KUS S3-E150

KUS S3 Fuel and Water Tank Level Sensor (150mm) Instruction Manual

Model: S3-E150

1. Product Overview

The KUS S3 Fuel and Water Tank Level Sensor is designed for accurate measurement of liquid levels in tanks. Constructed from durable SUS316 stainless steel, it offers excellent corrosion resistance, making it suitable for marine and other demanding applications. This sensor operates on the principle of a magnetic field to control a reed on-off switch, ensuring a long lifespan and reliable performance.

Key Features:

- Length: 150mm
- Signal Output: 0-190ohm
- Assembly: BSP 1 1/4" thread twist-in, or NPT thread twist-in
- Resolution: 21mm
- Material: SUS316 Stainless Steel
- Protection Rank: IP67
- Operating Temperature: -40°C to +85°C

Figure 1: KUS S3 Fuel and Water Tank Level Sensor (150mm) with wiring.

For a detailed overview of the product and its features, please watch the following video:

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Video 1: This video provides an overview of the 100TECH Fuel Sender, highlighting its features and benefits.

2. Setup and Installation

Proper installation is crucial for accurate readings and long-term performance. Follow these steps carefully:

1. **Prepare the Tank:** Ensure the tank is empty and clean before beginning installation.
2. **Determine Mounting Location:** Select a flat surface on the top of the tank for mounting.
3. **Mark and Drill:** Use the provided gasket as a template to mark the center hole and screw holes. Drill the center hole with a 40mm opener. Drill smaller pilot holes for the screws.
4. **Measure Tank Depth:** Measure the internal depth of your tank from the mounting surface to the bottom. Ensure at least 1 inch of clearance between the float retaining collar and the tank bottom. The sensor length should be appropriate for your tank depth.
5. **Install Gasket and Sensor:** Place the gasket over the drilled holes. Insert the sensor into the tank, aligning the screw holes.
6. **Secure the Sensor:** Fasten the screws in a sequence (e.g., diagonally) to ensure even pressure. Do

not overtighten to prevent damage and ensure a leak-free seal.

For a visual guide on installation, please refer to the following video:

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Video 2: This video demonstrates the installation process for a marine fuel sending unit, including drilling and securing the sensor.

3. Wiring and Operation

The KUS S3 sensor provides a 0-190ohm resistance output. It can be connected to compatible fuel or water level gauges that accept this signal range.
Wiring Instructions:

- Connect the sensor's signal wire (typically blue or orange) to the gauge's signal input.
- Connect the sensor's ground wire (typically black) to the battery negative terminal and the gauge's ground input.
- Connect the gauge's positive power input (typically red) to the battery positive terminal.
- If your gauge has a backlight, connect its positive wire (typically orange) to a switched 12V or 24V positive source.

Once wired, the sensor's float mechanism will move with the liquid level, and the connected gauge will display the corresponding level. The gauge provides a smooth and consistent sweep for accurate readings.

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Video 3: This video illustrates the wiring and operational principles of the 100TECH Boat Fuel Sending Unit, showing how it interacts with a fuel gauge.

4. Maintenance

The KUS S3 sensor is designed for minimal maintenance due to its robust SUS316 stainless steel construction. However, periodic checks can ensure optimal performance:

- **Visual Inspection:** Periodically inspect the sensor for any physical damage, corrosion, or debris accumulation, especially if used in harsh environments.
- **Cleaning:** If necessary, gently clean the sensor rod and float with a soft cloth and appropriate cleaning solution for stainless steel. Avoid abrasive materials that could scratch the surface.
- **Connection Check:** Ensure all electrical connections remain secure and free from corrosion.

5. Troubleshooting

If you encounter issues with your KUS S3 sensor, consider the following:

- **Inaccurate Readings:**
    - Check for proper sensor length relative to tank depth.
    - Verify electrical connections are secure and correctly wired.
    - Ensure the float moves freely along the sensor rod without obstruction.
    - Confirm the connected gauge is compatible with a 0-190ohm resistance signal.
- **No Reading:**
    - Check power supply to the gauge and sensor.

- Inspect wiring for breaks or loose connections.
- Test the sensor's resistance output directly with a multimeter if possible.

- **Leaks at Mounting Point:**
  - Ensure the gasket is properly seated and undamaged.
  - Verify screws are tightened evenly, but not excessively.

For further assistance, contact KUS customer support.

6. Specifications

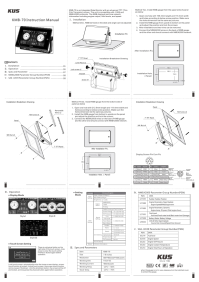
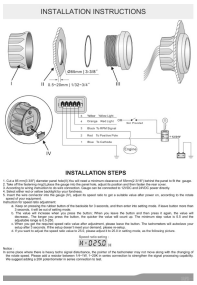
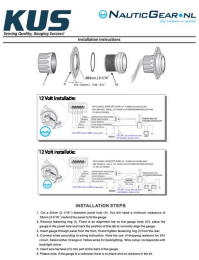
Feature	Specification
Brand	KUS
Model Number	S3-E150
Length	150mm
Signal Output	0-190ohm
Assembly	BSP 1 1/4" thread twist-in, or NPT thread twist-in
Resolution	21mm
Material	SUS316 Stainless Steel
Protection Rank	IP67
Operating Temperature	-40°C to +85°C
Rated Power	125mW
Item Weight	1.1 pounds

7. Warranty and Support

For warranty information and technical support, please refer to the official KUS website or contact your authorized dealer. Keep your purchase receipt for warranty claims.
Contact Information:

- KUS Americas Inc. Store on Amazon

Related Documents - S3-E150

	[KUS 52mm Gauge Installation Instructions] Detailed installation guide for KUS 52mm car and boat gauges, covering wiring and mounting procedures for optimal performance and safety.
	[KUS KMB-70 Integrated Data Monitor Instruction Manual] Comprehensive instruction manual for the KUS KMB-70 Integrated Data Monitor, detailing installation methods, operation modes, touch screen settings, technical specifications, and NMEA2000/SAE-J1939 parameter group numbers. Features TFT display and compatibility with marine data networks.
	[KUS 85mm Digital Tachometer Installation Guide] Comprehensive installation instructions for the KUS 85mm digital tachometer gauge, covering wiring, mounting, and speed ratio adjustment for 12V/24V systems.
	[KUS Gauges Installation Instructions] Detailed installation guide for KUS gauges, including wiring diagrams and step-by-step instructions for 12V and 24V systems, with options for backlighting.