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› Veratron VDO N02-240-402 Marine Fresh Water Level Sensor Instruction Manual

VDO N02-240-402

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Instruction Manual

INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Veratron VDO N02-240-402 Marine Fresh Water Level Sensor. Please read these instructions carefully before proceeding with installation or use to ensure optimal performance and safety.



Image: The Veratron VDO N02-240-402 Marine Fresh Water Level Sensor, showing its main components.

SAFETY INFORMATION

- Always disconnect power to the vessel's electrical system before installing or servicing any electrical components.
- Ensure all wiring connections are secure and properly insulated to prevent short circuits and corrosion.
- Use appropriate tools and follow all local and national marine safety regulations.
- This sensor is designed for fresh water tanks only. Do not use for fuel, wastewater, or other liquids.

PRODUCT OVERVIEW

The Veratron VDO N02-240-402 is a marine fresh water level sensor designed for accurate and continuous measurement of water levels in tanks ranging from 80mm to 600mm in depth. It provides a standard 4-20mA output signal, compatible with various marine gauge systems and displays. The sensor operates on a 12-24V DC power supply and includes a sealing kit for watertight installation.

SETUP AND INSTALLATION

1. Mounting Location

Select a mounting location on the top of your fresh water tank that allows the sensor to extend vertically into the tank without obstruction. The sensor length is adjustable for tank depths between 80mm and 600mm. Ensure there is sufficient clearance above the tank for the sensor head and wiring.

2. Drilling and Sealing

1. Drill a hole in the tank top according to the sensor's mounting flange dimensions. Refer to the provided template or product specifications for the exact diameter.
2. Clean the area around the hole thoroughly.
3. Apply a marine-grade sealant to both sides of the gasket from the sealing kit.
4. Insert the sensor into the tank, ensuring the gasket is properly seated between the sensor flange and the tank surface.
5. Secure the sensor using the provided mounting hardware, tightening evenly to create a watertight seal. Do not overtighten.



Image: A diagram illustrating the correct vertical installation of the sensor into a fresh water tank, showing the sealing kit components.

3. Electrical Wiring

Connect the sensor to your vessel's electrical system and compatible display unit as follows:

- **Power Supply:** Connect the sensor's positive power input (typically red wire) to a switched 12-24V DC power source. Connect the negative power input (typically black wire) to a reliable ground.
- **Signal Output:** Connect the 4-20mA signal output wire (refer to sensor labeling for color) to the corresponding input on your marine gauge or display unit.
- Ensure all connections are made using marine-grade connectors and are protected from moisture and corrosion.



Image: A simplified wiring diagram showing connections for power and 4-20mA signal output to a marine display.

OPERATING INSTRUCTIONS

Once properly installed and wired, the Veratron VDO N02-240-402 sensor continuously measures the fresh water level in your tank. The sensor outputs a 4-20mA current signal, where 4mA typically represents an empty tank and 20mA represents a full tank. Your connected marine gauge or display unit will interpret this signal and show the water level accordingly.

- **Power On:** Turn on the vessel's electrical system to power the sensor and display unit.
- **Monitor Display:** Observe the water level reading on your connected gauge. The reading should correspond to the actual water level in the tank.
- **Calibration:** If the display unit requires calibration for 4-20mA input, refer to the display unit's instruction manual for specific calibration procedures. The sensor itself provides a linear 4-20mA output based on water level.

MAINTENANCE

Regular maintenance ensures the longevity and accuracy of your water level sensor.

- **Periodic Inspection:** Annually inspect the sensor for any signs of physical damage, corrosion, or loose connections.
- **Cleaning:** If the sensor is removed from the tank, gently clean any residue or buildup from the sensor rod using fresh water and a soft cloth. Avoid abrasive cleaners or tools that could damage the sensor surface.

- **Sealing Integrity:** Check the integrity of the sealing kit around the sensor flange. Replace gaskets if they show signs of wear or cracking.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No water level reading	No power to sensor or display; faulty wiring; sensor malfunction.	Check power supply and fuse. Verify all wiring connections. Test sensor output if possible.
Inaccurate or erratic reading	Incorrect wiring; sensor obstruction; display unit calibration issue.	Review wiring diagram. Inspect tank for internal obstructions. Calibrate display unit according to its manual.
Leakage around sensor flange	Improperly sealed or damaged gasket; loose mounting hardware.	Tighten mounting hardware evenly. Replace gasket and reapply marine sealant.

SPECIFICATIONS

Model: N02-240-402

Brand: Veratron VDO

Application: Marine Fresh Water Level Sensing

Operating Voltage: 12-24V DC

Output Signal: 4-20mA

Measurement Length/Range: 80-600mm

Material: Plastic

Dimensions (Product): 71.12 x 7.62 x 7.62 cm (approx. 28 x 3 x 3 inches)

Weight: 431 g (approx. 0.95 lbs)

Included Components: Sensor unit, sealing kit

WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact your authorized Veratron VDO dealer or visit the official Veratron website. Keep your purchase receipt as proof of purchase.

Veratron Official Website: www.veratron.com

