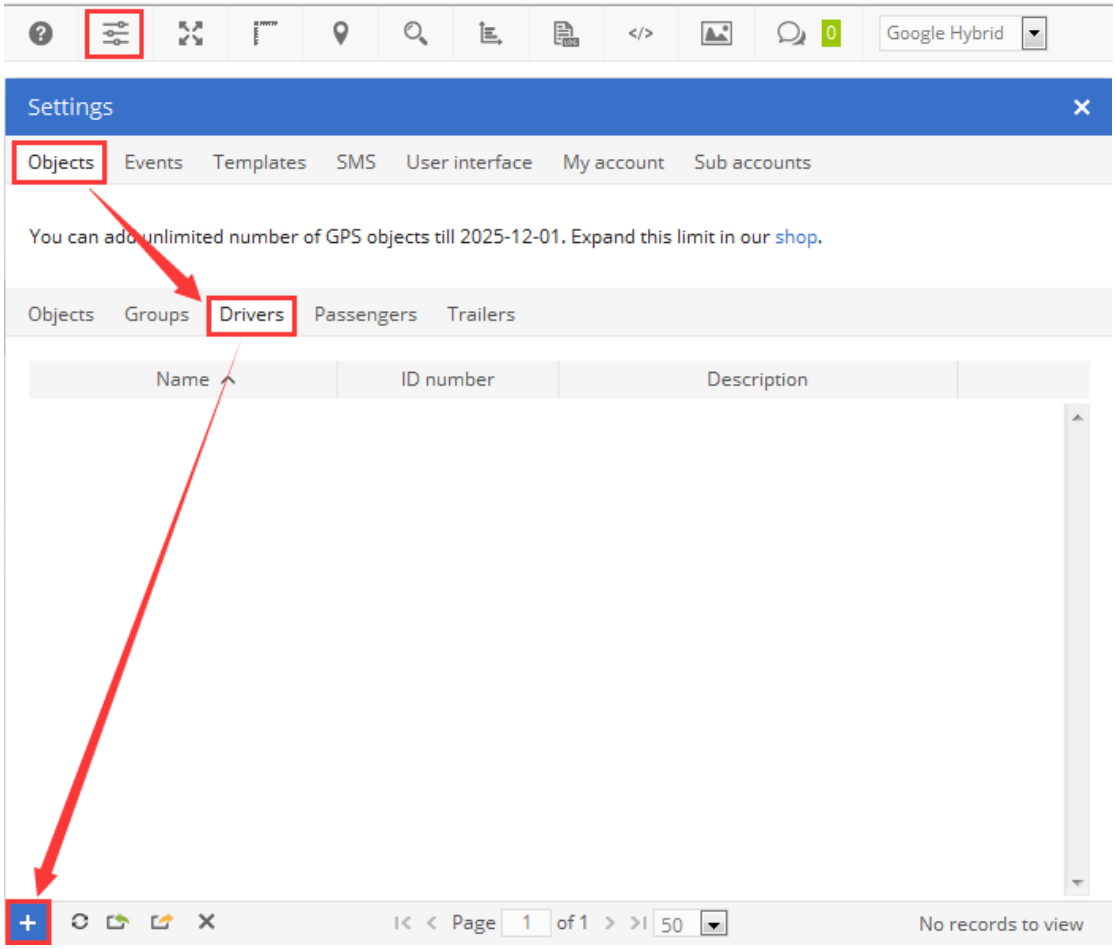
- Adding global drivers' information for account
- Setting "driver assign" sensor for specified object(s)

After setting, driver's information will be shown on "Objects" web-page according to actual situation,

and “RFID/iButton” logbook can be exported for detail.

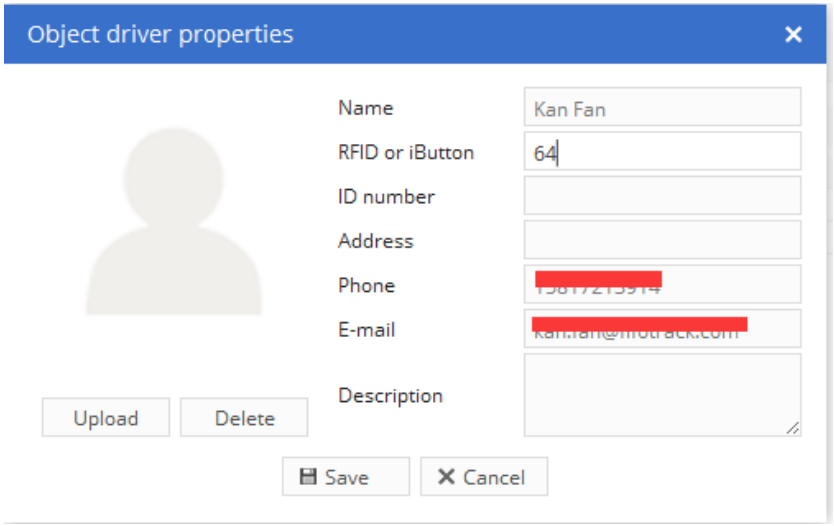
9.1.1 Adding Global Driver Information

Select “Setting”→”Objects”→”Drivers”, click “Add” button.



In “Object driver Properties” web-page, add driver’s information, such as “Name”, “Address”, “Phone Number”, etc.. Also, driver’s photo can be uploaded in this page.

Column	Content/Specification
Name	Driver’s name, self-define; Required Field
RFID or iButton	RFID/iButton tag’s number, or the registered fingerprint number; Required field
ID number	Internal number of company for driver, self-define; Optional field
Address	Driver’s address; Optional field
Phone	Driver’s phone number; Optional field
E-mail	Driver’s e-mail; Optional field
Description	Description to driver; Optional field
Photo	Driver’s photo, PNG format, 144*160; Optional field

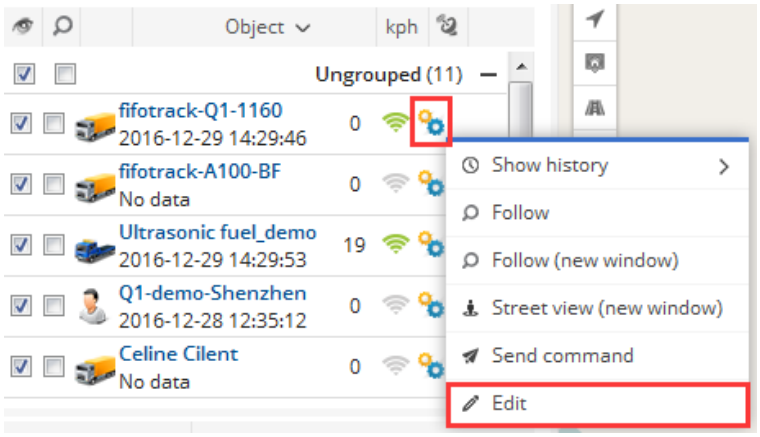


Click “Save” button, then one driver’s information has been added.

9.1.2 Setting object’s “Driver assign” sensor

NOTE: Before setting “Driver assign” sensor, object should been connected to server, and should be in “Log in” status. User can swipe RFID/iButton/fingerprint to enter “Log in” status. After then, FIMS can identify corresponding GPRS data field.

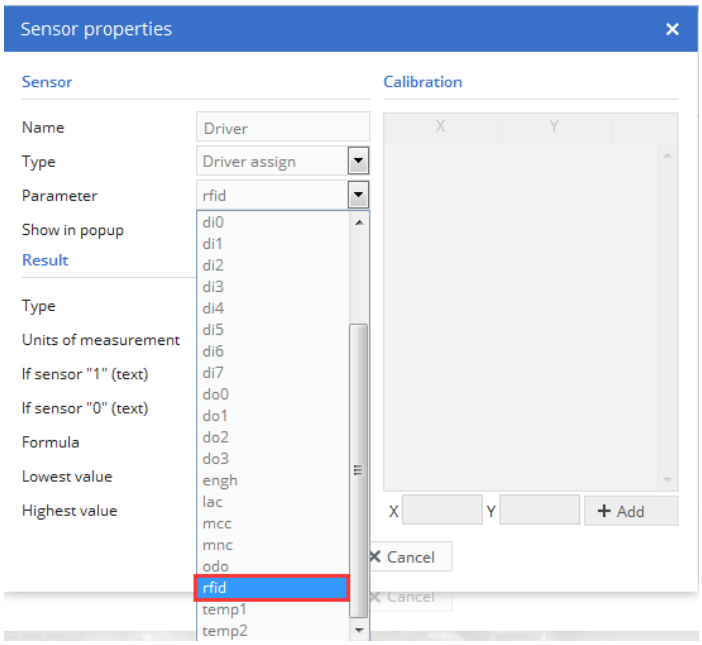
Click ”Object control” icon→”Edit”→”Sensors”→”Add”



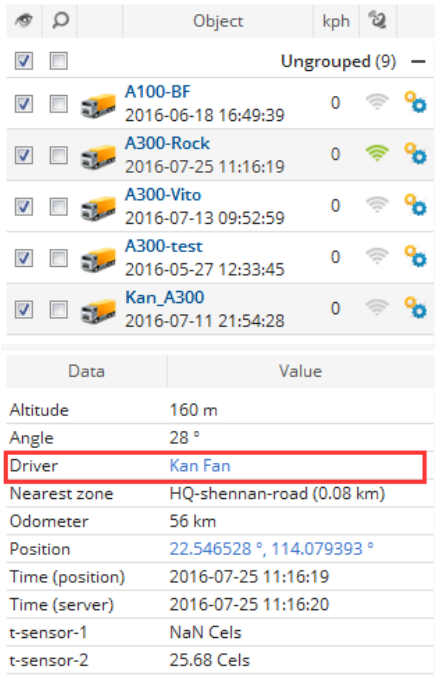
At “Sensor Properties” dialog, set parameters as below:

Sensor

- Name: Input self-define string
- Type: Select “Driver assign”
- Parameters: Select “rfid”

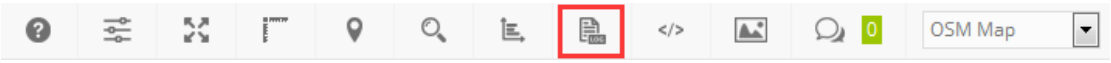


Click “Save”, real-time driver information will be display at “Objects” page, as below:

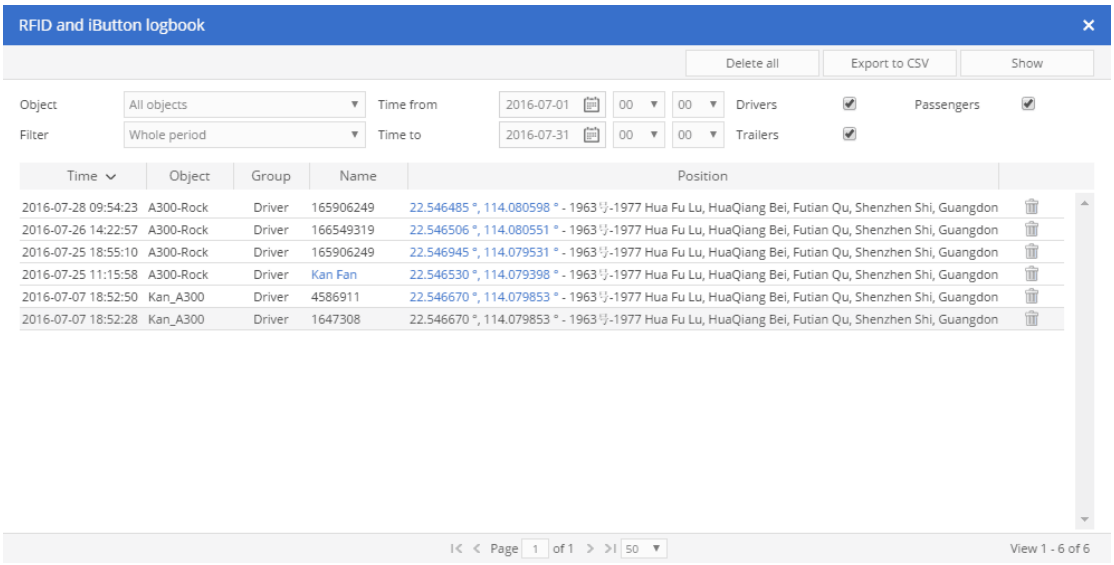


9.1.3 View Logbook

FIMS supports logbook, which shows the information of driver, click “RFID and ibutton logbook” button to start logbook, as below:



Log detail is shown:

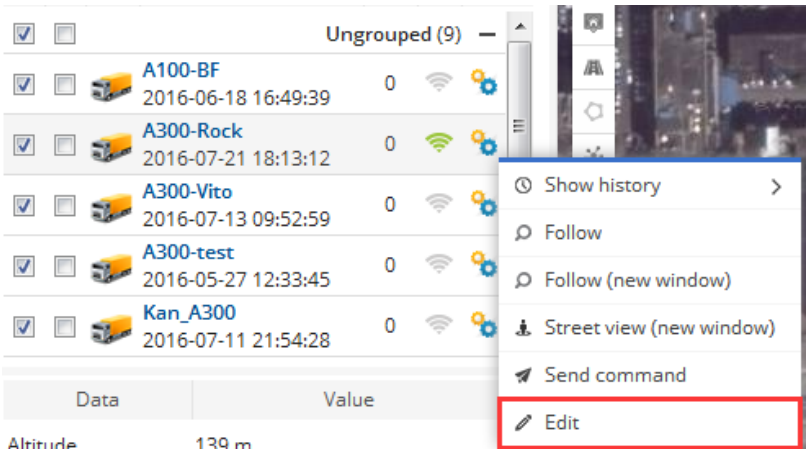


9.2 Digital Temperature Sensor Using

Before using on FIMS, installation and settings of temperature sensor should be finished, refer to " FIFOTRACK DIGITAL TEMPERATURE SENSOR USER GUIDE" for detail.

To using temperature sensor on FIMS, user needs to set "temperature" sensor, as below:

Click "Object control icon" ->"Edit"->"Sensors"->"Add",



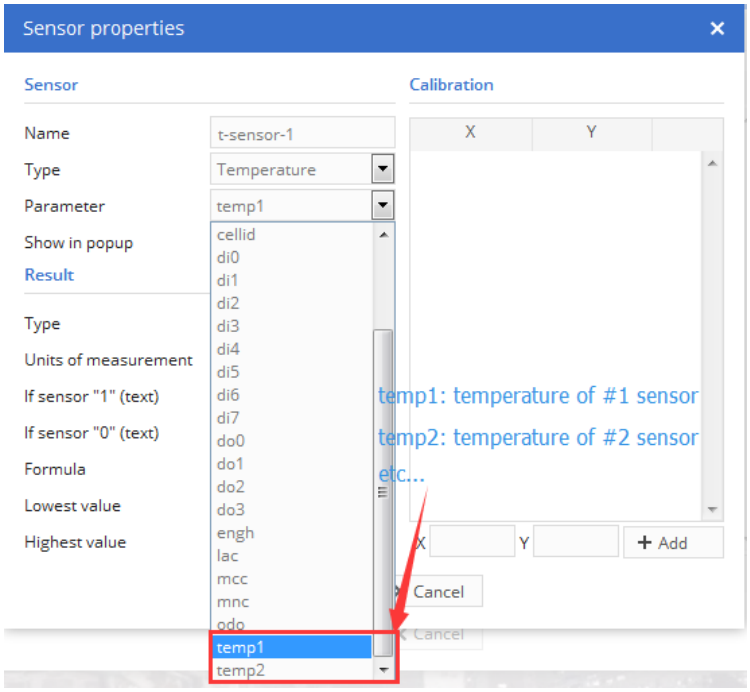
At "Sensor Properties" dialog, set parameters as below:

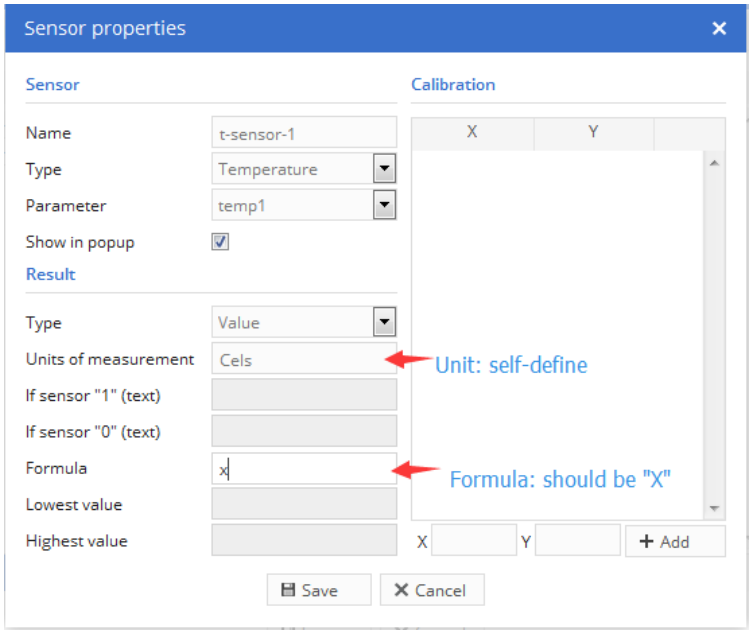
Sensor

- Name: Input self-define string
- Type: Select "Temperature"
- Parameters: Select "Tempx"
  - If single sensor is using, "Temp1" is shown in the "Parameters" box
  - If multiple sensors are using, "Tempx" corresponds to #x sensor's temperature, while 'x' is the sequence number of sensor set/retrieved by B37 command.
- Show in popup: selected

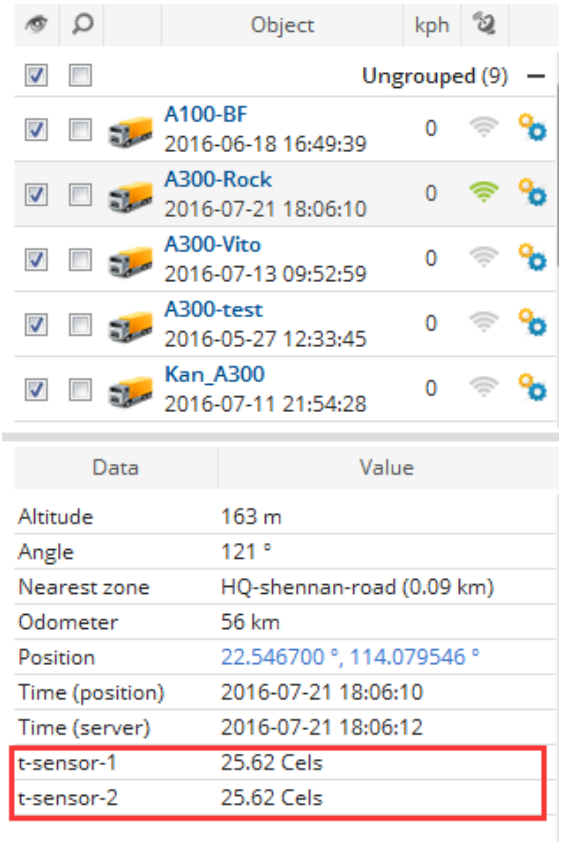
Result

- Type: Select “Value”
- Units of measurement: self-define, the unit of sensor is °C.
- Formula: should be “x” or “X”





Click “Save”, all sensors’ temperature will be display at “Object page”, as below:



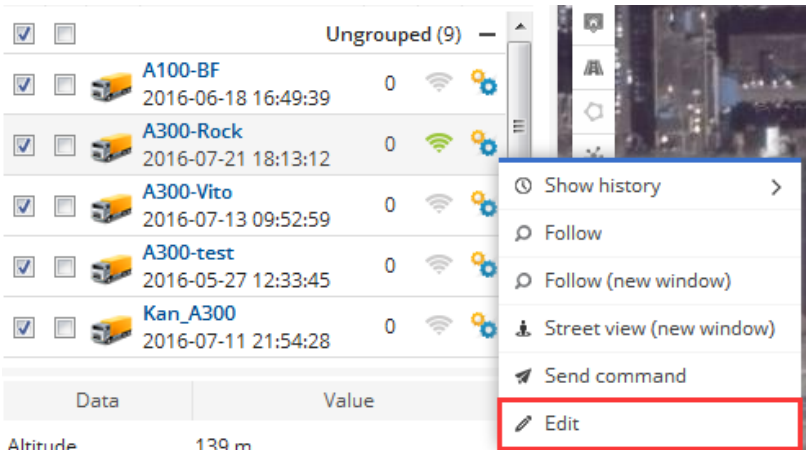
After setting “Temperature” sensor, “Temperature graph” report is working.

9.3 Fuel Sensor Using

Before using on FIMS, installation and settings of fuel sensor should be finished, refer to “ FIFOTRACK FUEL SENSOR USER MANUAL” for detail.

To using fuel sensor on FIMS, user needs to set “fuel level” sensor, as below:

Click “Object control icon” ->”Edit”->”Sensors”->”Add”,



At “Sensor Properties” dialog, set parameters as below:

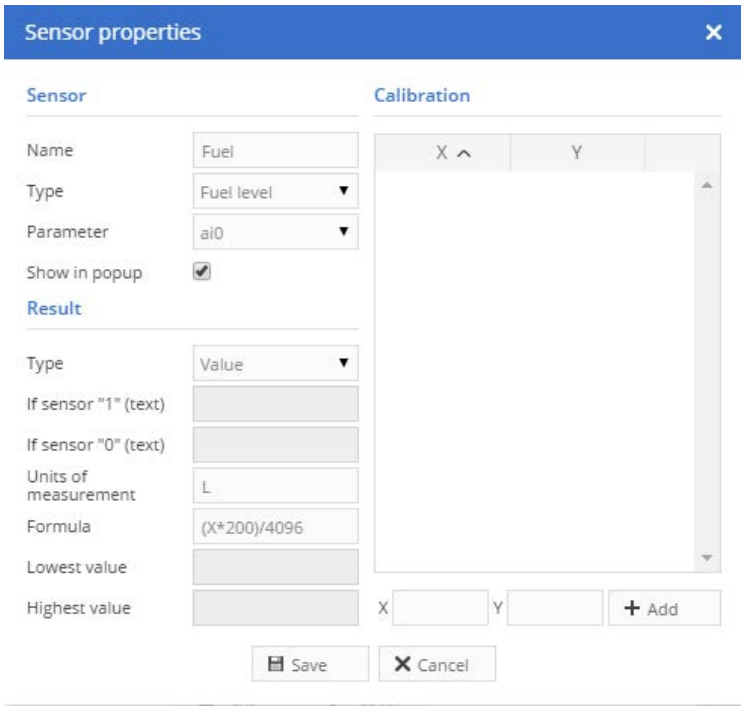
Sensor

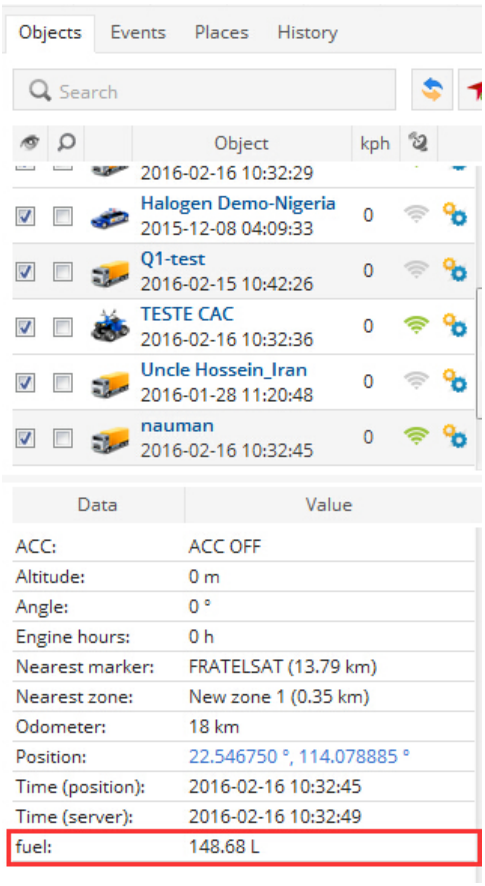
- Name: Input self-define string
- Type: Select “fuel level”
- Parameters: Select “ai0”
- Show in popup: selected

Result

- Type: Select “type”
- Units of measurement: input unit of fuel level, such as “L” or “Liters”, it is self-define
- Formula: input formula to calculate fuel level, the formula is “(X*max_level)/4096” while “max_level” is the maximum capacity of fuel tank. (In this example, max_level is 200L)

Click “Save”, data about fuel level will display at “Object page”, as below:





After setting, all functions on fuel level is working, such as “Fuel level graph” report, “Fuel fillings” report, “Fuel thefts” report.

The below figures are exported reports:

Fuel level graph

Fuel fillings

9.4 Ultrasonic Fuel Sensor Using

Ultrasonic is working with objects, which has RS232 port, such as A300, A500, etc..

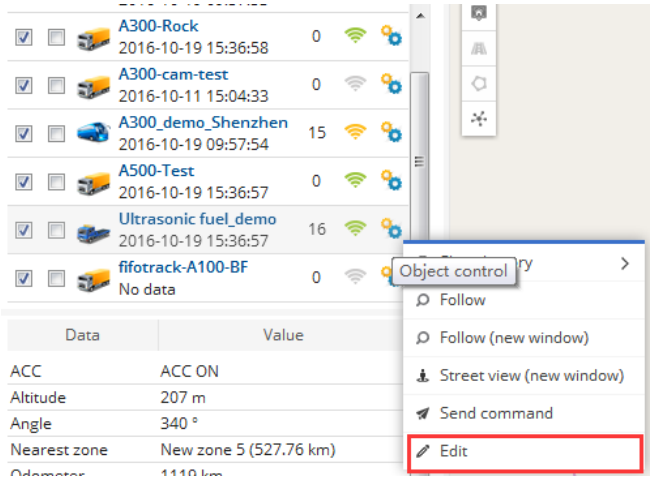
NOTE:

- Before using, ultrasonic fuel sensor should be installed and connected to object, refer to “ FIFOTRACK ULTRASONIC FUEL SENSOR USER GUIDE” for operation details;

⊙ After GPRS data with fuel level data uploaded to FIMS, the below steps could continue.

User needs to set “Fuel level” sensor on FIMS, and then, all function about fuel will be working. Follow the below steps:

Click “Object control” icon->”Edit”->”Sensors”->”Add”,



At “Sensor Properties” dialog, set parameters as below:

Sensor

- ⊙ Name: Input self-define string
- ⊙ Type: Select “Fuel level”
- ⊙ Parameters: Select “ai2”
- ⊙ Show in popup: selected

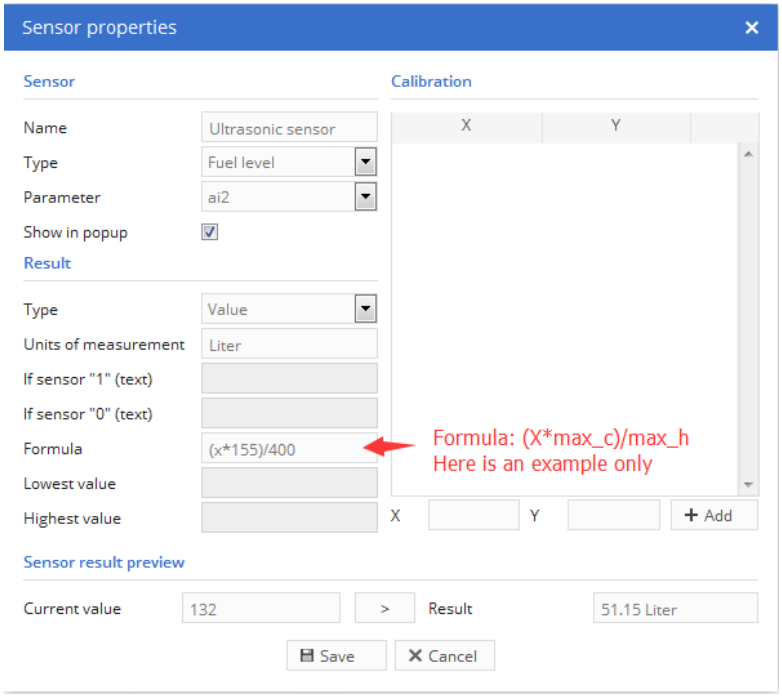
Result

- ⊙ Type: Select “Value”
- ⊙ Units of measurement: self-define
- ⊙ Formula: (X*max_c)/max_h, while

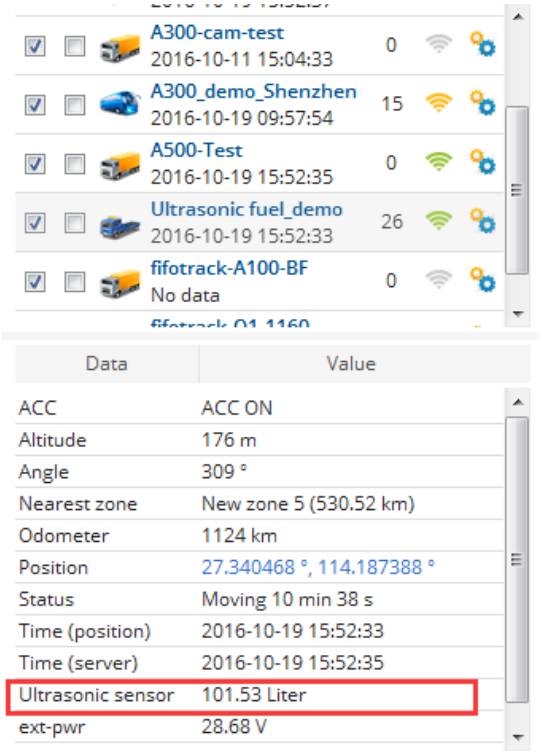
  max_c: maximum capacity of tank, using the unit specified in “Units of measurement”

  max_h: maximum height of tank, unit mm

For example, when tank has capacity of 155Liters, and maximum height 40cm, the formula is (X*155)/400



Click “Save”, fuel level will be display at “Object page”, as below:



After setting, all functions on fuel level is working, such as “Fuel level graph” report, “Fuel fillings” report, “Fuel thefts” report.

The below figures are exported reports:

Fuel level graph

Fuel fillings

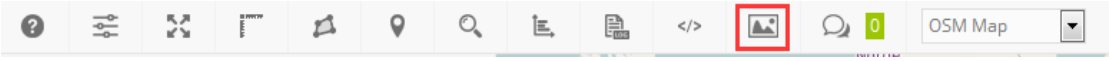
Object: Ultrasonic fuel_demo
Period: 2016-10-11 13:00:00 - 2016-10-13 18:00:00

Time	Position	Before	After	Filled	Sensor	Driver
2016-10-12 06:33:59	27.342533 °, 114.178288 °	52.70 Liter	68.20 Liter	15.5 Liter	Ultrasonic sensor	n/a
2016-10-13 12:54:55	27.342485 °, 114.178231 °	39.52 Liter	89.51 Liter	49.99 Liter	Ultrasonic sensor	n/a

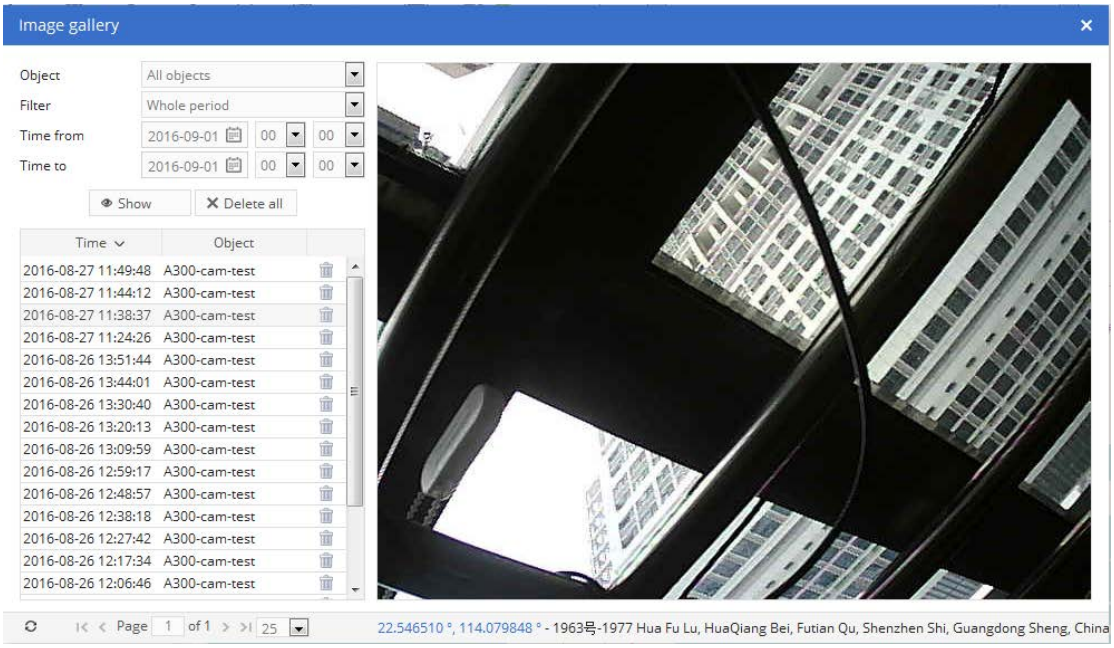
Total filled: 65.49 Liter

9.5 Camera

Click the below icon to start “Image gallery”,



And then, user can view photo(s) on the pop-up page, as below:

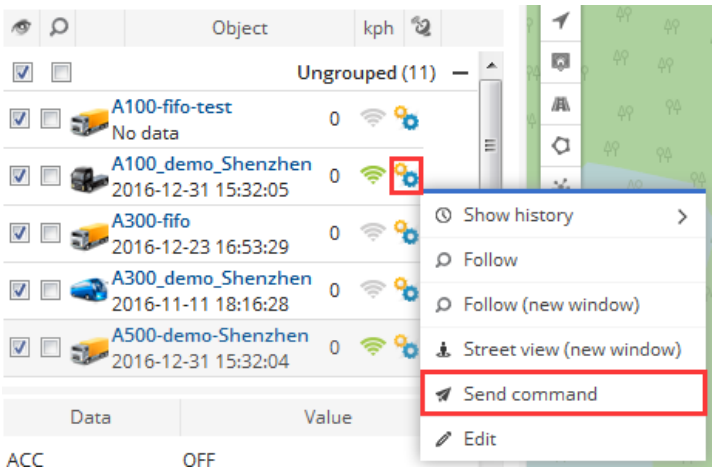


10 Sending Command

Object can be set or controlled via GPRS command sent from FIMS, which contains:

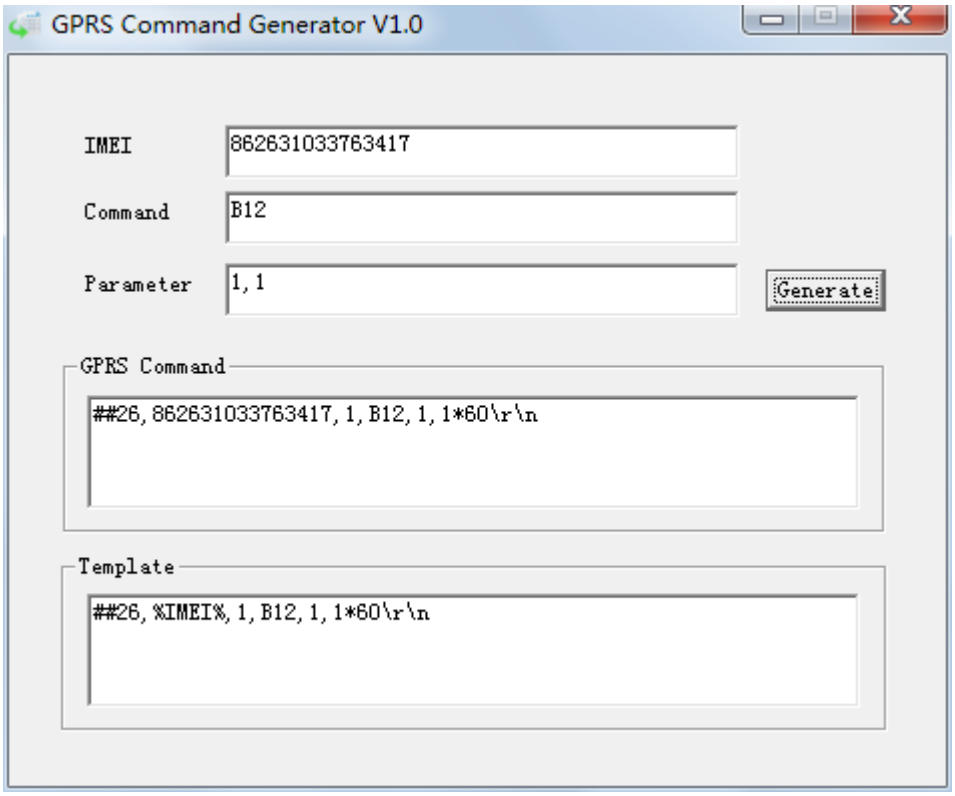
- Control – Sending command to specified object, used for real-time control
- Templates – Command template, simplify command sending operation

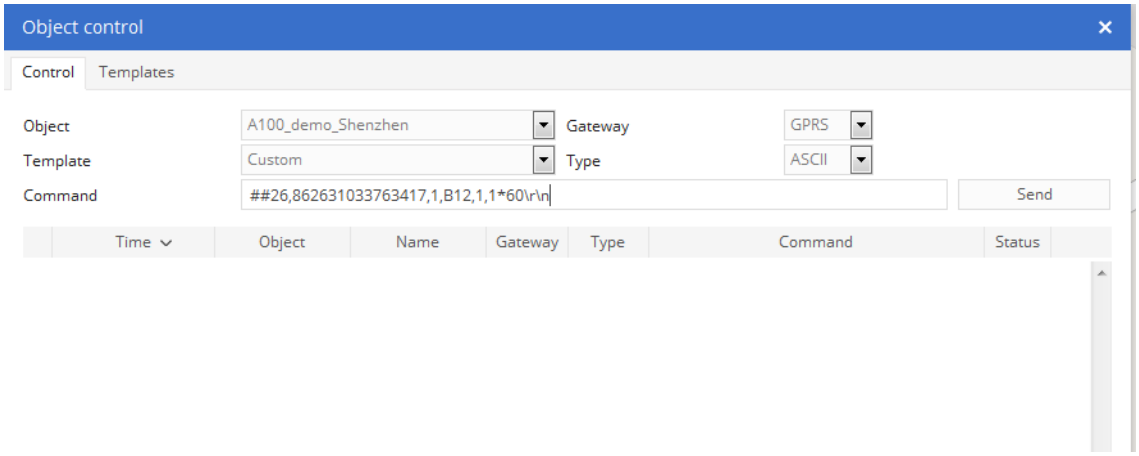
Click “Object control” icon→”Send Command” to open dialog:



10.1 Control

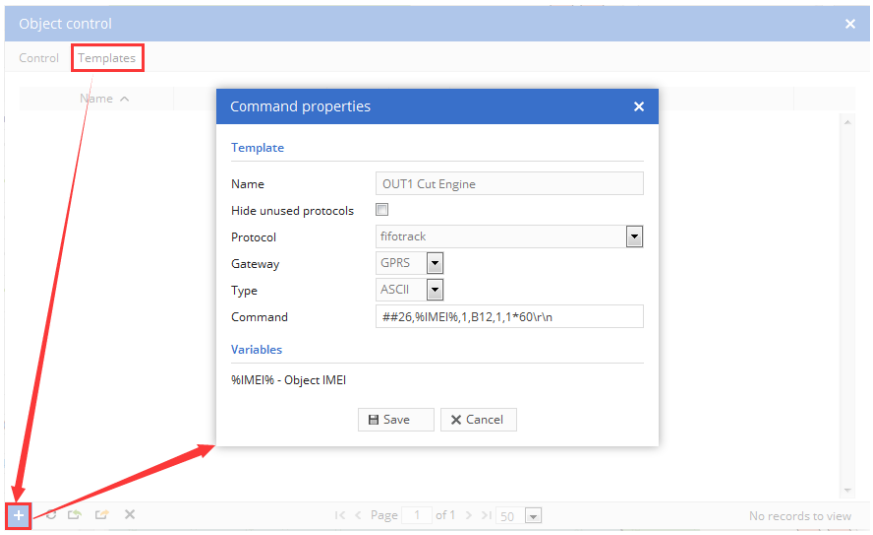
On “Control” dialog, user can send command to object; Tool “GPRS Command Generator” is used to generate needed command, copy the generated command string to “Command” column, click “Send” button, and then, command is sent.





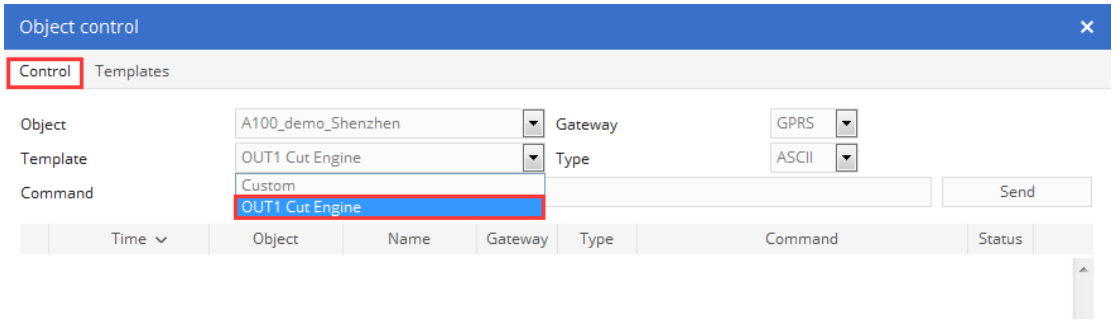
10.2 Templates

User can edit command template on FIMS, which can simplify command sending operation. Click "Templates"→"Add", to open template edit dialog, input contents, click "Save" button, and then, a template is generated.



Column	Content
Name	Self-define
Hid unused protocols	Unselect
Protocol	fifotrack
Gateway	GPRS
Type	ASCII
Command	Command string, it can be generated by using "GPRS Command Generator"

After template saved, it can be used for command sending in "Control" dialog, as below:



10.3 Setting Output Control

Output control is a common used function. Setting templates will simplify operation, which can be used for all objects in the account; On “Templates” dialog, setting according to actual need, as below:

Column	Content
Name	Self-define
Hid unused protocols	Unselect
Protocol	fifotrack
Gateway	GPRS
Type	ASCII
Command	**Operation** / **Command String** Set “1” via OUTPUT1 / ##26,%IMEI%,1,B12,1,1*6A\r\n Set “0” via OUTPUT1 / ##26,%IMEI%,1,B12,1,0*6B\r\n Set “1” via OUTPUT2 / ##26,%IMEI%,1,B12,2,1*69\r\n Set “0” via OUTPUT2 / ##26,%IMEI%,1,B12,2,0*68\r\n

Please e-mail us at info@fifotrack.com if any question or feedback.