

## KUM2500A Ultrasonic Fuel Level Sensor

### Introduction

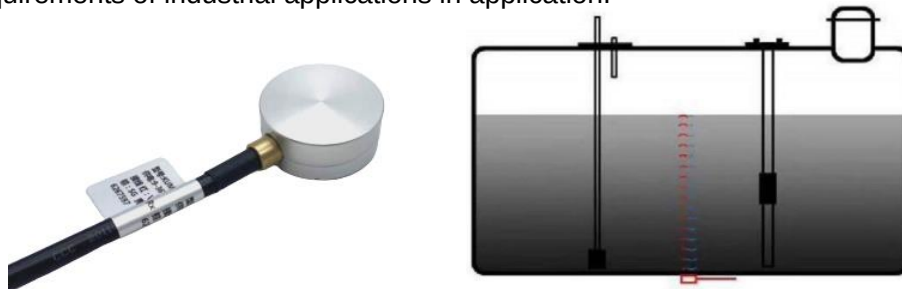
KUM2500A ultrasonic level sensor can be used to measure the liquid level in fuel tanks, tanks and containers. The sensor uses the ultrasonic detection principle to detect the fuel level of the fuel tank, and then converts the fuel level height value into the fuel quantity value through intelligent processing, sends it to the system platform through GPS, and transmits the fuel quantity data to the background monitoring system to achieve real-time monitoring of vehicle fuel consumption.

At present, the products are mainly used in the field of Internet of Vehicles. They are used to monitor the change of fuel level in the fuel tank in real time to realize the detection of fuel level. It can be used to prevent fuel theft, optimize operating costs, optimize driver driving behavior, and assist statistical decision-making.

At the same time, this product can also be used in chemical, water conservancy, storage tanks and other fields with liquid level detection requirements.

### Working Principle

KUM2500A ultrasonic level sensor uses the ultrasonic echo ranging principle. The sensor is installed on the outer surface of the bottom of the fuel tank, and sends out ultrasonic signals from the bottom. When it encounters the liquid surface, it reflects back, and then calculates the liquid level height according to the time and speed. At the same time, combined with digital signal processing technology, it overcomes the influence of the container wall, realizes high-precision non-contact measurement of the liquid level in the container, and can meet the requirements of industrial applications in application.



### Features

- Long range
- High precision
- Simple installation
- Multiple interface
- High stability

### Application

- Internet of vehicles solutions
- Industrial control - textile mills
- Rainwater monitoring
- Road water monitoring

## Technical Parameter

| No. | Item                         | Introduction                                                                                                              |
|-----|------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 1   | Working Voltage              | DC 9V~36V.                                                                                                                |
| 2   | Working Temperature          | -30℃~+80℃                                                                                                                 |
| 3   | Storage temperature          | -40℃~+85℃.                                                                                                                |
| 4   | Measure Range                | 3~100cm (4m can be customized).                                                                                           |
| 5   | Maximum power consumption    | 0.36W/12VDC                                                                                                               |
| 6   | Measurement accuracy         | ±0.5%FS                                                                                                                   |
| 7   | Measurement resolution       | 0.1mm                                                                                                                     |
| 8   | Inbreaking Protection        | IP67                                                                                                                      |
| 9   | Peripheral interface         | RS232 / RS485 / TTL                                                                                                       |
| 10  | Tank Materials               | conventional fuel tanks such as aluminium alloy/iron/plastic                                                              |
| 11  | Communication port parameter | default baud rate is 9600 (the baud rate can be configured), no parity bit, 8 data bits, 1 stop bit, and no flow control. |

Note: About the measurement range:

- For 5mm thick Q235 type steel plate, with No. 0 diesel, the measuring range is 3~100cm
- The rest is based on the actual height measured, depending on the material and thickness of the container.

## Wiring

### RS232:

Ultrasonic Level Sensor

|       |                      |    |
|-------|----------------------|----|
| black | power input negative | V- |
| red   | power input positive | V+ |

Vehicle Power

|                       |    |
|-----------------------|----|
| power supply negative | V- |
| power supply positive | V+ |



Working Voltage: 9—36VDC

|        |               |      |
|--------|---------------|------|
| yellow | serial output | Tx   |
| blue   | serial input  | Rx   |
| brown  | signal ground | SGND |
| green  | reserved      |      |

GPS Device

|               |          |
|---------------|----------|
| serial input  | RS232-Rx |
| serial output | RS232-Tx |
| signal ground | GND      |



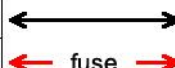
### RS485:

Ultrasonic Level Sensor

|       |                      |    |
|-------|----------------------|----|
| black | power input negative | V- |
| red   | power input positive | V+ |

Vehicle Power

|                       |    |
|-----------------------|----|
| power supply negative | V- |
| power supply positive | V+ |



Working Voltage: 9—36VDC

|        |               |      |
|--------|---------------|------|
| yellow | 485 B         | B    |
| blue   | 485 A         | A    |
| brown  | signal ground | SGND |
| green  | reserved      |      |

GPS Device

|               |         |
|---------------|---------|
| 485 B         | RS485-B |
| 485 A         | RS485-A |
| signal ground | GND     |

