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› MORAYELEC Smart WiFi Water Level Sensor ME201RSP User Manual

MORAYELEC ME201RSP

MORAYELEC Smart WiFi Water Level Sensor

Model: ME201RSP - User Manual

1. INTRODUCTION

The MORAYELEC ME201RSP Smart WiFi Water Level Sensor is designed for remote monitoring of water and oil tank levels. This device utilizes ultrasonic technology to provide accurate level readings, which can be accessed via the Tuya Smart Life mobile application. It supports multi-tank monitoring and features smart alerts for full or low levels, ensuring you are always informed about your tank's status.

Key Features:

- **Smart Remote Monitoring:** Check water or oil tank levels anytime via the Tuya Smart Life APP. Supports monitoring of up to 10 sensors.
- **Long Range & High Accuracy:** Measures levels from 10 cm to 4 meters (4 to 157 inches) with precise ultrasonic detection.
- **Stable 2.4G WiFi Connection:** Connects easily to your home WiFi network with a 30m signal range (without obstacles). Compatible with Gateway Smart Home Remote/Tuya smart systems.
- **Solar Power Supply:** Features a durable design with solar power capabilities for extended operation.
- **Smart Alerts & Easy Installation:** Receive full/low level notifications or set custom alarm limits. Simple top-mount installation with all necessary parts included.

2. PACKAGE CONTENTS

Please verify that all the following components are included in your package:

- MORAYELEC ME201RSP Sensor
- RF433 Gateway
- USB Gateway Data Line
- Adapter
- Solar Panels
- Screws for installation

- Cotton for installation
- Instruction Manual



Image: All components included in the MORAYELEC ME201RSP package. This includes the orange sensor unit, the white gateway, a solar panel, USB cable, power adapter, mounting screws, and the instruction manual.

3. SPECIFICATIONS

Feature	Detail
Model Number	ME201RSP
Sensor Technology	Ultrasonic Sensor
Maximum Range	4 Meters (157 inches)
Minimum Range	10 Centimeters (4 inches)
Control Method	App (Tuya Smart Life)

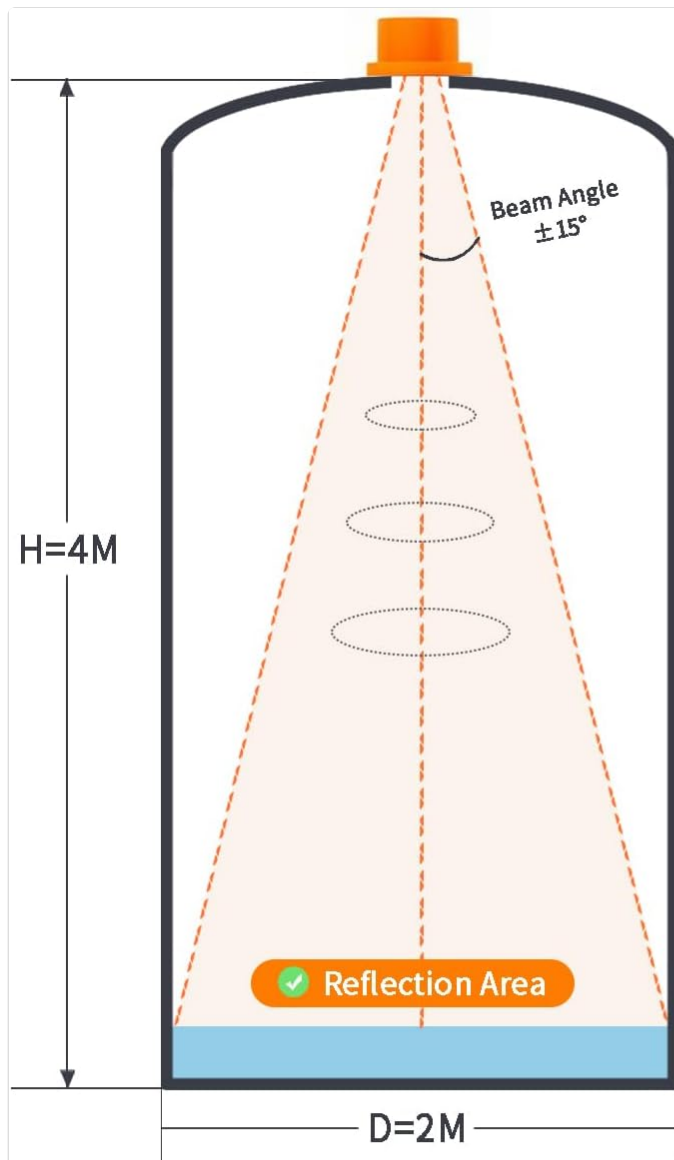
Feature	Detail
Connectivity	2.4G WiFi, RF433MHz (Sensor to Gateway)
Power Source	Solar Powered, Lithium-Ion Batteries (2 Nonstandard Battery, included)
Voltage	3.6 Volts
Wattage	100 milliamp_hours
IP Rating	IP65 Waterproof
Product Dimensions	9.45 x 5.51 x 3.54 inches
Item Weight	1.76 pounds
Smart Home Compatibility	Smart Home Compatible (Tuya)
Operating Temperature	-20 to 70°C

4. SETUP GUIDE

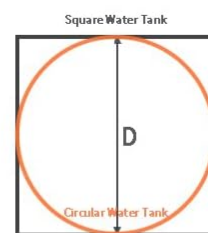
4.1. Installation Considerations

Proper sensor placement is crucial for accurate readings. The ultrasonic sensor requires a clear path to the liquid surface. Consider the following:

- **Tank Type:** Suitable for various tank shapes, including square and circular water tanks.
- **Smooth Inner Wall:** The tank's inner wall must be smooth to prevent signal interference. Avoid rough surfaces.
- **Clear Reflection Area:** Ensure there are no obstacles within the sensor's beam angle ($\pm 15^\circ$) that could interfere with the ultrasonic signal. This includes pipelines, protruding outlets, floating balls, or internal boards.
- **Distance from Bulkhead:** The sensor installation cannot be too close to the tank's bulkhead, as this can cause strong pseudo-echoes and inaccurate readings.



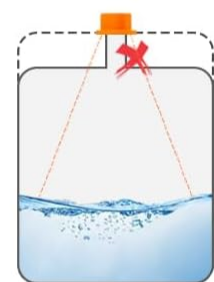
- | | | |
|---|------|--------|
| 1 | H=4m | D>2m |
| 2 | H=3m | D>1.6m |
| 3 | H=2m | D>1.1m |



No rough inner wall
(must be smooth)



No Pipeline



No protruding outlet



No Floating ball



No Board

Note:

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

Image: This diagram illustrates the sensor's beam angle and the required clear reflection area. It also shows examples of incorrect installations, such as pipelines, protruding outlets, floating balls, or internal boards obstructing the sensor's path, and the necessity of a smooth inner tank wall.

4.2. Physical Installation

Follow these steps to physically install the sensor on your tank:

- 1. Prepare the Mounting Area:** Identify a suitable, flat area on the top of your tank, away from inlets or internal obstructions.
- 2. Drill Pilot Holes:** Use appropriate tools to drill pilot holes for mounting the sensor.
- 3. Mount the Sensor:** Securely attach the sensor to the tank using the provided screws and cotton installation material. Ensure the sensor is held perpendicularly to the liquid surface.
- 4. Connect Solar Panel:** Attach the solar panel to the sensor and position it to receive adequate sunlight for charging.

Installation Method

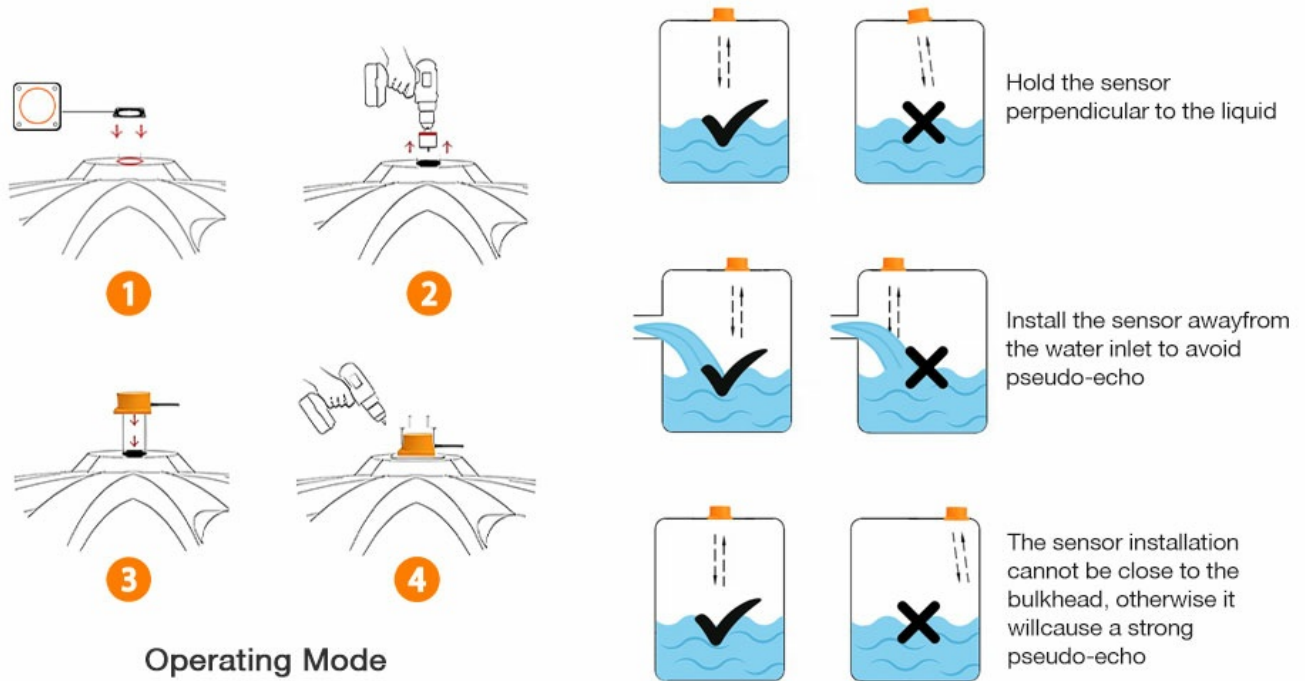


Image: A visual guide demonstrating the correct method for installing the sensor. It shows drilling, mounting, and ensuring the sensor is perpendicular to the liquid, while also illustrating what to avoid, such as installing near water inlets or too close to the tank's bulkhead.

4.3. App Setup and Connection

To connect your sensor to the Tuya Smart Life app:

1. **Download App:** Download the Tuya Smart Life app from your smartphone's app store.
2. **Register/Login:** Create an account or log in to the app.
3. **Add Device:** Follow the in-app instructions to add a new device. Select the appropriate sensor type.
4. **Connect Gateway:** Ensure your RF433 gateway is powered on and connected to your 2.4G WiFi network. The sensor communicates with the gateway via RF433MHz, and the gateway then transmits data to the app via WiFi.
5. **Pair Sensor:** Follow the app's prompts to pair the sensor with the gateway.



Image: This illustration shows the complete system setup, including the sensor on a tank, the RF433 gateway, and the Tuya Smart Life app interface displaying liquid level information. It highlights the wireless communication between components.

5. OPERATING INSTRUCTIONS

5.1. Remote Monitoring

Once the sensor is successfully installed and connected, you can monitor your tank's liquid level remotely:

- Open the Tuya Smart Life app on your smartphone.
- Navigate to the device list and select your MORAYELEC water level sensor.
- The app will display real-time data, including liquid level ratio, liquid level depth, status (Normal, Full, Low), temperature, and sensor power.
- The system supports monitoring up to 10 sensors simultaneously, allowing for comprehensive management of multiple tanks.

5.2. Smart Alerts and Alarms

The ME201RSP sensor provides customizable alerts to keep you informed:

- **Full Level Notification:** Receive an alert when the tank reaches its maximum capacity.
- **Low Level Notification:** Receive an alert when the liquid level drops below a predefined threshold.

- **Custom Alarm Limits:** You can set specific high and low alarm limits within the Tuya Smart Life app to suit your needs.

Sensor Status Interface

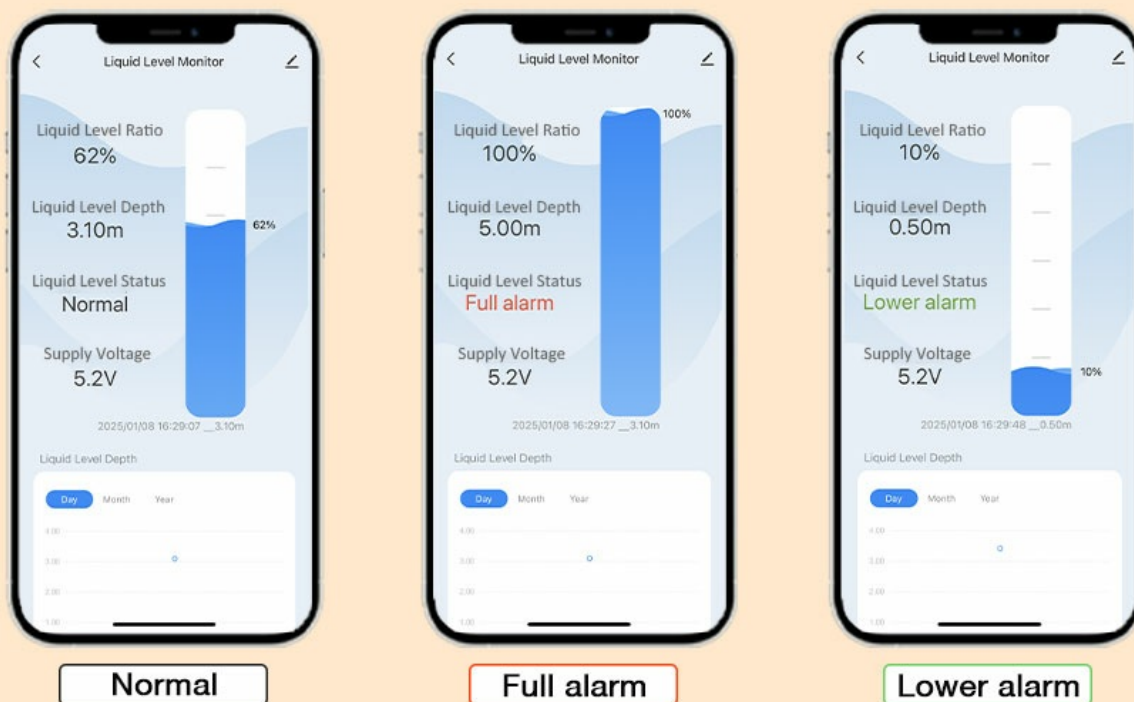


Image: This image displays three different states of the sensor interface within the mobile app: 'Normal' indicating a healthy level, 'Full alarm' when the tank is full, and 'Lower alarm' when the liquid level is critically low, demonstrating the alert functionality.

6. MAINTENANCE

The MORAYELEC ME201RSP sensor is designed for low maintenance. Consider the following to ensure optimal performance:

- **Solar Panel:** Periodically clean the solar panel to ensure it receives maximum sunlight for efficient charging of the internal batteries.
- **Sensor Surface:** Keep the ultrasonic sensor's surface clean and free from debris, dust, or ice buildup that could obstruct the signal.
- **Battery Life:** The sensor is powered by two nonstandard Lithium-Ion batteries, which are recharged by the solar panel. Monitor battery status via the app. While designed for solar power, ensure the solar panel is not continuously obstructed.
- **Environmental Protection:** The IP65 waterproof rating protects the sensor from dust and water jets. However, avoid submerging the sensor.

7. TROUBLESHOOTING

If you encounter issues with your MORAYELEC ME201RSP sensor, refer to the following common problems and solutions:

- **No Readings or Inaccurate Readings:**
 - **Check for Obstructions:** Ensure there are no pipelines, floating balls, or other objects within the sensor's beam

path inside the tank.

- **Tank Wall Condition:** Verify that the tank's inner wall is smooth. Rough surfaces can cause signal scattering.
 - **Sensor Alignment:** Confirm the sensor is mounted perpendicularly to the liquid surface.
 - **Proximity to Bulkhead:** Ensure the sensor is not installed too close to the tank's bulkhead, which can cause pseudo-echoes.
 - **Liquid Type:** While designed for water and oil, extremely viscous liquids or those with heavy foam may affect accuracy.
- **Sensor Not Connecting to App:**
 - **Gateway Connection:** Ensure the RF433 gateway is powered on and properly connected to your 2.4G WiFi network.
 - **WiFi Signal Strength:** Verify that the gateway is within range of your WiFi router (up to 30m without obstacles).
 - **Sensor-Gateway Communication:** Ensure the sensor is within range of the RF433 gateway.
 - **App Pairing:** Re-attempt the pairing process in the Tuya Smart Life app.
 - **Low Battery Warnings:**
 - **Solar Panel Exposure:** Ensure the solar panel is clean and receiving sufficient direct sunlight.
 - **Panel Orientation:** Adjust the solar panel's angle for optimal sun exposure.
 - **Battery Health:** If issues persist despite good solar exposure, the internal batteries may need inspection or replacement by a qualified technician.

8. WARRANTY AND SUPPORT

8.1. Warranty Information

The MORAYELEC ME201RSP Smart WiFi Water Level Sensor comes with a **1-Year Manufacturer Warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

8.2. Customer Support

For technical assistance, troubleshooting not covered in this manual, or warranty inquiries, please contact MORAYELEC customer support through the retailer where you purchased the product or refer to the contact information provided on the product packaging or official MORAYELEC website.

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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question