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› MORAYELEC /

› Moray ME201W Ultrasonic Liquid Level Sensor User Manual

MORAYELEC ME201W

Moray ME201W Ultrasonic Liquid Level Sensor User Manual

Model: ME201W | Brand: MORAYELEC

1. INTRODUCTION

This user manual provides detailed instructions for the installation, operation, and maintenance of the Moray ME201W Ultrasonic Liquid Level Sensor. This device is designed for remote monitoring of liquid levels in various tanks, providing real-time data and alerts via a mobile application.

The ME201W sensor utilizes ultrasonic technology to accurately measure liquid depth, offering a reliable solution for managing water, oil, or fuel tanks. Its robust, waterproof design ensures durability in diverse environmental conditions.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the ME201W sensor. Failure to follow these instructions may result in damage to the device, property, or personal injury.

- Ensure the power adapter input is within the specified range of 100-240V AC.
- Do not expose the sensor to temperatures outside its operating range of -10°C to +70°C.
- The sensor is IP65 waterproof, but avoid submerging it in liquid. It is designed for top-of-tank installation.
- Do not attempt to disassemble or repair the device yourself. Contact customer support for assistance.
- Keep the device away from strong electromagnetic fields, which may interfere with its operation.

3. PRODUCT OVERVIEW

3.1 Components

The Moray ME201W package includes the following components:

- ME201W Ultrasonic Liquid Level Sensor
- Power Adapter (Input: 100-240V AC, Output: 5V DC)
- Mounting Nut
- User Manual (this document)



Figure 3.1: ME201W Sensor and its included components, including the power adapter and mounting hardware.

3.2 Key Features

- **Long Measuring Distance:** Capable of measuring liquid levels from 10cm to 4m (4 to 157 inches).
- **Wireless Connectivity:** Connects to your router via 2.4GHz Wi-Fi, with a range of up to 30m without obstacles.
- **Remote Monitoring:** Check tank levels anytime, anywhere using the Tuya Smart Life mobile application.
- **Automatic Alerts:** Receive message alerts for full or low liquid levels, with customizable alarm thresholds via the app.
- **Multi-Tank Monitoring:** Monitor up to 10 sensors from a single mobile application.
- **Durable Design:** IP65 waterproof rating, CE, Rohs, and Reach certified for safety and reliability.
- **Wide Operating Temperature:** Functions reliably in temperatures ranging from -10°C to +70°C.
- **Easy Installation:** Designed for simple top-of-tank installation using the provided nut.

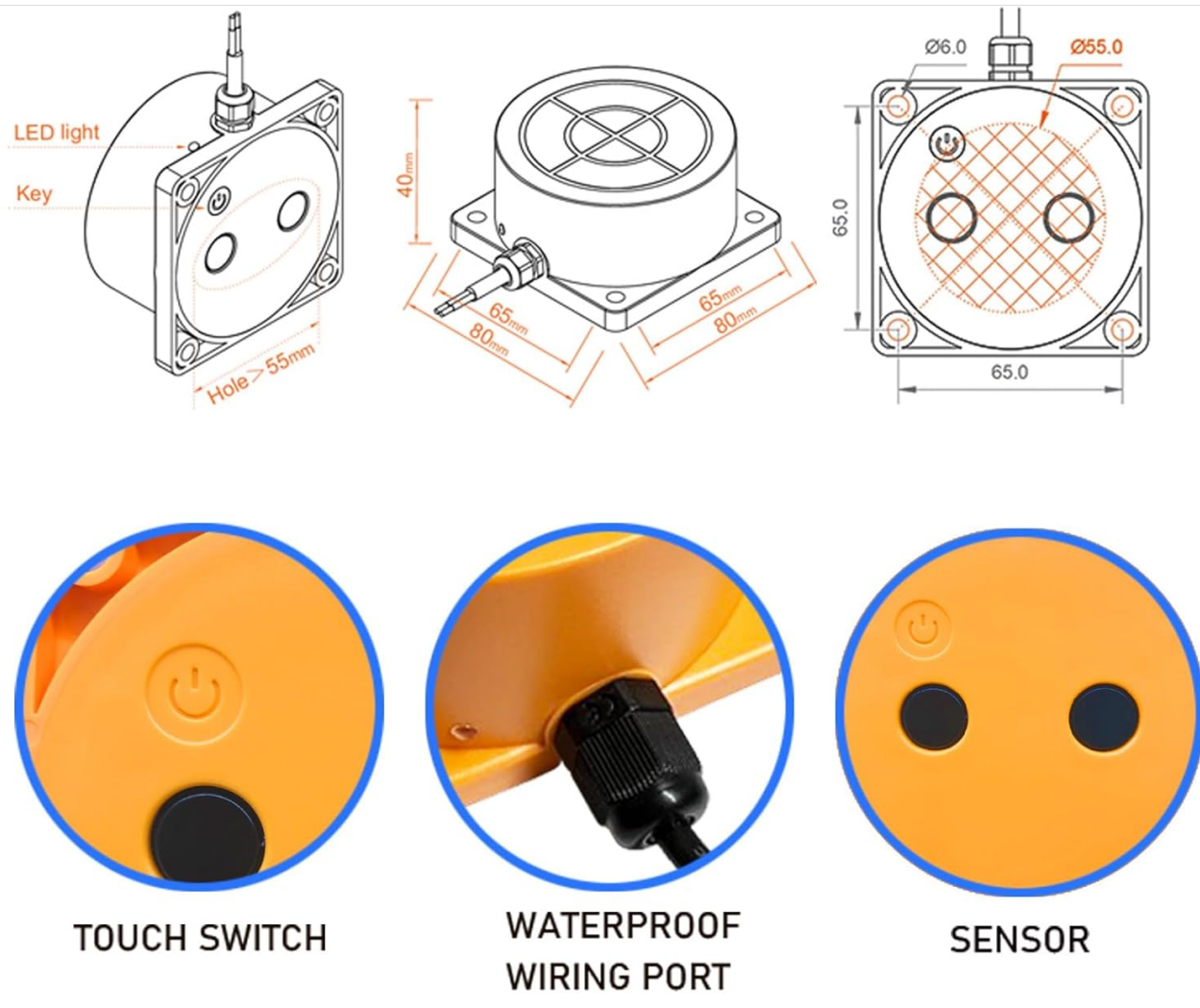


Figure 3.2: Detailed view of the ME201W sensor, highlighting the touch switch, waterproof wiring port, and ultrasonic sensors.

4. SETUP GUIDE

4.1 Pre-Installation Checklist

- Ensure you have a stable 2.4GHz Wi-Fi network available at the installation location.
- Download the "Tuya Smart" or "Smart Life" application from your smartphone's app store.
- Identify a suitable location on top of your tank for sensor installation.
- Ensure there is a power outlet nearby for the sensor's power adapter.

4.2 Physical Installation

The sensor is designed for top-of-tank installation. Follow these steps:

1. Drill a hole on the top of the tank with a diameter greater than 55mm (approximately 2.17 inches).
2. Insert the sensor into the drilled hole.
3. Secure the sensor in place using the provided mounting nut from underneath the tank opening.
4. Ensure the sensor is installed perpendicularly to the liquid surface.
5. Install the sensor away from any water inlets or pipelines to avoid pseudo-echoes that can affect accuracy.
6. Ensure there are no obstacles (like floating balls or internal structures) in the reflective area directly below

the sensor.

Installation Method

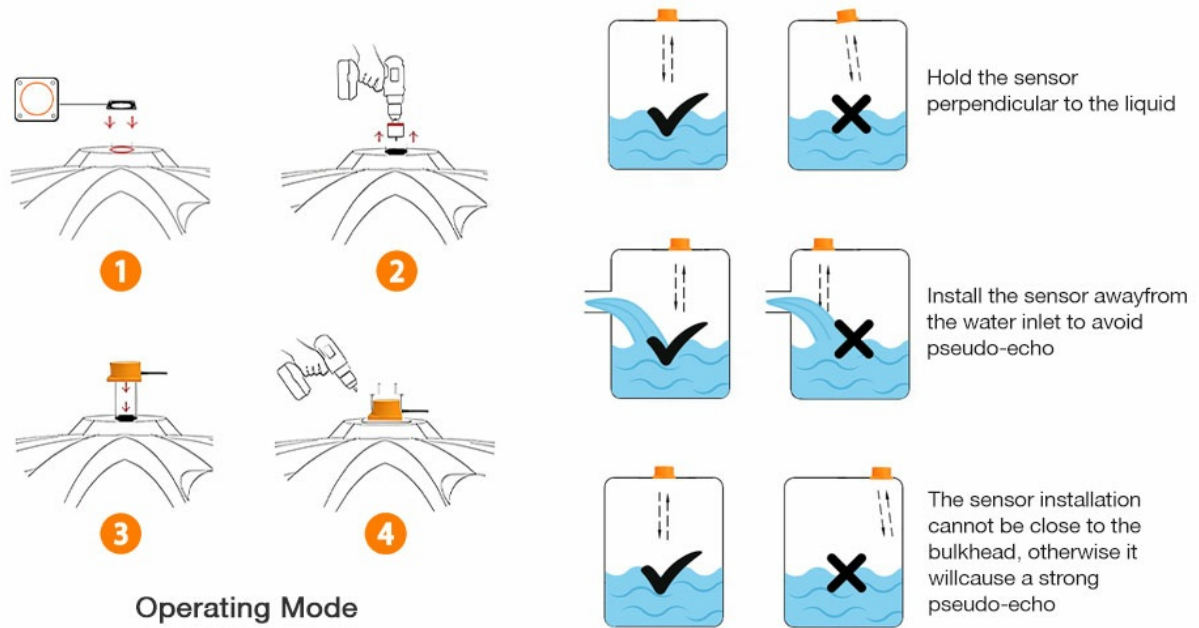


Figure 4.1: Proper installation methods, showing perpendicular alignment and avoiding obstructions.

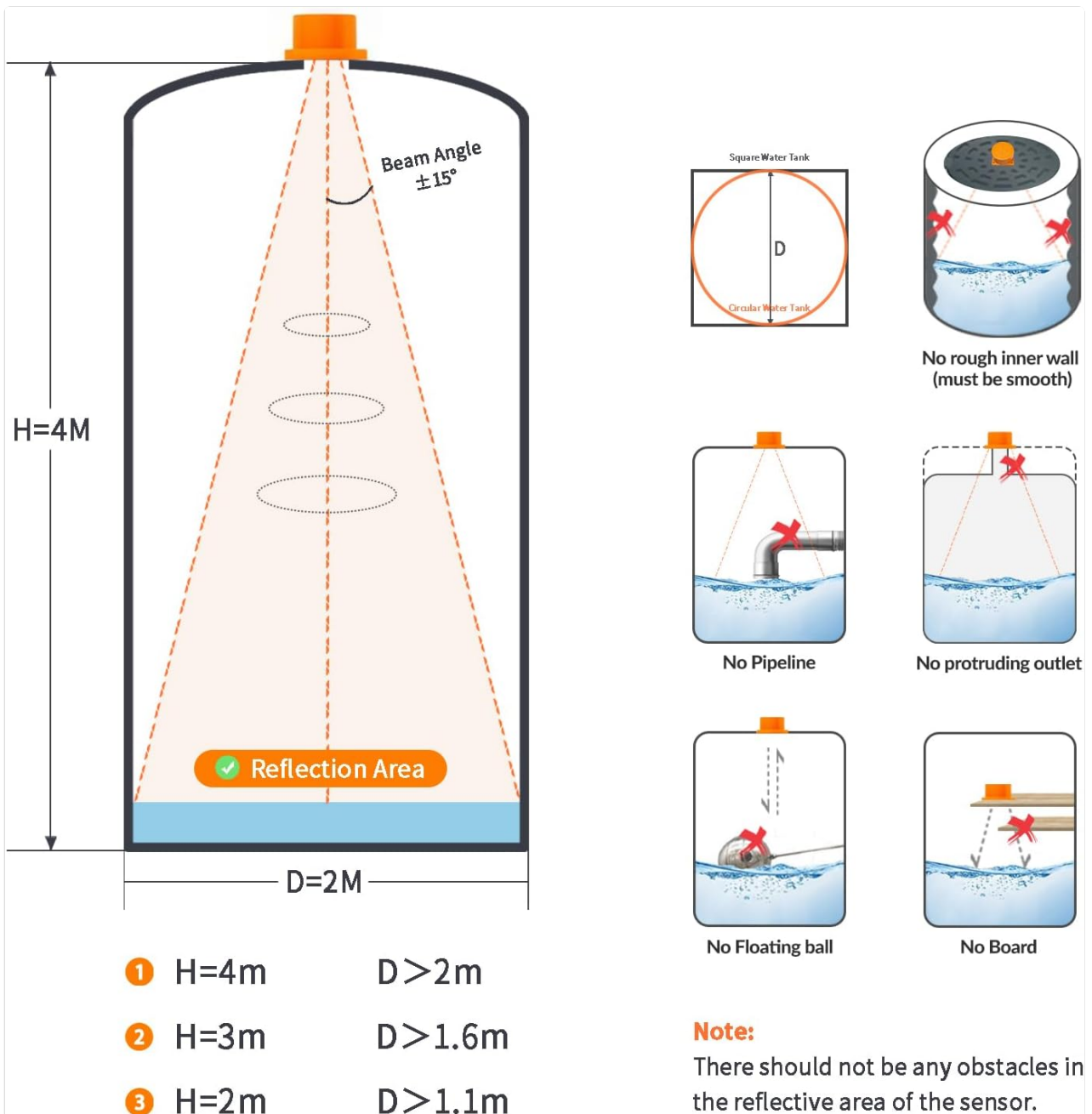


Figure 4.2: Ultrasonic beam angle and important considerations for installation, such as avoiding rough inner walls, pipelines, and floating objects.

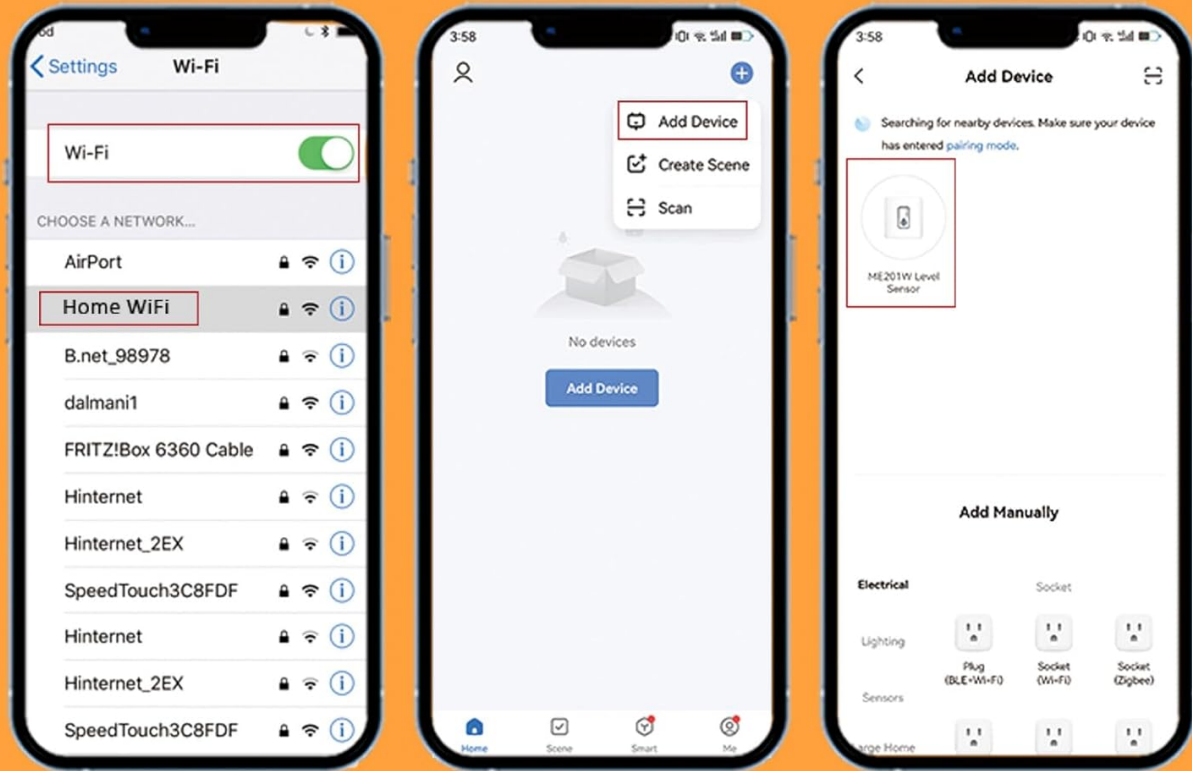
4.3 App Pairing and Configuration

After physical installation, connect the sensor to the mobile application:

1. Plug in the sensor's power adapter to an electrical outlet. The sensor will power on.
2. Open the "Tuya Smart" or "Smart Life" application on your smartphone.
3. Ensure your phone's Wi-Fi and Bluetooth are enabled.
4. The app should automatically detect the new device in pairing mode. If not, tap "Add Device" or the "+" icon, then select "Add Device" or "Scan" to search for the ME201W Level Sensor.
5. Follow the on-screen prompts to connect the sensor to your 2.4GHz Wi-Fi network. You will need to enter your Wi-Fi password.
6. Once connected, configure the sensor settings within the app, including:
 - **Installation Height:** The distance from the sensor to the bottom of the tank.
 - **Liquid Maximum Depth:** The maximum possible liquid depth in the tank.
 - **Alarm Thresholds:** Set custom levels for full and low liquid alerts.

App pairing steps

Simple steps, quick connection, WIFI ultra-long distance



01-Open mobile WiFi

02-Open Bluetooth
add device

03-Connect ME201W
Level Sensor

Figure 4.3: Step-by-step app pairing process, from enabling Wi-Fi to connecting the ME201W sensor.

5. OPERATING INSTRUCTIONS

5.1 Monitoring Liquid Levels

Once the sensor is installed and paired with the app, you can monitor your tank's liquid level remotely:

- Open the "Tuya Smart" or "Smart Life" app on your smartphone or tablet.
- Select the ME201W sensor from your list of devices.
- The app will display the current liquid level ratio, liquid depth, and status (e.g., Normal, Full alarm, Lower alarm).
- Historical data for liquid depth can be viewed by day, month, or year.

APP detects the liquid level data



Figure 5.1: App interface displaying various sensor statuses: Normal, Full alarm, and Lower alarm.

Sensor Status Interface

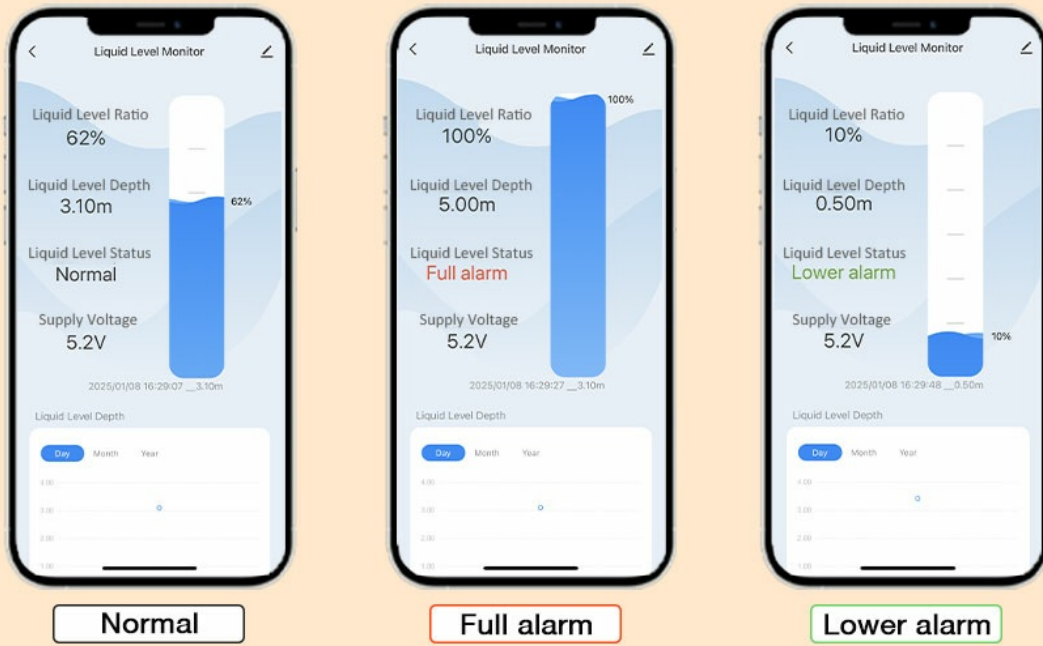


Figure 5.2: Detailed sensor status interface within the app, showing liquid level ratio, depth, and supply voltage.

5.2 Setting Alarms

You can customize alarm thresholds within the app to receive notifications when liquid levels reach critical points:

- Navigate to the sensor's settings within the app.
- Locate the "Alarm Settings" or similar option.
- Set the desired percentage or depth for "Full Level Alert" and "Low Level Alert."
- Ensure notifications are enabled for the Tuya Smart/Smart Life app on your smartphone.

6. MAINTENANCE

The Moray ME201W sensor is designed for low maintenance. However, periodic checks can ensure optimal performance:

- **Sensor Surface:** Periodically inspect the sensor's ultrasonic surface for any dirt, debris, or buildup that might obstruct the signal. Gently clean with a soft, damp cloth if necessary.
- **Power Connection:** Ensure the power adapter and cable are securely connected and free from damage.
- **Wi-Fi Signal:** Verify that the sensor maintains a strong Wi-Fi connection. If connectivity issues arise, check your router's proximity and signal strength.
- **Firmware Updates:** Check the Tuya Smart/Smart Life app periodically for any available firmware updates for the sensor. Install updates to ensure the latest features and performance improvements.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Sensor not connecting to Wi-Fi.	<ul style="list-style-type: none">• Incorrect Wi-Fi password.• Sensor too far from router.• Using a 5GHz Wi-Fi network.• Router firewall settings.	<ul style="list-style-type: none">• Double-check Wi-Fi password.• Move sensor closer to the router or use a Wi-Fi extender.• Ensure you are connecting to a 2.4GHz Wi-Fi network.• Temporarily disable firewall or adjust settings to allow device connection.
Inaccurate liquid level readings.	<ul style="list-style-type: none">• Obstructions in the sensor's beam path.• Sensor not installed perpendicularly.• Incorrect installation height or max depth in app.• Sensor surface is dirty.	<ul style="list-style-type: none">• Remove any obstacles directly below the sensor.• Re-install the sensor to ensure it is perfectly perpendicular to the liquid surface.• Verify and correct the "Installation Height" and "Liquid Maximum Depth" settings in the app.• Clean the sensor's ultrasonic surface.
No alerts received.	<ul style="list-style-type: none">• Alarm thresholds not set.• App notifications disabled.• Sensor offline.	<ul style="list-style-type: none">• Set appropriate "Full Level Alert" and "Low Level Alert" thresholds in the app.• Enable notifications for the Tuya Smart/Smart Life app in your phone's settings.• Check sensor's Wi-Fi connection and power supply.

8. SPECIFICATIONS

Feature	Specification
Model Number	ME201W
Brand	MORAYELEC
Measuring Distance	10 cm to 4 m (4 to 157 inches)
Sensor Technology	Ultrasonic Sensor
Connectivity	2.4GHz Wi-Fi
Control Method	App (Tuya Smart/Smart Life), Remote
Power Input	100-240V AC (via included adapter)
Power Output	5V DC
Operating Temperature	-10°C to +70°C
Waterproof Rating	IP65
Certifications	CE, Rohs, Reach
Product Dimensions	6.5 x 6.5 x 2.5 inches
Item Weight	9.6 ounces
UPC	753803543518

9. WARRANTY AND SUPPORT

MORAY ELEC provides a **1-year warranty** for the ME201W Ultrasonic Liquid Level Sensor, reflecting over 20 years of experience in liquid detection solutions.

For technical support, troubleshooting assistance, or warranty claims, please contact MORAY ELEC customer service through the contact information provided with your product purchase or visit the official MORAY ELEC website.

Please retain your proof of purchase for warranty validation.