

## KAOLALI KAOLALI

# KAOLALI 250MM 0-190 Ohm Fuel/Water Level Sensor

## Instruction Manual

Brand: KAOLALI | Model: KAOLALI

### 1. PRODUCT OVERVIEW

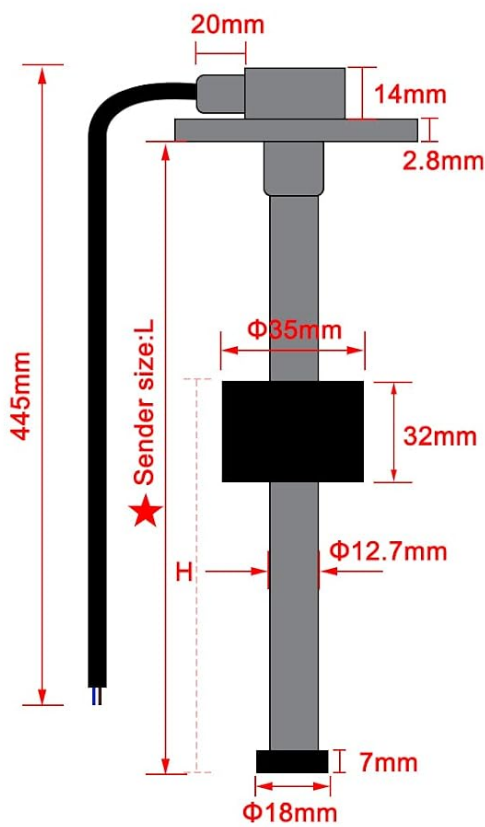
The KAOLALI 250MM 0-190 Ohm Fuel/Water Level Sensor is a robust and reliable device designed for accurate fluid level monitoring in various applications, including marine vessels, trucks, and recreational vehicles (RVs). It features a standard SAE 5-hole mounting pattern and is constructed from durable 316 stainless steel for longevity in harsh environments.

- **Signal Output:** European standard 0-190 ohm (0 ohm at empty, 190 ohm at full).
- **Length Range:** 250 MM.
- **Mounting:** SAE 5-hole pattern.
- **Material:** Robust 316 stainless steel construction.
- **Application:** Compatible with both fuel level gauges and water level gauges.

#### Important Note:

Fuel and water level sensors are available in two different resistance systems: 0-190 ohm and 240-33 ohm. This sensor operates on the 0-190 ohm standard. It is crucial to ensure that your existing fuel or water level gauge is also compatible with the 0-190 ohm standard. Mismatching resistance ranges between the sensor and the gauge will result in inverted or inaccurate readings.

# KAOLALI Fuel Tank Sender Unit Size, Resolution and Installation Recommendation



| Sender Size |       | Resolution | Recommendation Tank Size |           |
|-------------|-------|------------|--------------------------|-----------|
| 4"          | 100mm | 10mm       | 4.3"-4.9"                | 110-125mm |
| 5"          | 125mm | 10mm       | 5.3"-5.9"                | 135-150mm |
| 6"          | 150mm | 21mm       | 6.3"-6.9"                | 160-175mm |
| 7"          | 175mm | 21mm       | 7.3"-7.9"                | 185-200mm |
| 8"          | 200mm | 21mm       | 8.3"-8.9"                | 210-225mm |
| 9"          | 225mm | 21mm       | 9.3"-9.8"                | 235-250mm |
| 10"         | 250mm | 21mm       | 10.2"-10.8"              | 260-275mm |
| 11"         | 275mm | 21mm       | 11.2"-11.8"              | 285-300mm |
| 12"         | 300mm | 21mm       | 12.2"-12.8"              | 310-325mm |
| 13"         | 325mm | 21mm       | 13.2"-13.8"              | 335-350mm |
| 14"         | 350mm | 21mm       | 14.2"-14.8"              | 360-375mm |
| 15"         | 375mm | 21mm       | 15.2"-15.7"              | 385-400mm |
| 16"         | 400mm | 21mm       | 16.1"-16.7"              | 410-425mm |
| 17"         | 425mm | 21mm       | 17.1"-17.7"              | 435-450mm |
| 18"         | 450mm | 21mm       | 18.1"-18.7"              | 460-475mm |
| 19"         | 475mm | 21mm       | 19.1"-19.7"              | 485-500mm |
| 20"         | 500mm | 21mm       | 20.1"-20.7"              | 510-525mm |
| 21"         | 525mm | 21mm       | 21.1"-21.7"              | 535-550mm |
| 22"         | 550mm | 21mm       | 22"-22.6"                | 560-575mm |
| 23"         | 575mm | 21mm       | 23"-23.6"                | 585-600mm |
| 24"         | 600mm | 21mm       | 24"-24.6"                | 610-625mm |

## Note:

Plastic Tank: The Length of Sender Should be 1" Less than the Depth of the Tank.

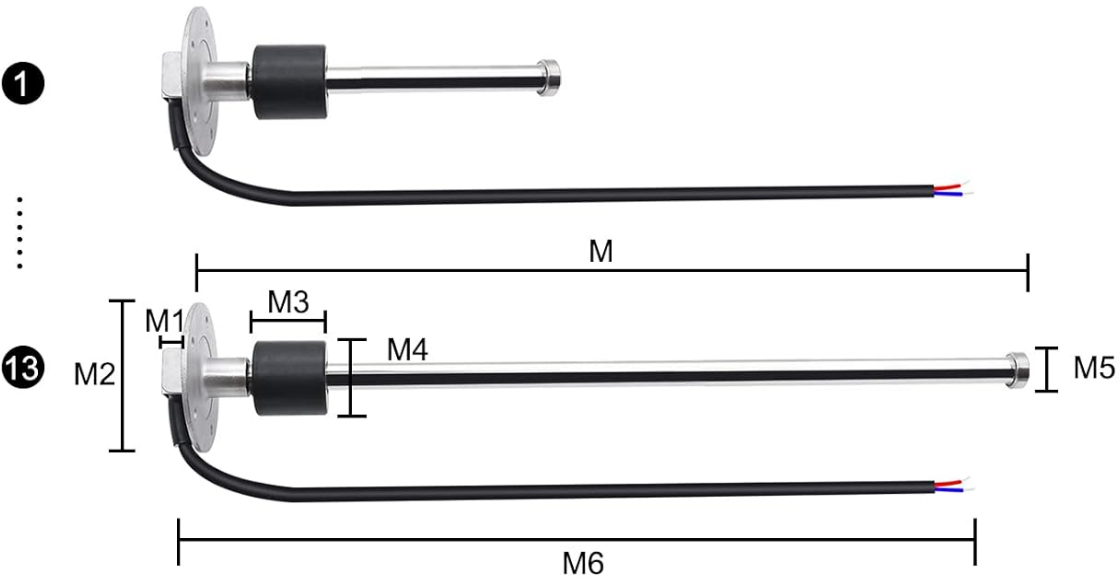
Metal Tank: The Length of Sender Should be 0.5"-1" Less than the Depth of the Tank.

Image 1.1: Overview of the KAOLALI 250MM Fuel/Water Level Sensor and its components.

## 2. SPECIFICATIONS

| Feature                        | Specification       |
|--------------------------------|---------------------|
| Product Dimensions (L x W x H) | 25 x 1.27 x 1.27 cm |
| Weight                         | 250 grams           |
| Manufacturer                   | KAOLALI             |
| Model Number                   | KAOLALI             |
| Material                       | 316 Stainless Steel |
| Mounting Type                  | SAE 5-Hole Pattern  |

| Feature                 | Specification                                                             |
|-------------------------|---------------------------------------------------------------------------|
| Output Type             | Analog and Electrical                                                     |
| Detection Length        | 250 mm                                                                    |
| Specific Uses           | Marine applications, vehicle fuel level monitoring, water level detection |
| Upper Rated Temperature | 185 Degrees Fahrenheit (85 Degrees Celsius)                               |



| M     | M1   | M2   | M3     | M4   | M5   | M6    |
|-------|------|------|--------|------|------|-------|
| 100mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 150mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 175mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 200mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 225mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 250mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 275mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 300mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 350mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 400mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 450mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 500mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |
| 550mm | 14mm | 69mm | 32.5mm | 35mm | 18mm | 445mm |

Image 2.1: Detailed dimensions and resolution table for various sender unit sizes. This specific model is 250mm.

3. SETUP AND INSTALLATION

3.1 Component Identification

Familiarize yourself with the sensor components before installation.

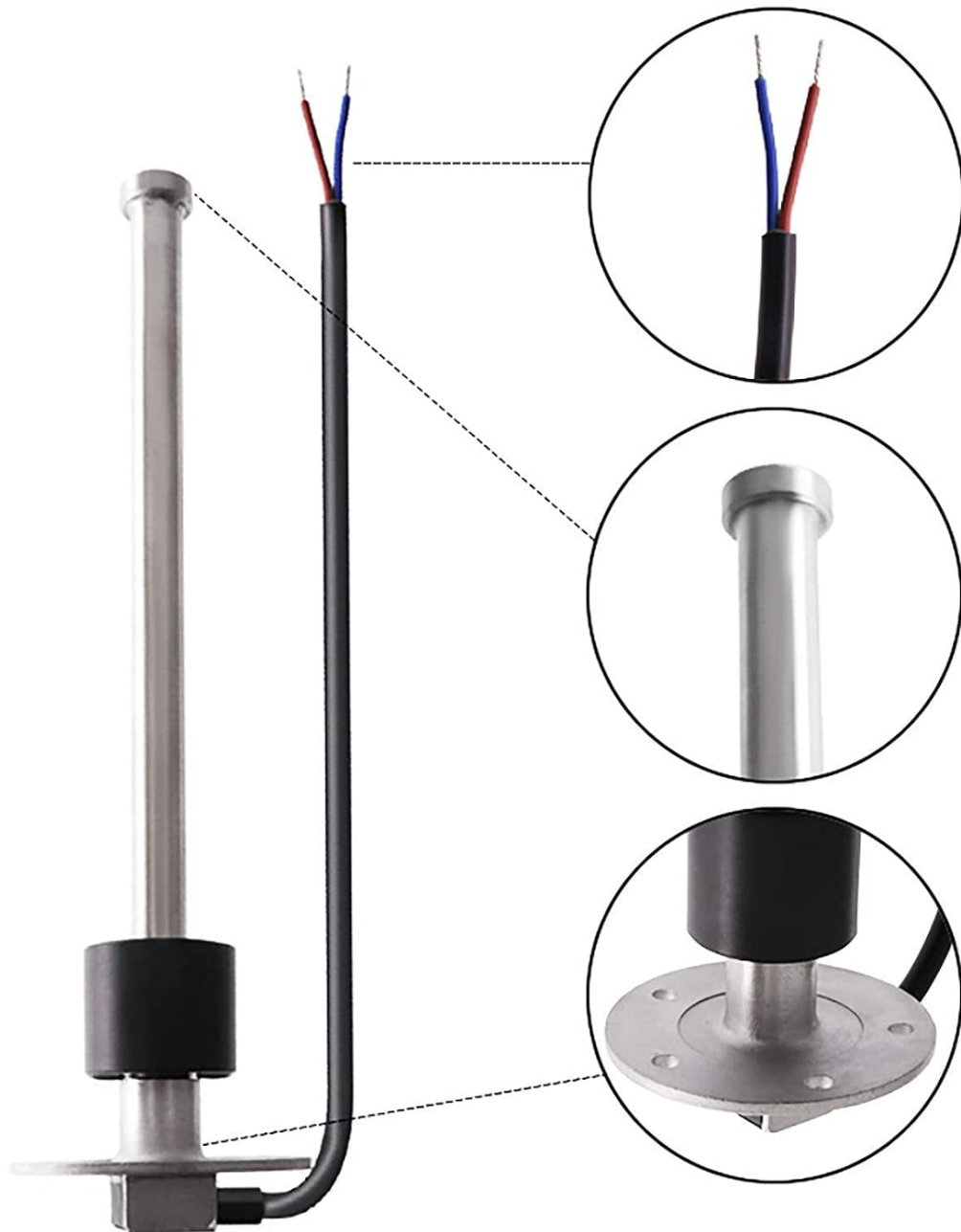


Image 3.1: Close-up view of the sensor's head, wiring connections, and mounting flange.

### 3.2 Mounting the Sensor

1. Ensure the tank is empty or the fluid level is below the installation point to prevent spills.
2. Locate a suitable flat surface on the top of your fuel or water tank that accommodates the SAE 5-hole mounting pattern.
3. Drill five mounting holes and one central hole for the sensor shaft, if not already present. Refer to the dimensions provided in Image 2.1 for precise measurements.
4. Insert the sensor into the tank opening.
5. Place the gasket (if included) and the mounting flange over the sensor and align with the drilled holes.
6. Secure the sensor using the provided screws, tightening them evenly to ensure a watertight seal. Do not overtighten.

For plastic tanks, the sender length should be approximately 1 inch less than the tank depth. For metal tanks, the sender length should be 0.5-1 inch less than the tank depth. This ensures the float can move freely without hitting the bottom of the tank.

### 3.3 Wiring Diagram

Follow the wiring diagram carefully to connect the sensor to your fuel or water level gauge and power source. Ensure all connections are secure and insulated.

## Easy Installation

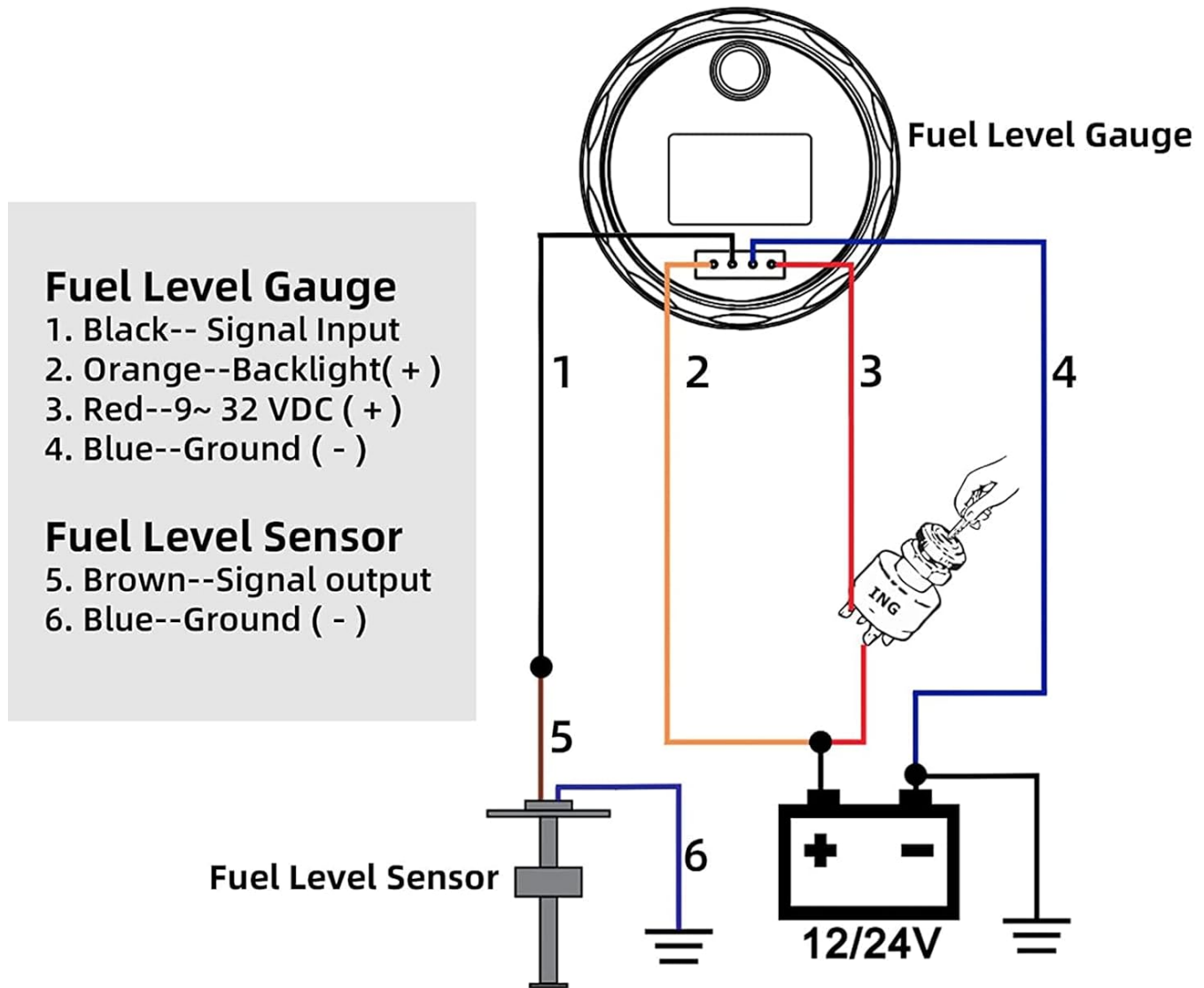


Image 3.2: Wiring diagram showing connections between the fuel level sensor, fuel level gauge, and 12V/24V power source.

- **Fuel Level Gauge Connections:**

- Black wire: Sensor signal input
- Orange wire: Backlight (+) (9-32VDC)
- Red wire: Battery (+) (9-32VDC)
- Blue wire: Ground (-)

- **Fuel Level Sensor Connections:**

- Brown wire: Signal output
- Blue wire: Ground (-)

Connect the brown wire from the sensor to the black wire (signal input) on the gauge. Connect the blue wire from the sensor to the blue wire (ground) on the gauge and to the vehicle/boat chassis ground. Ensure the gauge's red wire is connected to a switched 12V/24V power source and the orange wire to the backlight power, if applicable.

#### 4. OPERATING INSTRUCTIONS

Once properly installed and wired, the KAOLALI fuel/water level sensor will continuously monitor the fluid level in your tank. The sensor's float moves with the fluid level, changing the resistance output. This resistance signal is then sent to the connected 0-190 ohm compatible gauge, which translates it into a visual reading of the fluid level (empty to full).

Ensure your ignition is on for the gauge to receive power and display readings. The gauge will indicate 'Empty' when the tank is empty (0 ohm) and 'Full' when the tank is full (190 ohm).



Image 4.1: Example of the KAOLALI sensor installed in a red fuel tank on a boat.



Image 4.2: The KAOLALI sensor is suitable for various applications, including yachts and RVs.

## 5. MAINTENANCE

The KAOLALI sensor is designed for durability and requires minimal maintenance. However, periodic inspection can help ensure optimal performance:

- **Visual Inspection:** Periodically check the sensor and its wiring for any signs of damage, corrosion, or loose connections.
- **Cleaning:** If the sensor is exposed to contaminants, gently clean the exterior with a mild detergent and water. Avoid using harsh chemicals that could damage the stainless steel or wiring insulation.
- **Seal Integrity:** Ensure the mounting gasket remains intact and provides a watertight seal to prevent fluid leaks.

## 6. TROUBLESHOOTING

- **Inaccurate or Inverted Readings:**

- Verify that both the sensor and the gauge are compatible with the 0-190 ohm resistance standard. A mismatch (e.g., 0-190 ohm sensor with a 240-33 ohm gauge) will cause inverted readings.
- Check for any obstructions in the tank that might prevent the sensor's float from moving freely.

- **No Reading on Gauge:**

- Confirm that the gauge is receiving power (check red and blue wire connections to battery and ground).
- Inspect all wiring connections between the sensor and the gauge for looseness, corrosion, or damage.
- Ensure the sensor's ground wire (blue) is properly connected to a good chassis ground.
- Test the sensor's resistance output if possible (0 ohm when empty, 190 ohm when full) to confirm sensor functionality.

- **Fluid Leakage at Mounting Point:**

- Ensure the mounting screws are tightened evenly and sufficiently.
- Check the condition and proper placement of the gasket. Replace if damaged.

## 7. WARRANTY AND SUPPORT INFORMATION

The KAOLALI 250MM 0-190 Ohm Fuel/Water Level Sensor comes with a one-year warranty from the date of purchase, covering manufacturing defects.

For any technical assistance, installation guidance, or questions regarding product usage, please contact KAOLALI customer support. Our team is committed to providing prompt and helpful responses to ensure your satisfaction.

*Contact information for support is typically provided on the product packaging or the seller's official website.*

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