

KUM2500A

Ultrasonic Level Sensor

Installation Notes



Before Installation:

- Make sure the vehicle has 2 hours or more of free time to complete the installation.
- Before installation, please ensure that the vehicle has at least 30% oil, and park the vehicle on level ground,

Otherwise, the installation effect will be affected.

Installation tool:

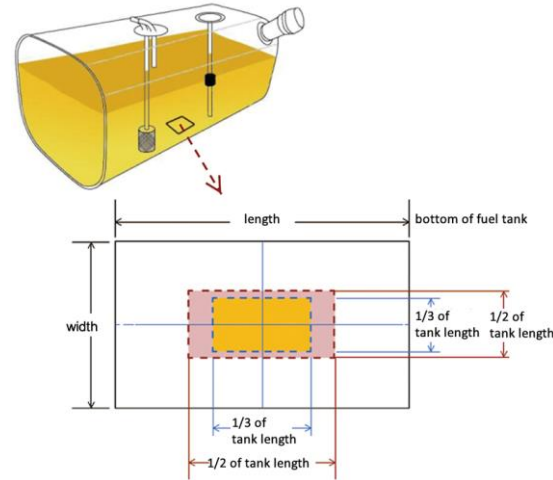
- Display, power bank, 5V to 12V booster cable
- Pliers, insulating tape, flat-blade screwdriver

Installation steps:

1. Confirm the installation area
2. Display tool connection
3. Confirm the probe installation point
4. Install the probe
5. Connect the car

Please read this instruction carefully before installation.

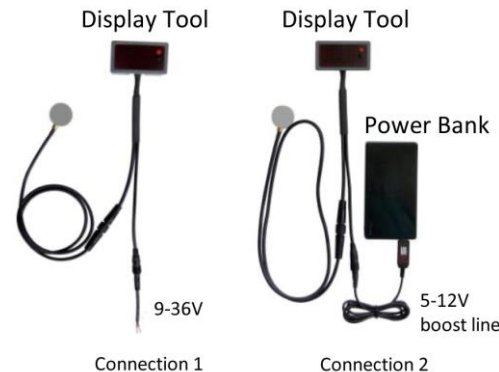
Step 1: Confirm the installation area



Important: As shown in the picture above, the probe should be installed as far as possible in the middle area of the bottom of the fuel tank, avoiding obstacles such as the fuel filler opening of the fuel tank and the float in the fuel tank; then clean the surface of the fuel tank in this area with a rag.

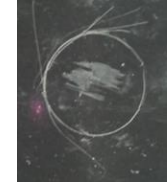
Step 2: Display tool connection (tool is optional)

The display tool is only used to confirm the installation point of the probe; one end is connected to the probe, the other end is connected to the power supply, as shown in the figure below, it can be connected to the 9-36V power supply on the car or connected to the power bank through the 5V to 12V booster cable.



Step 3: Confirm the probe installation point

Apply couplant on the probe, and then find a spot in the cleaned installation area. According to the result displayed on the display, after confirming the installation spot, mark it with a screwdriver.



Display Instructions:

show result	Correspondence description
	When the device is just turned on to search for the baud rate, the number 8 will be displayed for a few seconds; if this result is always displayed, please contact the manufacturer.
	Then, the display will jump back and forth in the format on the left; among them, 018.9 means the liquid level height is 18.9cm, 3 2 means the number of echoes is 3, and the installation status code is 2.
	When the interface between 000.0 and 0 0 is displayed and switches back and forth, it means that the probe is off or this position is not suitable for installation, and it is necessary to rearrange the search point or check whether the probe is off.
	If the probe or the vehicle is at an excessively large tilt angle, the letter "F" will be displayed, as shown in the figure F4, which means that the tilt angle is greater than or equal to 4°, and the vehicle cannot be installed. The probe or the vehicle must be placed in a horizontal position.
	If the tilt sensor does not exist, the interface displays FFFF.
	When 9 9 is displayed, please check whether the connection between the display and the probe is disconnected.

The echo quantity and status code must meet the following requirements to confirm the installation point:
 If iron fuel tank: echo quantity ≥ 1 , status code ≥ 1 .
 If aluminum alloy / stainless steel fuel tank:
 Liquid level $< 60\text{cm}$, echo quantity ≥ 2 , status code = 2
 Liquid level $\geq 60\text{cm}$, echo quantity ≥ 1 , status code ≥ 1

Install the probe

Before installation, please clean the couplant on the surface of the probe and the fuel tank.

Install the auxiliary bracket:

Please tear off the red protective film of the adhesive tape at the bottom of the bracket, and then stick the bracket on the installation point marked in the third step in the direction parallel to the long side of the fuel tank, as shown in the following figure:



To install the probe:

Put a waterproof sealing ring on the probe, apply butter inside the sealing ring, use a cable tie or Smooth with other tools; the amount of butter needs to be slightly higher than the washer.



Then insert the probe into the auxiliary bracket and fasten it with the corresponding buckle.



Install the hose clamp:

- First attach buffer gaskets to the 4 corners of the fuel tank;
- Then use the throat hoop to clamp the bracket slot and lock it;
- Tighten the excess throat hoop with cable ties;
- Check the display status again, if the displayed result still meets the installation requirements, it means the probe is installed successfully.



Connect the car

After removing the display screen, connect the probe to the 8-meter extension cable, and route it along the inner side of the body frame. After connecting the vehicle according to the wiring definition on page 6, the excess cable should be placed in the front of the vehicle;

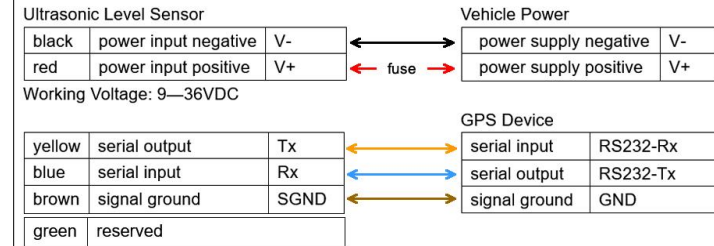
Wiring Notes:

- Keep away from hot and moving parts, no less than 20cm
- Does not affect the vehicle dump bucket, front inspection and other functions
- Cables are fastened with cable ties every 50cm
- In order to prevent the aviation joint from loosening, please fix it as shown in the figure below, and reserve more on the left and right sides.



Wiring definition

RS-232 interface:



RS-485 interface:

