

# Ultrasonic Fuel Sensor of VL802 user manual

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This document is used for getting start with Ultrasonic fuel sensor (RS485) of VL802 and TSP platform, please follow the instructions to operate.

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# 1. Preparation

- VL802 device;
- UL212 Ultrasonic Fuel sensor;
- 12V DC Power supply



# 2. Fuel sensor Installation

For this part, please check another document which named “UL212 user Guide” in detail.

### UL212/UL212-E Quick Guide

**Bluetooth(BLE5.0) All-in-one Ultrasonic Fuel Level Sensor**

**Indoor Test**

1. Indoor Test Prepare:
  - 1) Mineral Water Bottle (Flat cap)
  - 2) UL212/UL212-E Kits
  - 3) Android or iOS Phone
  - 4) 12/24V Power Bank/Jump Starter/Power Supply
2. Indoor Test Steps:
  - 1) Power On UL212/UL212-E, RED LED flashes.
  - 2) Search & Install "UL212" from IOS APP Store or Google Play.
  - 3) Search Bluetooth Device ID in APP and connect "UL212 Fuel".
3. Paste 0.5-1mm thickness Silicone Gel or Couplant on top of the probe.
4. Make sure water bottle has more than 3cm height water inside, and put on the probe.
5. Check Real Time Mobile APP data in Smart Phone.

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### UL212 Outdoor On-Site Installation Quick Guide

**Outdoor Installation Prepare**

- 1) Make sure fuel tank has at least 1/2 fuel inside.
- 2) Make sure there is flat zone on the bottom of tank to fix probe.
- 3) UL212/UL212-E Kits
- 4) Android or iOS Phone
- 5) 12/24V Power Bank/Jump Starter or Portable Battery
- 6) Slot Type Screw Driver
- 7) AB Epoxy Glue:
  - AB Epoxy Glue for Metal/Plastic with 3-5 minutes Curing Time

**Key Steps for Outdoor Fuel Tank Installation**

1. Power on Sensor & Connect Mobile APP "UL212 FUEL".
  - 1) Power On UL212/UL212-E, RED LED flashes, and connect the UL212 Mobile APP via Bluetooth.
  - 2) Search Bluetooth Device ID in APP and connect "UL212 FUEL".

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**2. Clean the target zone around the middle of tank bottom**

Top View from Tank Bottom

Top View from Tank Bottom

5-15cm  
5-10cm

A. Tank Original Screw to drop fuel (do not touch or clean)  
B. Target Zone to Clean  
C. Target Zone to Clean

**How to Clean?**

- 1) Clean all dust, black paint, rust, oil, asphalt, etc. to see original metal material.
- 2) After step 1), must use Sand Paper to polish for 2-3 minutes to make the zone as flat and smooth as possible.
- 3) Please make sure get rid of the original tank float sensor and return pipe.

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**5. Take notes of Vehicle Original Fuel Gauge and Measure Tank Height**

- 1) Fuel Gauge: 1/4, 1/2, 3/4, 4/4
- 2) TANK Maximum Height: mm
- 3) Inside Diesel/Gasoline Height: mm

**4. Find Best Installation Position**

- 1) After clean zone B & C, use Silicone Gel/Couplant on top of the probe.
- 2) Then hold the probe to the tank bottom and move slowly in zone B & C.
- 3) Make remark with mark pen or sticker to remember this position.
- 4) IMPORTANT: There must be NO air between probe and tank when finding best signal position.

**Standard for best installation position**

- A. Probe Show stable GREEN light (if flash red, you need hold and recheck other position)
- B. Mobile APP meets the following status:

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**5. Fix the probe to the bottom of tank for Metal/Steel Tank**

- 1) Prepare AB Epoxy Glue (Suggested Araldite with 3-5 minutes Curing Time)
- 2) Insert the AB Epoxy Glue on the probe, and Mix AB glue for 20-30 seconds to make sure glue color has changed.
- 3) Hold the probe with hand or Manual Jack/Lift for 10-15 minutes, LED must show Stable GREEN.
- 4) Verify the installation:
  - 1) After step 3), remove your hand or Manual Jack/Lift, and use Mobile APP to check again to be sure the same as to complete the installation.
  - 2) Fasten the probe with Stainless steel Strap across the 3M sticker on back.

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**6. Wiring Diagram**

Power Input: 9-30V DC

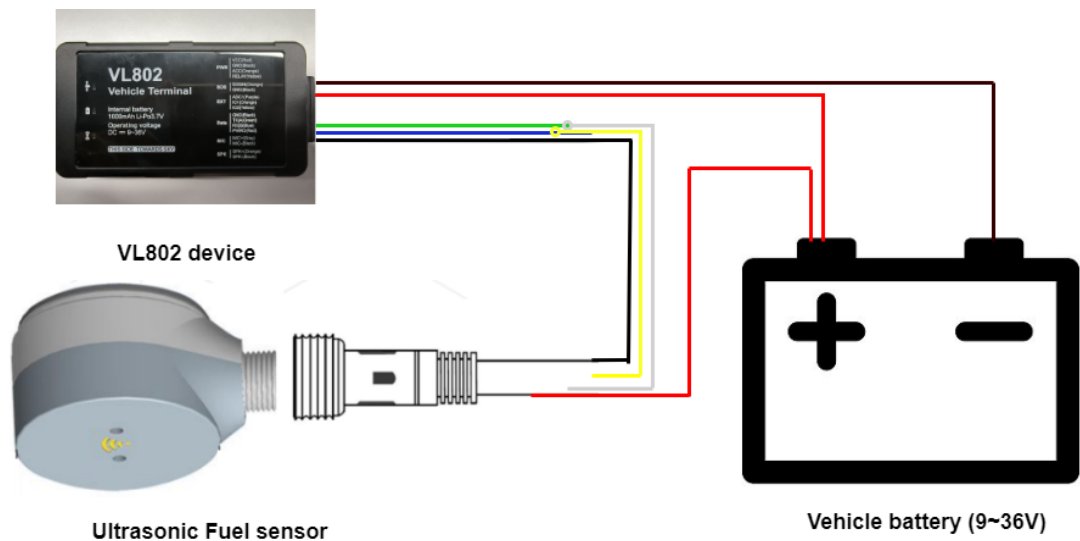
**It is Mandatory to use an external Automotive 1 A Fuse**

**Recommended**

**Optional for LCV Vehicles**

**Heavy Duty Vehicle or Some Old Truck/Bus, Construction Vehicle, Generator: Power Stabilizer will be applied.**

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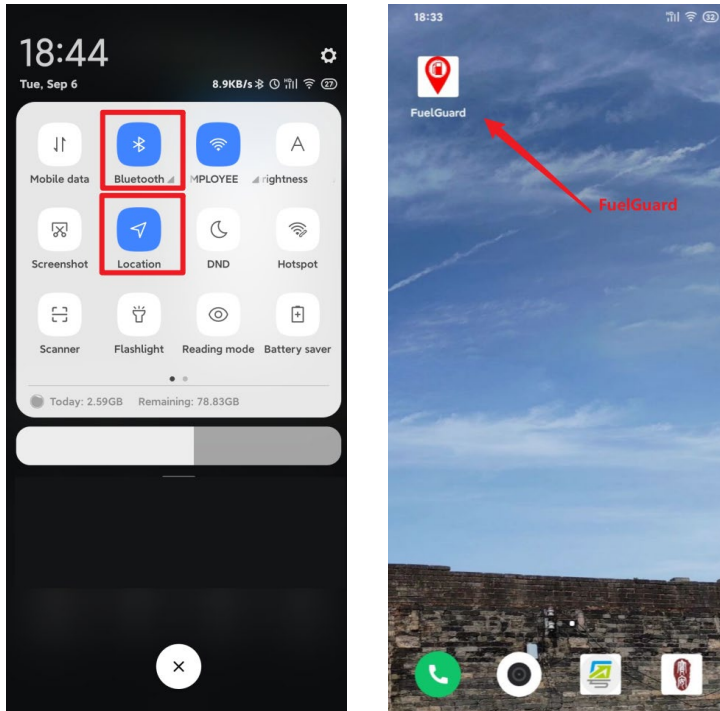
**RS485 ultrasonic fuel sensor wiring:**

- Note: The white wire of the ultrasonic fuel sensor is replaced by gray in the picture.

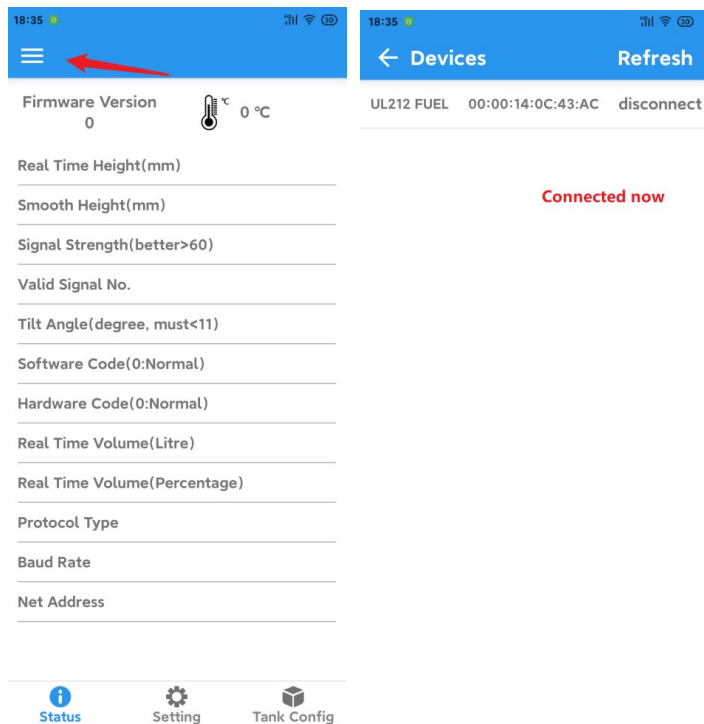
**Configuration of *FuelGuard* Application:**

You need to configure the Fuel sensor via the APP named FuelGuard when you finished the wiring connection between VL802 and sensor.

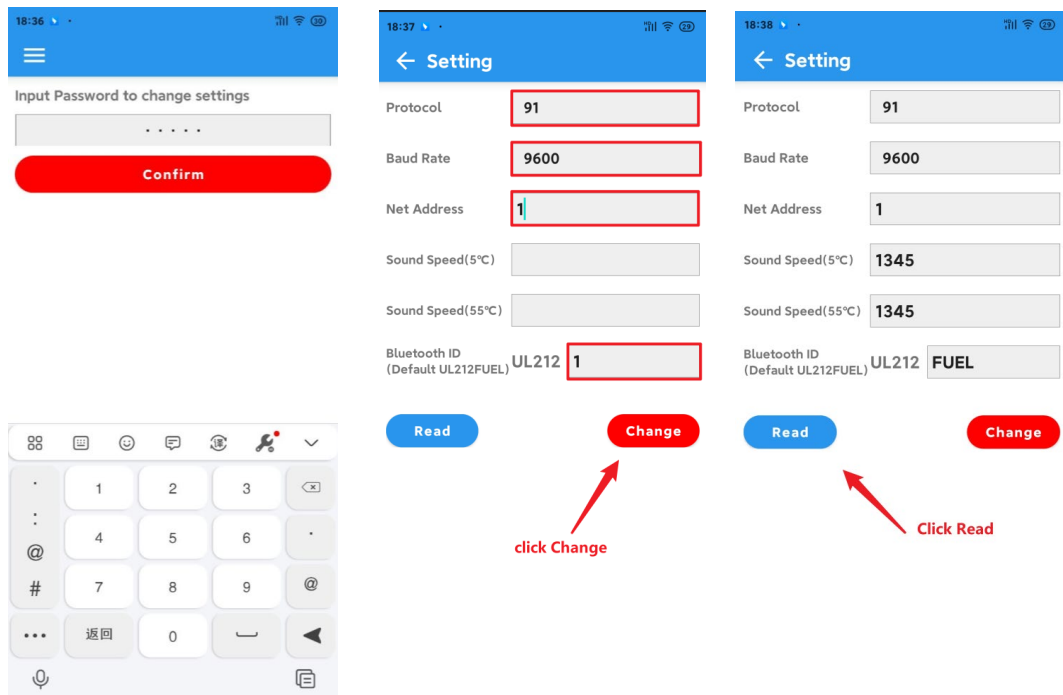
- i. Ensure the Bluetooth and Location of your phone were switched on and open the app.



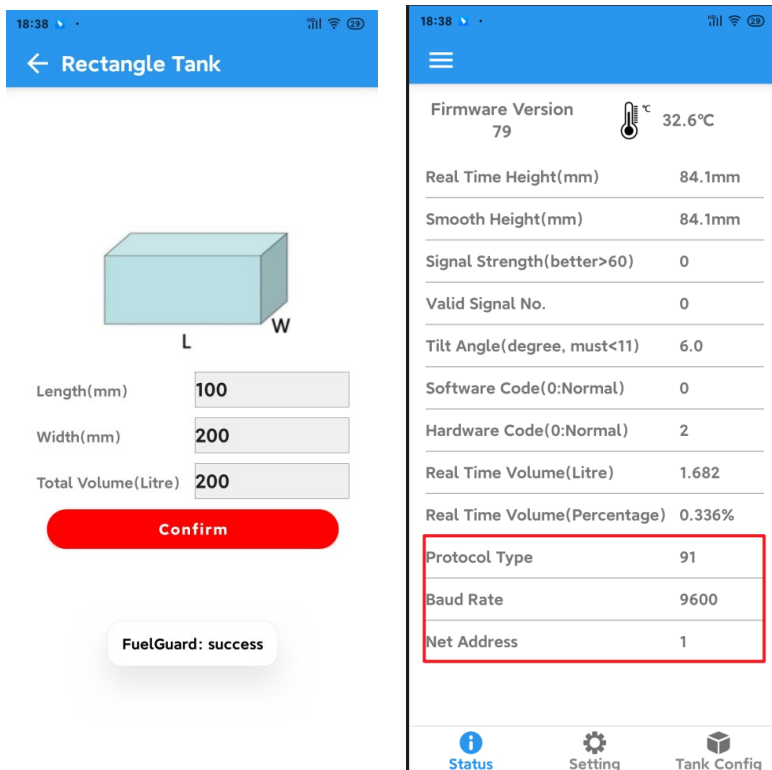
- ii. Click **MENU** and refresh the device list, connect the ultrasonic fuel sensor that you're installed.



- iii. Back to home page, then click **SETTING** and input the password: **52381**, now set the parameters as the following picture 2, Ensure you got the info of picture 3 when you clicked the **READ** button, then you can move to next step.



- iv. Back to home page, then click **TANK CONFIG**, and set the your Fuel tank information via APP, and back to home page again, ensure the red marked info were matched as the picture2. Then the configuration of app are finished.



### 3. Configuration of Communicator

#### i. Turn on oil stealing/refueling alert report.

Refueling/oil stealing alarm control command: UL212OILALM [,A] [,B] [,C]#

A: Detect alarm content 0: Not detect alarm 1: Oil stealing alarm 2: Refueling alarm 3 Oil stealing+refueling alarm

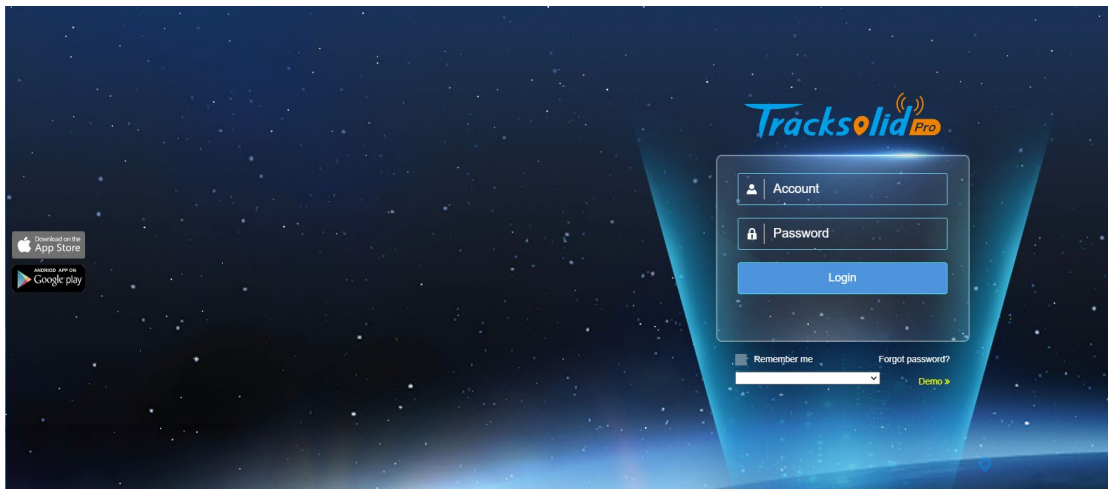
B: Alarm reporting method, 0 only GPRS, 1 SMS+GPRS;

C: Alarm silence time (2-60 minutes)

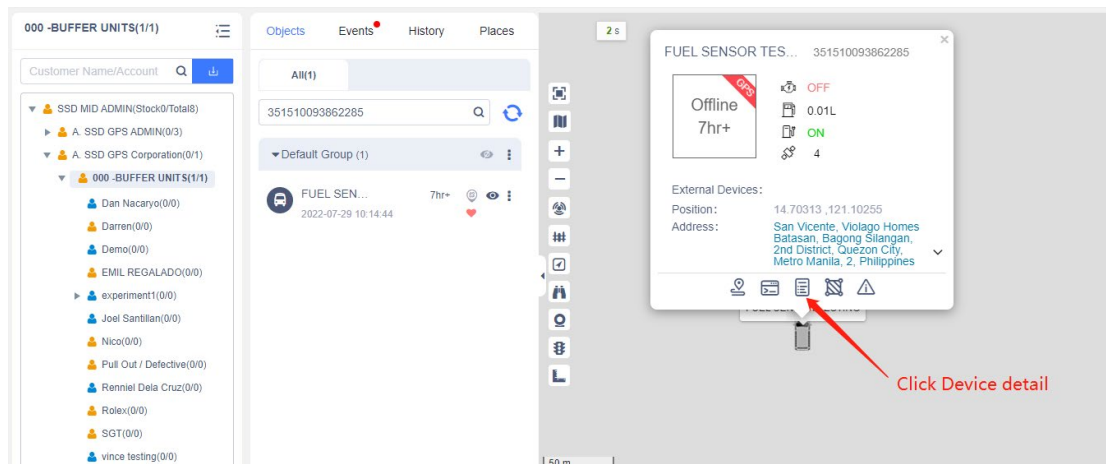
Description: Default value (0,0,2#)

### 4. Configuration of TSP Platform

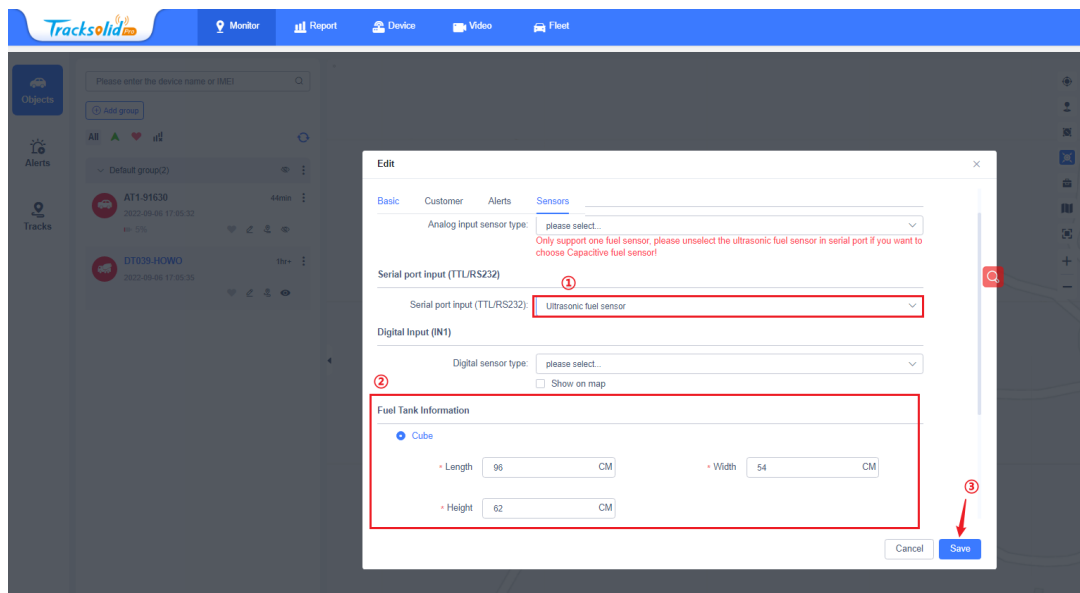
#### i. TracksolidPro HOME



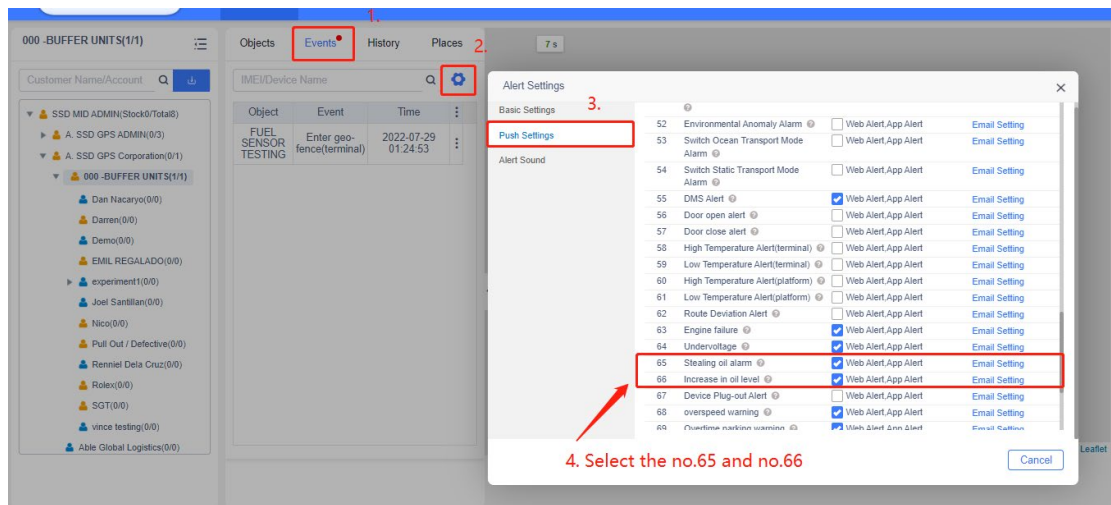
#### ii. Turn on the oil display feature.



iii. Set the Fuel tank information and Fuel sensor type



iv. Turn on the push of oil stealing and oil refueling alert push.



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