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TenNuoDa 300mm

TenNuoDa Liquid Level Sensor Instruction Manual (300mm)

Model: 300mm | Brand: TenNuoDa

1. Introduction

This manual provides essential information for the safe and effective use of your TenNuoDa Stainless Steel Double Float Ball Liquid Level Sensor. Please read these instructions carefully before installation and operation to ensure proper function and longevity of the device.
The liquid level sensor is designed for reliable detection of high and low water levels in various applications, including water tanks, pumps, fish tanks, aquariums, and other household or industrial systems requiring precise liquid level control.

2. Safety Information

- Always disconnect power before installing or performing maintenance on the sensor.
- Ensure all electrical connections are secure and properly insulated to prevent short circuits or electric shock.
- The float switch cannot directly control high-power devices like solenoid valves or AC contactors. A small relay must be used for transition to avoid damage to the sensor.
- Operate the sensor within its specified voltage range (DC 0-110V).
- Handle the sensor with care to avoid bending or damaging the stainless steel rod or float balls.

3. Product Overview

The TenNuoDa Liquid Level Sensor is a robust device constructed from 304 stainless steel, ensuring durability and resistance to corrosion. It features a double float ball design for precise liquid level control.



Figure 1: Overall view of the TenNuoDa 300mm Liquid Level Sensor.

Key Features:

- **Material:** High-quality 304 Stainless Steel for durability and corrosion resistance.
- **Design:** Double float ball mechanism for accurate high and low-level detection.
- **Sensitivity:** Contacts made of a highly sensitive reed switch.
- **Control Range:** The action range of the two floats is 10mm, allowing for precise control. Multiple sensors can be combined for larger stroke control.
- **Versatility:** Suitable for various liquid level control applications.



Figure 2: The liquid level sensor shown in a vertical installation, demonstrating its form factor.

4. Specifications

Parameter	Value
Model	300mm
Voltage	DC 0-110V
Material	304 Stainless Steel
Float Action Range	10mm (between two floats)
Product Dimensions	Approximately 0.39 x 0.39 x 0.39 inches (main body, not total length)
Item Weight	3.17 ounces

5. Setup and Installation

The liquid level sensor is designed for vertical installation in a tank or container. Ensure the mounting location allows for free movement of the float balls.

Installation Steps:

1. **Prepare the Mounting Hole:** Drill a suitable hole in the tank wall or lid where the sensor will be installed. The hole size should accommodate the threaded portion of the sensor.
2. **Secure the Sensor:** Insert the sensor into the prepared hole and secure it using the provided nuts and washers. Ensure a watertight seal if necessary for your application.
3. **Electrical Connection:** Connect the sensor's wires to your control circuit. Remember that this float switch acts as a signal switch and requires a small relay for controlling high-power devices.
4. **Test Functionality:** Before full operation, manually test the float balls to ensure they move freely and trigger the desired electrical response.





Figure 3: Detail of the sensor's top section, showing the wiring and mounting hardware.

6. Operating Instructions

The double float switch provides two distinct switching points for liquid level control. The contacts inside are made of a reed switch, which changes state when the magnetic float ball passes over it.

Water Intake Control:

For applications requiring water intake (e.g., filling a tank), the system is typically configured as follows:

- When the liquid level drops to the position of the**lower float switch**, it activates (starts the pump/valve).
- When the liquid level rises to the position of the**upper float switch**, it deactivates (stops the pump/valve).

Drainage Control:

For applications requiring drainage (e.g., emptying a tank), the system is typically configured as follows:

- When the liquid level rises to the position of the**upper float switch**, it activates (starts the pump/valve).
- When the liquid level drops to the position of the**lower float switch**, it deactivates (stops the pump/valve).

The specific wiring and relay configuration will depend on your control system's requirements.

7. Maintenance

The TenNuoDa Liquid Level Sensor is designed for low maintenance. However, periodic checks can ensure optimal performance.

- **Cleaning:** Periodically inspect the float balls and the stainless steel rod for any buildup of debris, scale, or foreign matter that might impede their free movement. Clean gently with a soft cloth and mild detergent if necessary.

- **Inspection:** Check for any signs of physical damage to the sensor, wiring, or mounting. Ensure all connections remain secure.
- **Functionality Test:** Occasionally, manually verify that the float balls move freely and trigger the switch as expected.

8. Troubleshooting

If the sensor is not functioning as expected, consider the following:

- **No Response:**
  - Check power supply to the control circuit.
  - Verify all electrical connections are correct and secure.
  - Ensure float balls are moving freely and not obstructed.
  - Confirm the sensor is wired correctly for the desired operation (intake/drainage).
- **Inaccurate Level Detection:**
  - Inspect float balls and rod for debris or damage.
  - Ensure the sensor is installed vertically and not tilted.
- **Controlling High-Power Devices:**
  - Remember, a small relay is required between the float switch and high-power devices. Direct connection will damage the sensor.

If issues persist, contact customer support.

9. Warranty and Support

For warranty information, technical support, or any questions regarding your TenNuoDa Liquid Level Sensor, please refer to the seller's policies or visit the official TenNuoDa store on Amazon:

Visit the TenNuoDa Store

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