

Haozee QT-SOIL

Haozee QT-SOIL Wireless Soil Moisture and Temperature Sensor User Manual

Model: QT-SOIL

1. INTRODUCTION

Thank you for choosing the Haozee QT-SOIL Wireless Soil Moisture and Temperature Sensor. This device is designed to provide accurate, real-time data on your soil's moisture and temperature levels, helping you maintain optimal growing conditions for your plants. This manual provides detailed instructions for the setup, operation, and maintenance of your sensor.

2. PRODUCT OVERVIEW

The Haozee QT-SOIL is a 2-in-1 smart sensor that measures both soil moisture and temperature. It operates wirelessly using Zigbee technology, requiring a compatible Zigbee hub for connectivity. Its robust design, featuring an Austenitic SS304 stainless steel probe and IP67 waterproof rating, ensures reliable performance in various outdoor and indoor environments.

Wireless soil temperature and humidity sensor



Figure 1: Haozee QT-SOIL Wireless Soil Moisture and Temperature Sensor. This image shows the overall design of the sensor, highlighting its wireless capabilities and dual measurement functions for temperature and humidity.

Key Features:

- **Dual Measurement:** Simultaneously monitors soil moisture and temperature.
- **Zigbee Connectivity:** Requires a Tuya Zigbee hub for smart home integration (Tuya App, Smart Life, Home Assistant Zigbee2MQTT compatible).
- **Durable Construction:** Features an Austenitic SS304 stainless steel probe for anti-rust, electrolytic resistance, and corrosion resistance.
- **Waterproof Design:** IP67 rating ensures protection against water ingress, suitable for outdoor use.
- **Remote Monitoring:** Access real-time data and historical trends via the connected application.
- **Automation Capabilities:** Link with smart irrigation systems based on soil data.
- **Wide Application:** Suitable for potted plants, greenhouses, farmlands, vegetable fields, lawns, and more.

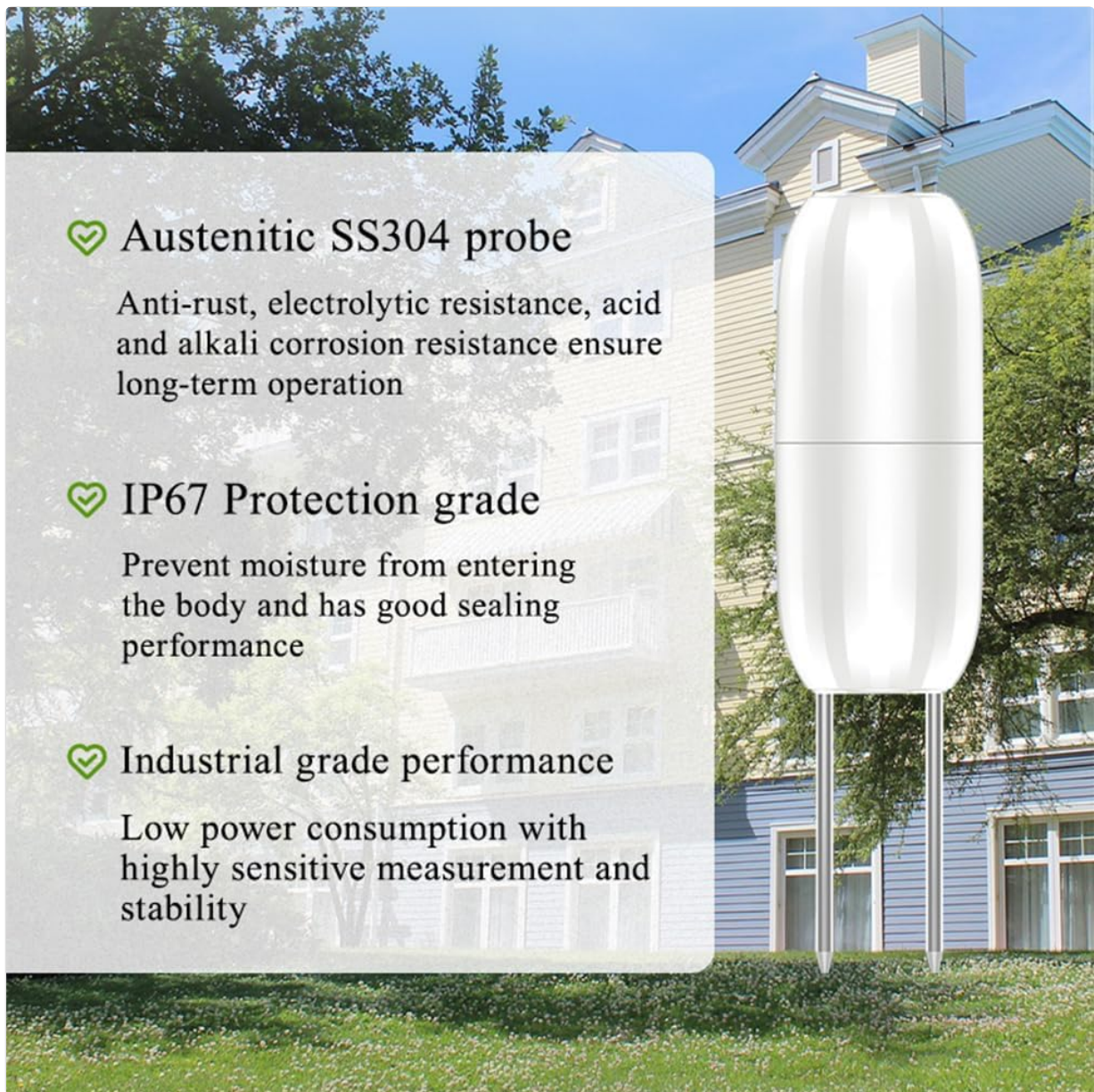


Figure 2: Detailed view of the sensor's probe and its features. This image highlights the Austenitic SS304 probe, IP67 protection grade, and industrial-grade performance for stable and sensitive measurements.

3. SAFETY INFORMATION

- Do not attempt to disassemble or modify the device.
- Keep batteries out of reach of children.
- Ensure correct battery polarity during installation.
- Dispose of used batteries according to local regulations.
- Avoid placing the sensor in areas with extreme temperatures or direct exposure to corrosive chemicals.

4. PACKAGE CONTENTS

- Haozee QT-SOIL Wireless Soil Moisture and Temperature Sensor (1 unit)
- User Manual (this document)
- *Note: 3x AA 1.5V batteries are required and sold separately.*

5. SETUP GUIDE

5.1 Battery Installation

1. Twist the top part of the sensor counter-clockwise to open the battery compartment.
2. Insert three (3) 1.5V AA batteries, ensuring correct polarity (+/-).
3. Close the battery compartment by twisting the top part clockwise until securely sealed.

5.2 Zigbee Hub Connection

The Haozee QT-SOIL sensor requires a Zigbee hub (e.g., Tuya Zigbee hub) to function. Without a hub, the product will not be usable.

1. Ensure your Zigbee hub is powered on and connected to your network.
2. Open your preferred smart home application (Tuya App, Smart Life, Home Assistant with Zigbee2MQTT).
3. Follow the app's instructions to add a new Zigbee device. This usually involves putting the hub into pairing mode.
4. On the QT-SOIL sensor, locate the pairing button (often inside the battery compartment or a small button on the body). Press and hold the pairing button until the indicator light flashes, indicating it's in pairing mode.
5. Once successfully paired, the indicator light will stop flashing, and the device should appear in your app.



Figure 3: Illustration of the sensor's integration into a smart home system. This image shows the sensor communicating wirelessly with a gateway and router, enabling smart water timer linkage and automatic irrigation.

5.3 Physical Installation

1. Select a location in the soil where you want to monitor moisture and temperature. Ensure the location is representative of the plant's root zone.
2. Gently insert the stainless steel probe into the soil. Push it down firmly but avoid excessive force to prevent damage. The probe should be fully submerged in the soil for accurate readings.
3. Ensure the main body of the sensor remains above the soil surface to prevent water from entering the electronics, despite its IP67 rating.

6. OPERATING INSTRUCTIONS

6.1 Monitoring Data

Once the sensor is installed and connected to your Zigbee hub, you can monitor soil data through your smart home application:

- Open the Tuya App, Smart Life App, or your Home Assistant interface.

- Navigate to the device list and select your Haozee QT-SOIL sensor.
- You will see real-time readings for soil moisture percentage and temperature.
- The application also provides historical data curves, allowing you to track trends and analyze changes over time.

Soil temperature and humidity sensor


- Wireless signal transmission 
- To view real-time temperature and humidity data in APP
- Temperature and humidity history curve
- Linkage with our smart water timer to realize automated irrigation



Figure 4: Screenshot of the mobile application displaying soil temperature and humidity data. This image illustrates how users can view real-time data and historical curves for effective plant monitoring.

6.2 Automation and Smart Scenarios

Leverage the data from your QT-SOIL sensor to create smart automation rules within your smart home ecosystem:

- **Automated Irrigation:** Link the sensor with a smart water timer or irrigation system. For example, set a rule to activate sprinklers if soil moisture drops below a certain percentage.
- **Notifications:** Receive alerts on your phone if soil moisture or temperature levels fall outside your desired range.
- **Environmental Control:** In greenhouses, use temperature data to trigger ventilation fans or heating systems.

7. MAINTENANCE

7.1 Cleaning the Probe

Periodically clean the stainless steel probe to ensure accurate readings. Remove the sensor from the soil and gently wipe the probe with a damp cloth to remove any soil residue or mineral buildup. Avoid using abrasive cleaners or harsh chemicals.

7.2 Battery Replacement

The sensor is powered by 3x AA 1.5V batteries, which typically last for more than 6 months. When the battery level is low, you may receive a notification via your smart home app. Replace batteries as described in Section 5.1.

7.3 Waterproofing

The QT-SOIL sensor has an IP67 waterproof rating, protecting it from dust and temporary immersion in water. However, ensure the battery compartment is always securely sealed to maintain this protection.

8. TROUBLESHOOTING

- **Sensor Not Connecting to App:**

- Ensure the Zigbee hub is powered on and functioning correctly.
- Verify the sensor has fresh batteries and is in pairing mode.
- Make sure the sensor is within range of your Zigbee hub.
- Try re-pairing the device following the steps in Section 5.2.

- **Inaccurate Readings:**

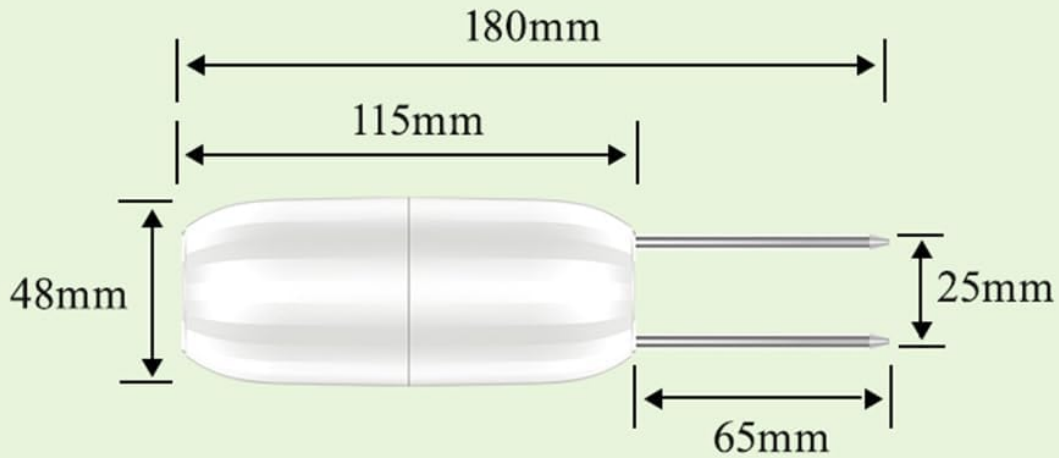
- Check if the probe is fully inserted into the soil and making good contact.
- Clean the probe to remove any dirt or mineral buildup (see Section 7.1).
- Ensure the sensor is not placed in an area with extreme temperature fluctuations or direct sunlight that could affect temperature readings.
- Verify battery levels; low batteries can sometimes affect sensor performance.

- **No Data Updates:**

- Check battery levels.
- Confirm the Zigbee network is stable and the hub is online.
- The sensor transmits data periodically; significant changes in moisture or temperature can trigger more frequent updates. If no changes occur, updates might be less frequent.

9. SPECIFICATIONS

Product parameter



Model : QT-10Z

Power supply : 3PCS 1.5V AA

Battery life : 2000mAh battery, more than 6 months

Communication protocol : Zigbee

APP data response time : 60S

Figure 5: Diagram showing the dimensions and key parameters of the Haozee QT-SOIL sensor. This includes overall length, width, probe length, and power supply details.

Parameter	Value
Model Number	QT-SOIL
Dimensions (L x W x H)	5 x 5 x 18 cm (180mm total length, 115mm body, 65mm probe length, 48mm body width)
Weight	130 g
Power Supply	3 x 1.5V AA Batteries
Battery Life	> 6 months (2000mAh battery capacity)
Communication Protocol	Zigbee
Waterproof Rating	IP67
Probe Material	Austenitic SS304 Stainless Steel

APP Data Response Time	60 seconds (typical)
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10. WARRANTY AND SUPPORT

Haozee products are designed for reliability and performance. For warranty information and technical support, please contact your retailer or visit the official Haozee website. Please have your product model number (QT-SOIL) and purchase date available when seeking support.

For further assistance, you may also refer to the support sections within the Tuya or Smart Life applications, or relevant community forums for Home Assistant Zigbee2MQTT users.