MEITRACK CLS Sensor User Guide

Applicable Model: MVT600/T1/MVT800/T333

Change History

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2 Product Functions and Specifications

2.1 Product Functions

- Measure vehicle's fuel level.
- Detect an alarm when the fuel level is too high.
- Detect an alarm when the fuel level is too low.

2.2 Specifications

Item	Specifications
Sensor length	200–1500 mm (The sensor can be shortened based on the length range.)
Diameter	65 cm
Output signal	0–5 V
Power supply	DC 10–32 V
Ambient temperature	-40°C to 85°C
Resolution	1 mm
Tube material	Aluminum alloy

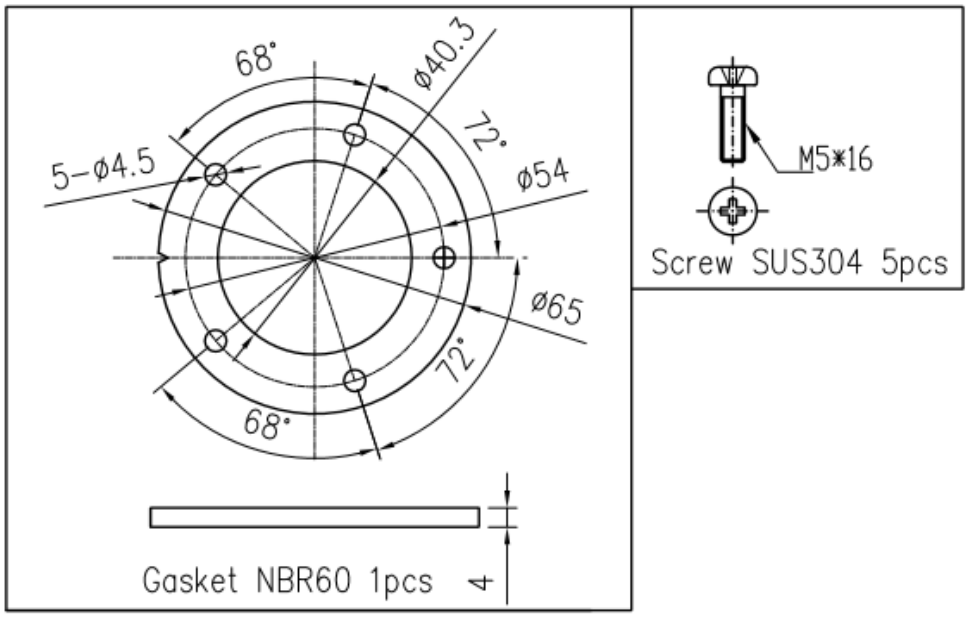
3 Main Device and Accessory

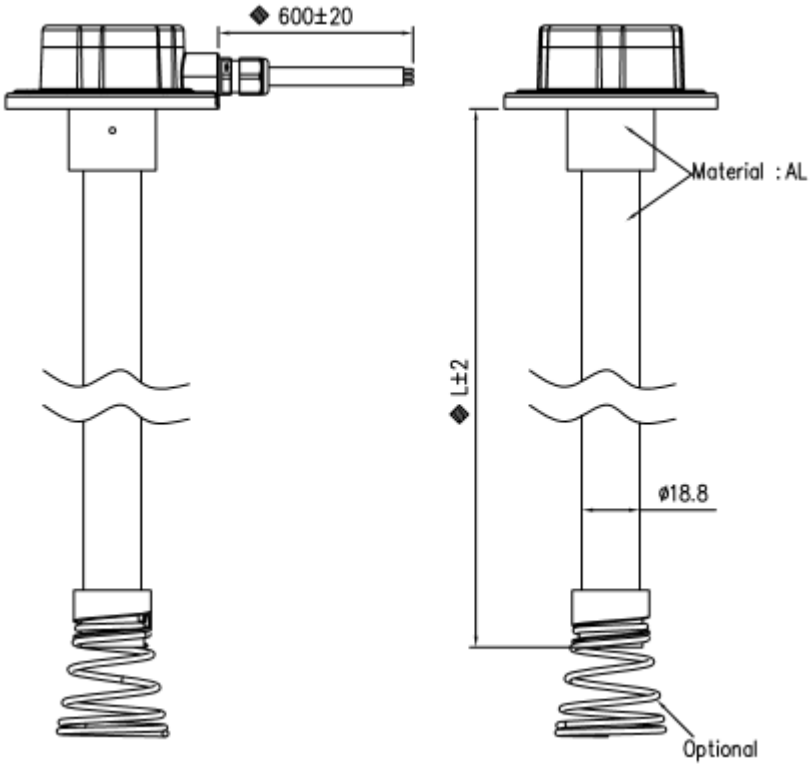
Main device: V-type fuel level sensor (A54 CLS)

Accessory: Calibrator

4 View

Capacitive level sensor (CLS)





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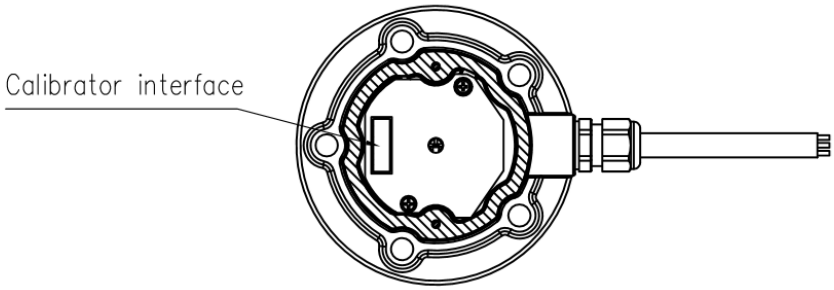

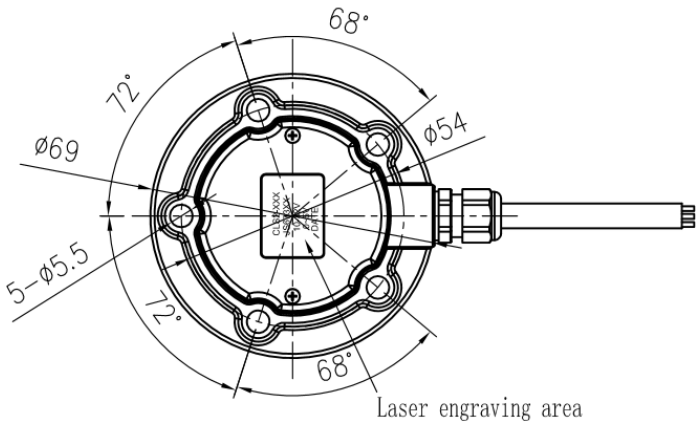

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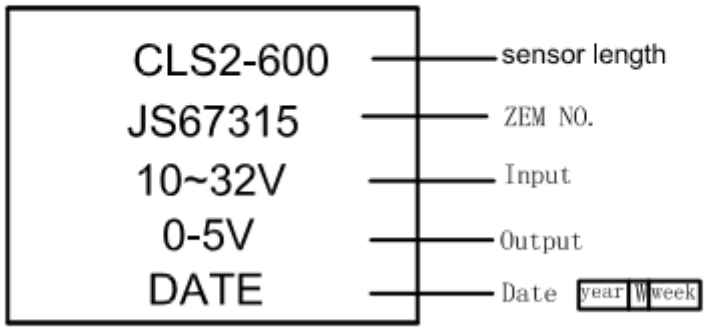

5 Occupied Resource

- T1: AD2 (fuel detection port)
- MVT600: AD2 (fuel detection port)
- MVT800: AD1 (fuel detection port)
- T333: AD2 (fuel detection port)

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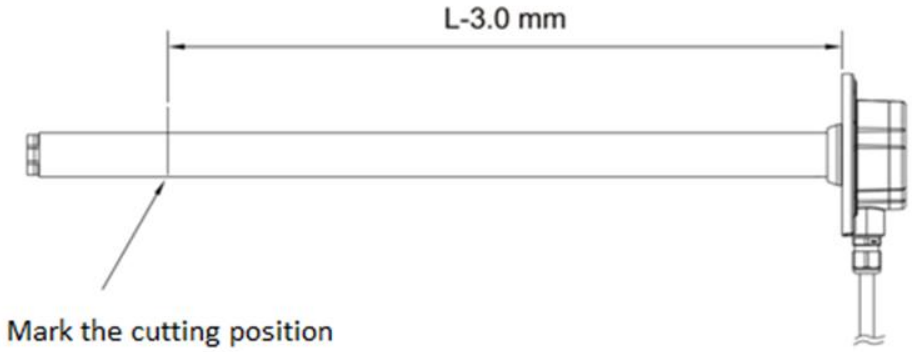
6 Cutting the CLS

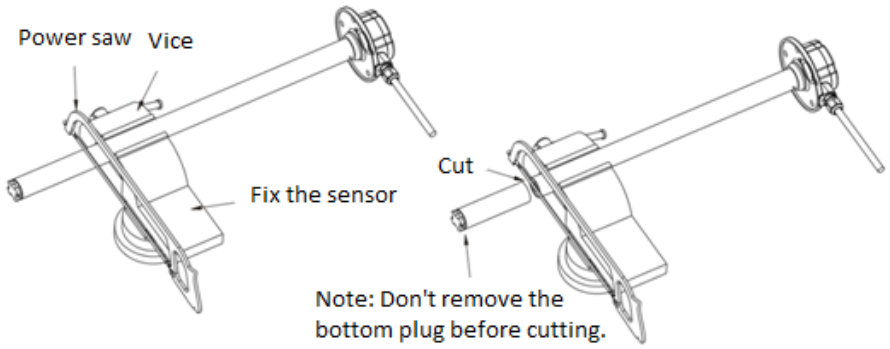
You can shorten the CLS according to your requirements.

Perform the following steps:

1. Determine the desired sensor length according to your needs.
2. Cut the unnecessary sensor using the power saw and clean up fuel sensor's burrs using the file.
3. Remove the bottom plug and install it into the sensor.



For example, as shown in the above figure, the desired sensor length is L-3.0 mm.



To avoid tube deformation, don't use great force to fix the fuel sensor.

To avoid a block, clean up burrs in the oil tube.

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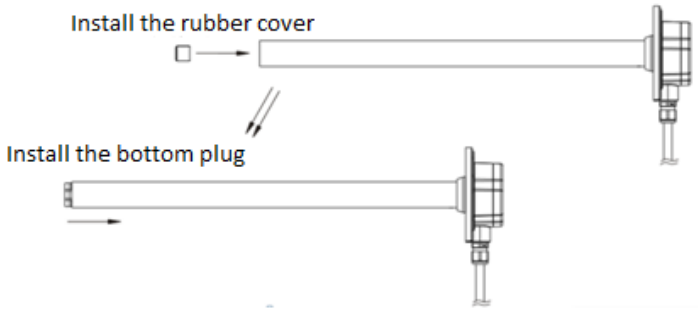


Caution: To avoid damaging the rubber cover, please install the rubber cover first and then the bottom plug.

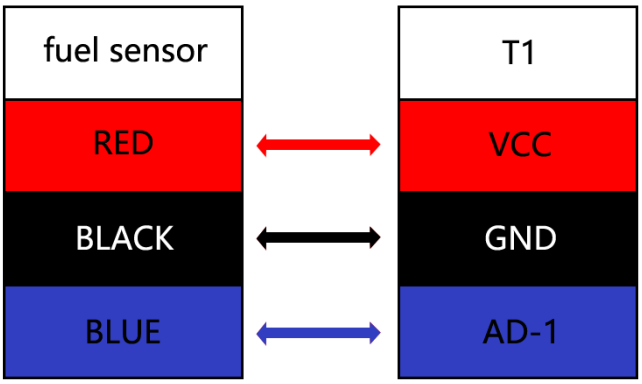
7 Installing and Configuring the CLS

Install the CLS into the vehicle according to your requirements.

7.1 Connecting the CLS to a Non-dedicated Port (MVT600/T1/T333)

When the CLS is connected to the MVT600/T1/T333 with AD1, cut the white plug at the end of the CLS and connect the sensor to the tracker according to the following cabling:

This section only uses the T1 as an example:



7.2 Adding the CLS to MS03 (MVT600/T1/T333)

1. Add the MVT600/T1/T333 to the MS03 platform, and connect the CLS to the tracker.
2. On the MS03 platform, choose **Management** > **Customize**.

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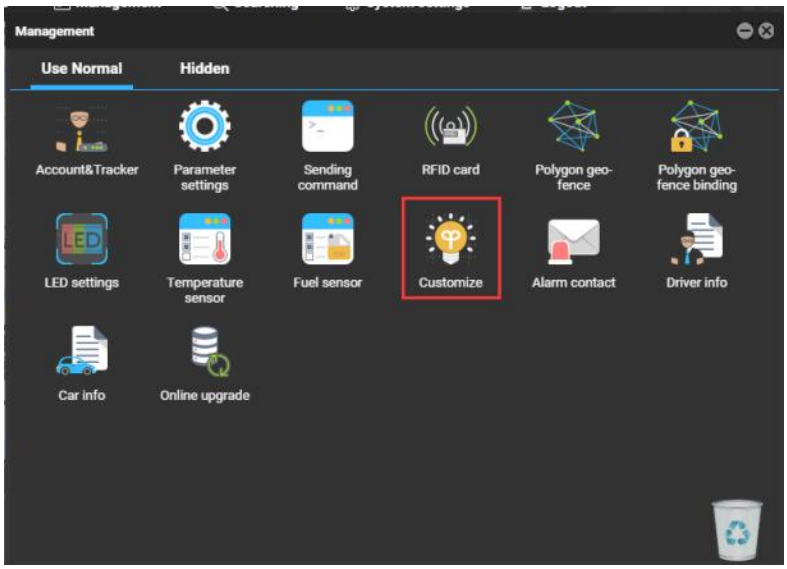
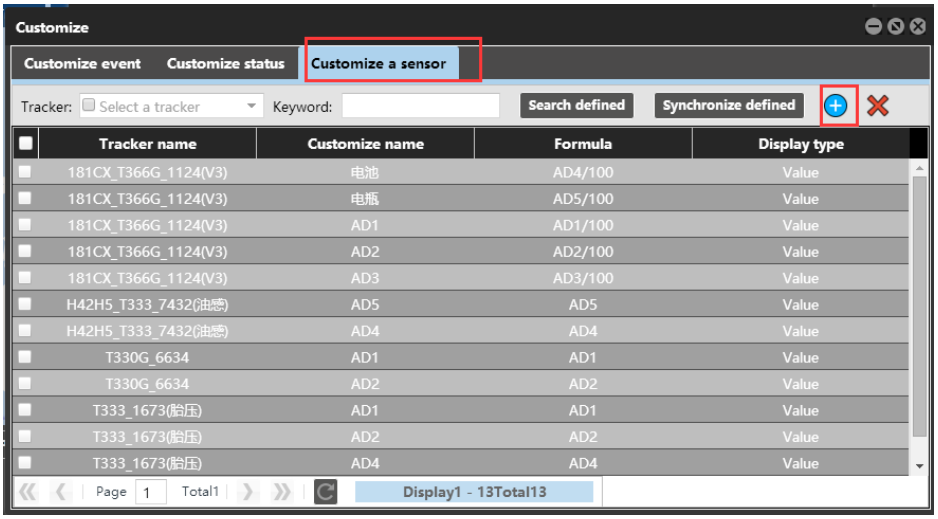


3. On the **Customize a sensor** tab page, click . On the **Add a customized sensor** window that is displayed, specify **Tracker**, **Customize name**, **Formula**, and **Display type**, and click **Submit**.



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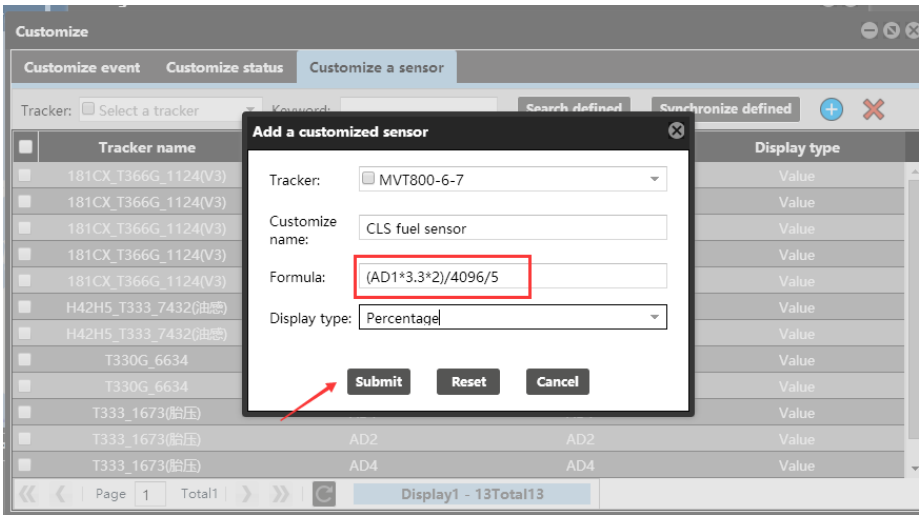
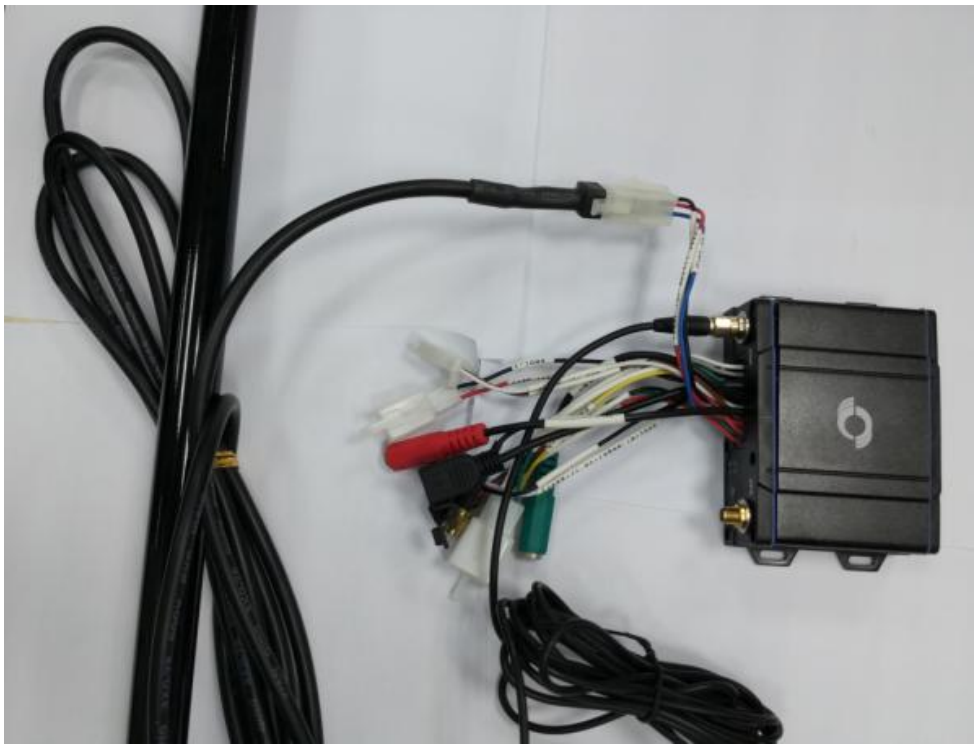


The calculation formula of the fuel level sensor is as follows:

MVT600/T1/T333: (AD1 x 3.3 x 2)/4096/5

7.3 Connecting the CLS to the Dedicated Port (MVT600/T1/MVT800/T333)

Connect the CLS to the dedicated port of MVT600/T1/MVT800/T333 as follows:



Note:

1. The fuel detection port is a dedicated fuel level sensor port. When a fuel level sensor is connected to the port, no formula is required on MS03. If not, a formula is required.
2. If the CLS connects to the fuel detection port of the tracker, the tracker must be connected to an external power supply. So that the fuel sensor can work normally.

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7.4 Calibrating the CLS

1. Open the sensor cover and connect the calibrator to the sensor.

2. Calibrate the full level: Fill the fuel tank to the full level, put the sensor into the tank, and wait for about 30 seconds until the sensor tube is filled with fuel. Then press and hold down the **F** button of the calibrator. The sensor will enter the full level calibration mode if the green LED indicator blinks. Then release the **F** button. After about 10 seconds, the full level is calibrated successfully if the green LED indicator is off.

   Calibrate the empty level: Take the sensor away from the fuel tank. After the fuel is drained from the sensor tube, press and hold down the **E** button of the calibrator. The sensor will enter the empty level calibration mode if the green LED indicator blinks. Then release the **E** button. After about 10 seconds, the empty level is calibrated successfully if the green LED indicator is off.

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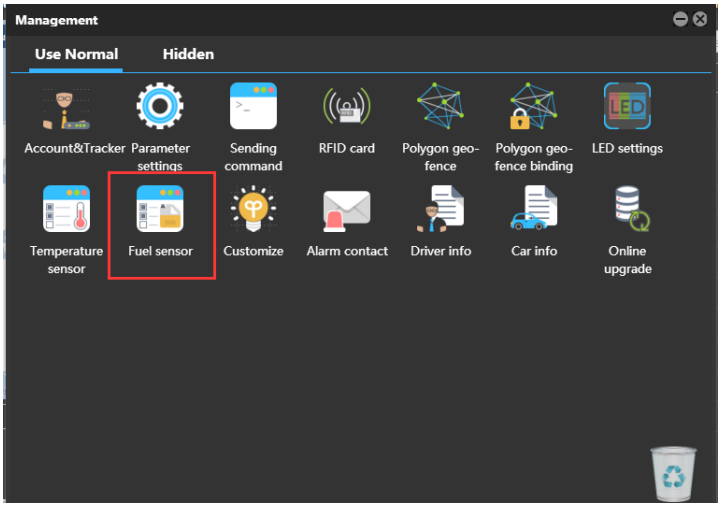
3. After calibration is finished, disconnect the calibrator, close the sensor cover, and tighten the screws. Then connect the red and black cables to the tracker's power cables. The calibration will become effective after the sensor is powered on.

Caution:

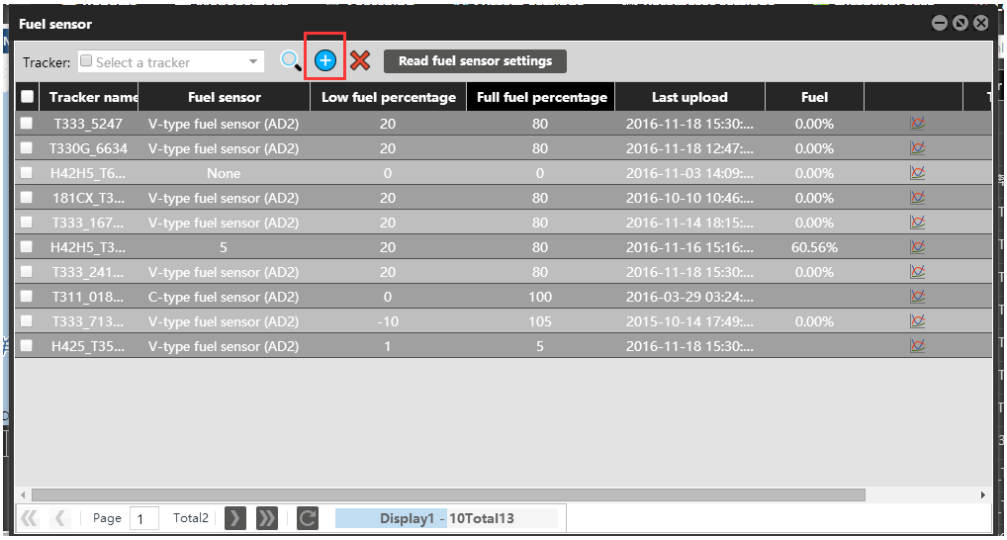
1. You must set the full level first and then the empty level.
2. If you don't press the button correctly during calibration, please turn off the calibrator and then calibrate the sensor again.
3. Don't disconnect the calibrator from the power supply during calibration. Otherwise, please calibrate the sensor again.

7.5 Adding the CLS to MS03 (MVT600/T1/MVT800/T333)

1. Add the T1/MVT600/MVT800/T333 to the MS03 platform, and connect the CLS to the tracker.
2. On the MS03 platform, choose **Management** > **Fuel sensor**.



3. On the **Fuel sensor** window that is displayed, click . On the **Add a fuel sensor** window, specify **Tracker name**, **Fuel sensor**, **Low fuel percentage**, and **Full fuel percentage**, and click **Submit**.



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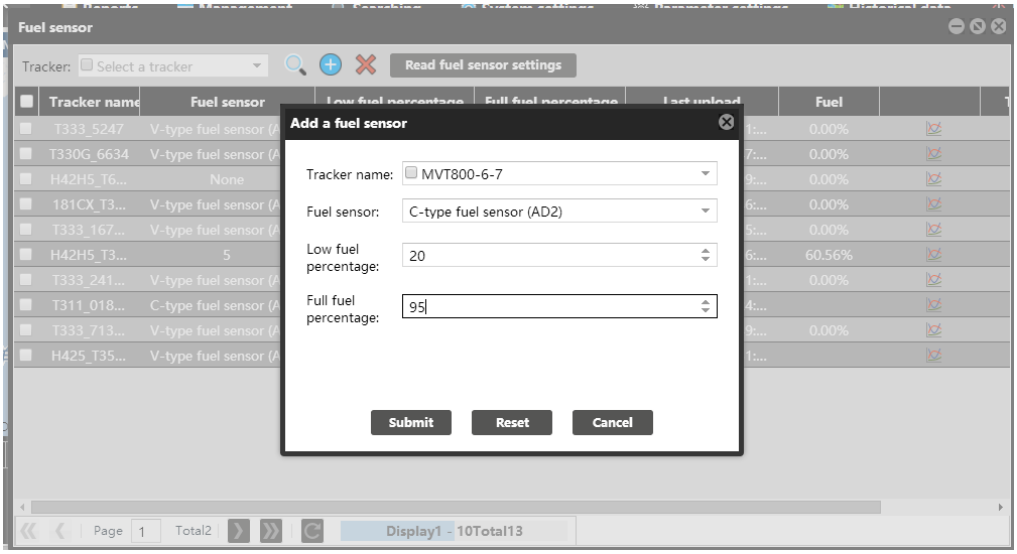
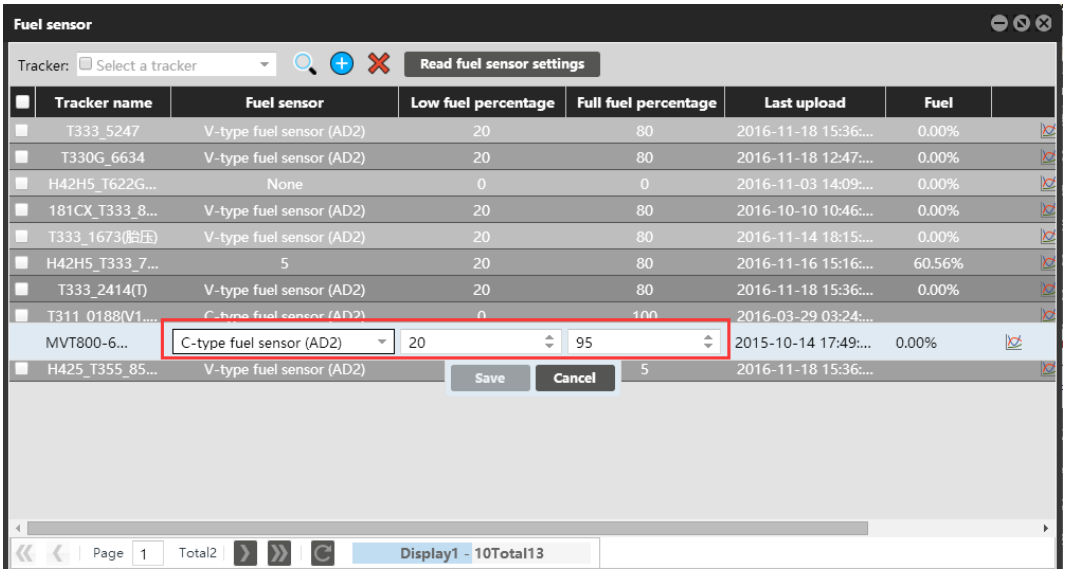


Note: There are three types of fuel level sensors: C-type (Capacitive), R-type (Resistive) and V-type (Voltage). Parameter **None** indicates that no fuel level sensor is used. (C-type and R-type fuel sensors are V-type fuel sensors.)

4. On the **Fuel sensor** window, double-click a sensor to modify parameters **Fuel sensor**, **Low fuel percentage**, and **Full fuel percentage** as required.



Note: When the fuel detection port of the MVT600/T1/MVT800/T333 is connected to the fuel level sensor, no formula is required on MS03. When the sensor detects that the fuel is lower than the lower limit or is higher than the upper limit, an alarm will be generated.

8 Querying Reports

8.1 Historical Data

1. On the MS03, choose **Reports**.
2. On the **Reports** window, select **Historical data** from **Use Normal**. The **Historical data** window is displayed.

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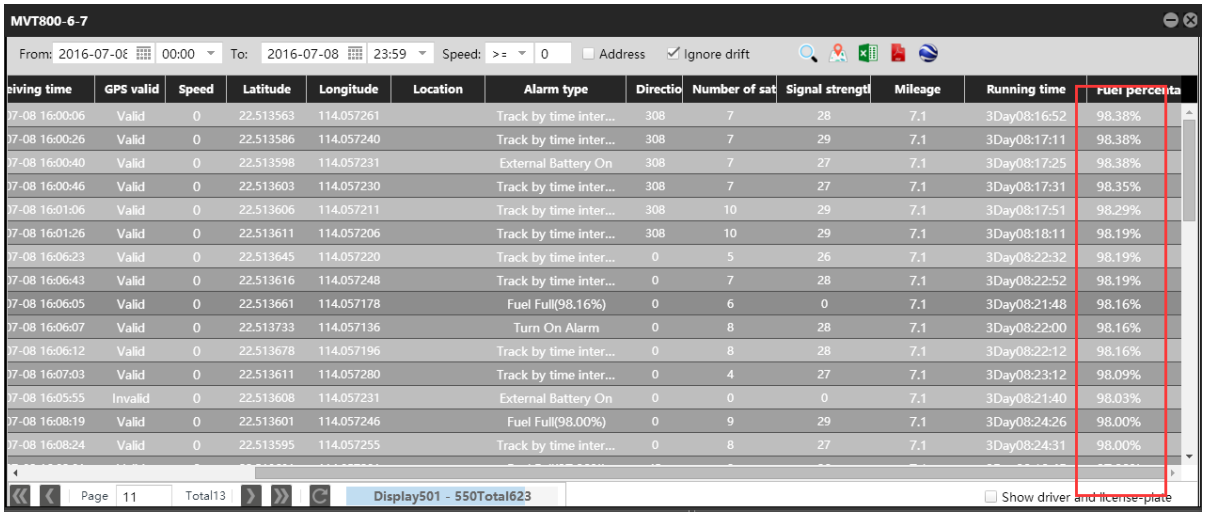
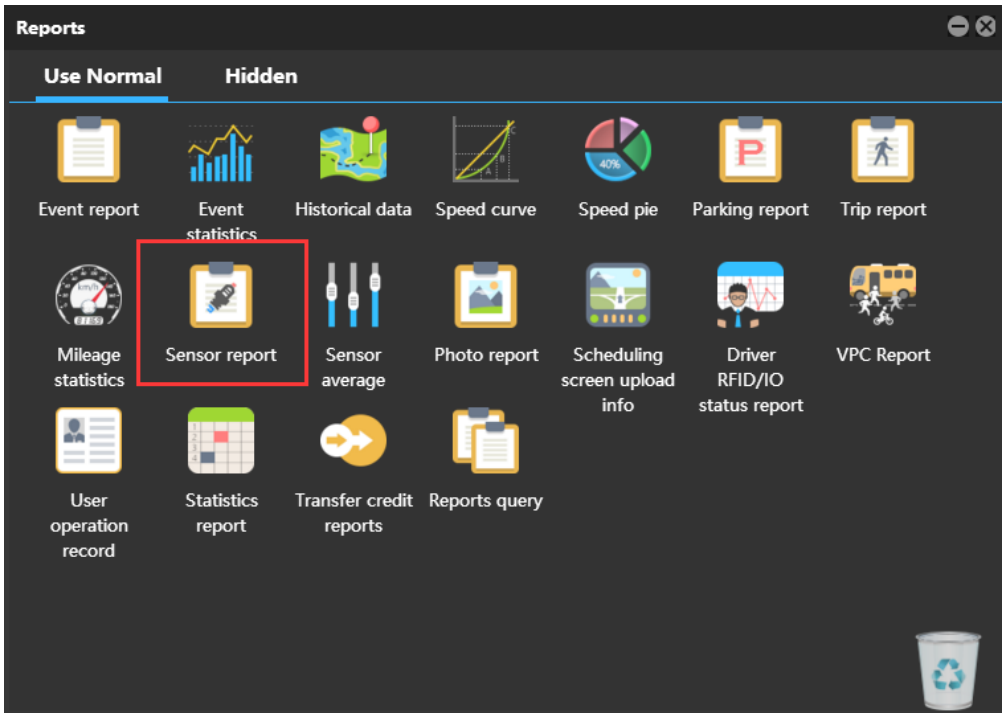
3. Select a tracker, set the query time, and click . The results will be displayed, as shown in the following figure.



8.2 Sensor Report

1. On the **Reports** window, choose **Sensor report** from **Use Normal**. The **Sensor report** window is displayed.



2. Select a tracker and sensor, set the query time, and click . The results will be displayed, as shown in the following figure.

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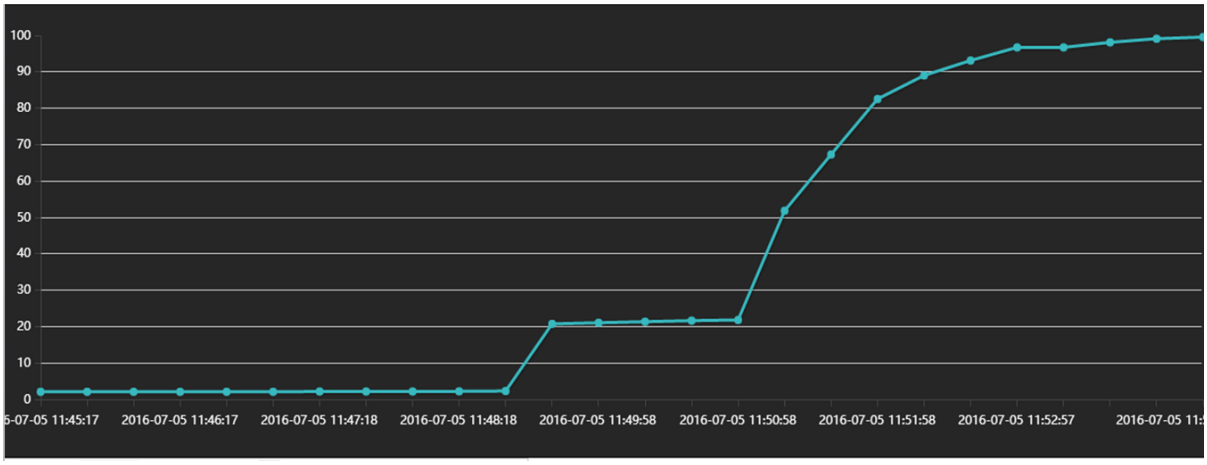

9 Obtaining the Sensor Installation Video

Please visit the following website to view the fuel sensor installation video: http://www.meitrack.com/en/video-tutorials/.

If you have any questions, do not hesitate to email us at info@meitrack.com.

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