

MORAYELEC ME201WS

MORAYELEC Smart WiFi Water Level Sensor

MODEL: ME201WS - INSTRUCTION MANUAL

1. Introduction

The MORAYELEC ME201WS is a smart WiFi water level sensor designed for remote monitoring of water or oil tank levels. It utilizes ultrasonic technology for accurate measurements and connects to the Tuya Smart Life mobile application for real-time data and alerts. This device is solar-powered, offering a convenient and eco-friendly solution for tank level management.

2. Product Overview

The ME201WS sensor provides precise liquid level detection within a range of 10 cm to 4 meters. It features a stable 2.4G WiFi connection for remote access via the Tuya Smart Life APP, allowing users to monitor tank levels and receive notifications for full or low levels. The integrated solar panel ensures continuous power supply, making it suitable for various outdoor installations.

Tank Level Monitor

ME201WSP



Image: Overview of the MORAYELEC ME201WS sensor, solar panel, and included accessories.

3. Safety Information

- Ensure the sensor is installed securely to prevent accidental dislodgement.
- Do not attempt to open or modify the sensor unit, as this may void the warranty and cause damage.
- Keep the solar panel clean and free from obstructions to ensure optimal charging.
- Operate the device within its specified temperature range (-20°C to 70°C).

4. Package Contents

Verify that all components are present in the package:

- MORAYELEC ME201WS Sensor Unit
- Solar Panel
- Installation Screws
- Cotton for installation
- Instruction Manual (this document)

5. Setup and Installation

5.1 App Installation and Device Pairing

1. Download the **Tuya Smart Life APP** from your mobile device's app store (iOS or Android).
2. Register or log in to your Tuya Smart Life account.
3. Follow the in-app instructions to add a new device. Ensure your mobile device is connected to a 2.4GHz WiFi network during pairing.
4. Power on the ME201WS sensor. The device should enter pairing mode automatically. If not, refer to the device's specific reset instructions.
5. Complete the pairing process within the app.

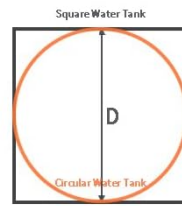
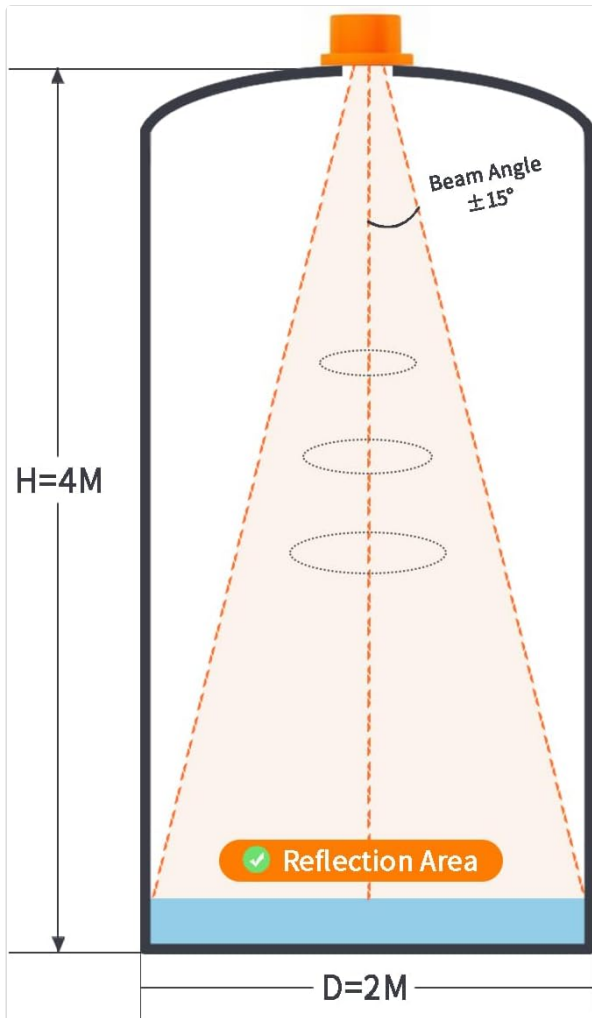
5.2 Physical Installation

Proper installation is crucial for accurate readings and reliable operation. The sensor should be mounted on the top of the tank.



Image: Diagram illustrating correct and incorrect installation methods for the sensor.

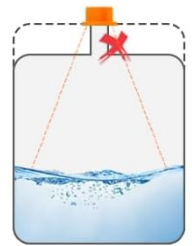
- **Mounting Position:** Install the sensor on the top surface of the tank.
- **Perpendicular Alignment:** Hold the sensor perpendicular to the liquid surface to ensure the ultrasonic beam is directed straight down.
- **Avoid Obstacles:** Ensure there are no obstacles (e.g., pipes, protruding outlets, floating balls, internal boards) within the sensor's beam angle (approximately $\pm 15^\circ$) that could interfere with the ultrasonic reflection. Obstacles can cause inaccurate readings or "pseudo-echoes."
- **Distance from Inlet:** Install the sensor away from the water inlet to prevent turbulence from affecting readings.
- **Distance from Bulkhead:** The sensor installation cannot be too close to the tank's bulkhead, as this can also cause strong pseudo-echoes.
- **Tank Dimensions:** For optimal performance, consider the tank's diameter (D) relative to its height (H). For H=4m, D should be >2m; for H=3m, D should be >1.6m; for H=2m, D should be >1.1m.



No rough inner wall
(must be smooth)



No Pipeline



No protruding outlet



No Floating ball



No Board

- 1 H=4m D > 2m
- 2 H=3m D > 1.6m
- 3 H=2m D > 1.1m

Note:

There should not be any obstacles in the reflective area of the sensor.

Image: Diagram showing the ultrasonic beam angle and recommended tank dimensions for accurate measurement.



Image: Examples of the sensor installed on different types of water and oil tanks.

6. Operation

6.1 Monitoring Liquid Levels

Once installed and paired, open the Tuya Smart Life APP to view real-time liquid level data. The app displays the liquid level ratio (percentage), liquid level depth, and current status (Normal, Full alarm, Lower alarm).

Other
VS
OUR



Old style click button
Unable to detect water level
Unable to remotely control



Large size and capacity
Easy to rust, difficult to install,
large volume and weight



Sensor internal settings
Very inconvenient



SMART LIFE APP
WIFI ultrasonic communication
Mobile remote monitoring



ULTRASONIC
Lightweight, durable, and easy
to install



TOUCH BUTTON
Easy to operate

Image: Screenshots of the Tuya Smart Life app showing normal, full alarm, and low alarm status interfaces.

6.2 Setting Alarms

Within the Tuya Smart Life APP, you can configure custom alarm limits for both high and low liquid levels. When the liquid level reaches these thresholds, the app will send notifications to your mobile device.

6.3 Multi-Tank Monitoring

The Tuya Smart Life APP supports monitoring multiple ME201WS sensors, allowing you to manage up to 10 different tanks from a single interface.

7. Maintenance

- **Solar Panel:** Regularly clean the surface of the solar panel to ensure maximum sunlight absorption and efficient charging of the internal Lithium-Ion batteries.
- **Sensor Unit:** Periodically check the sensor unit for any debris or obstructions that might affect its performance. Ensure the mounting remains secure.
- **Battery:** The device uses internal Lithium-Ion batteries, charged by the solar panel. No user intervention is typically required for battery maintenance.

8. Troubleshooting

- **No Data/Offline:**
 - Ensure the sensor is within range of your 2.4GHz WiFi network. The signal range is approximately 30m without obstacles.
 - Check your WiFi router and internet connection.
 - Verify the sensor's solar panel is receiving adequate sunlight for charging.
 - Attempt to re-pair the device with the Tuya Smart Life APP if connectivity issues persist.
- **Inaccurate Readings:**
 - Re-check the physical installation to ensure the sensor is perpendicular to the liquid surface and free

from internal tank obstacles (pipes, floating balls, etc.) that could cause pseudo-echoes.

- Confirm that the tank dimensions entered in the app (if applicable) are correct.
- Ensure the sensor is not too close to the tank's inlet or bulkhead.

- **App Notifications Not Received:**

- Check your mobile device's notification settings for the Tuya Smart Life APP.
- Verify that alarm thresholds are correctly set within the app.

9. Specifications

Feature	Specification
Model Number	ME201WS
Brand	MORAYELEC
Sensor Technology	Ultrasonic Sensor
Maximum Range	4 Meters (157 inches)
Minimum Range	10 cm (4 inches)
Control Method	App (Tuya Smart Life)
Mounting Type	Wall Mount (Top of Tank)
Power Source	Solar Powered
Battery Type	Lithium-Ion (2 Nonstandard Battery batteries required)
Voltage	3.6 Volts
Wattage	100 milliamp_hours
Product Dimensions	9.45 x 5.51 x 3.54 inches
Item Weight	1.76 Pounds
Operating Temperature	-20°C to 70°C

10. Warranty and Support

This MORAYELEC ME201WS Smart WiFi Water Level Sensor comes with a **1 Year Manufacturer Warranty**.

For technical support, troubleshooting assistance, or warranty claims, please contact MORAY ELEC customer service through the platform of purchase or refer to the contact information provided with your product packaging.