Haozee ZY-Z-WALL

Haozee MmWave Human Presence Sensor User Manual

Model: ZY-Z-WALL
Brand: Haozee

1. Product Overview

The Haozee MmWave Human Presence Sensor is an advanced Zigbee-enabled device designed for precise human presence detection in indoor environments. Utilizing 24G millimeter wave radar technology, it can detect both moving and stationary individuals, offering superior accuracy compared to traditional PIR motion sensors. This sensor integrates seamlessly with smart home systems, particularly those using a Tuya Zigbee Hub or Home Assistant via Zigbee2mqtt, enabling sophisticated home automation scenarios.

Figure 1.1: Front view of the Haozee MmWave Human Presence Sensor.

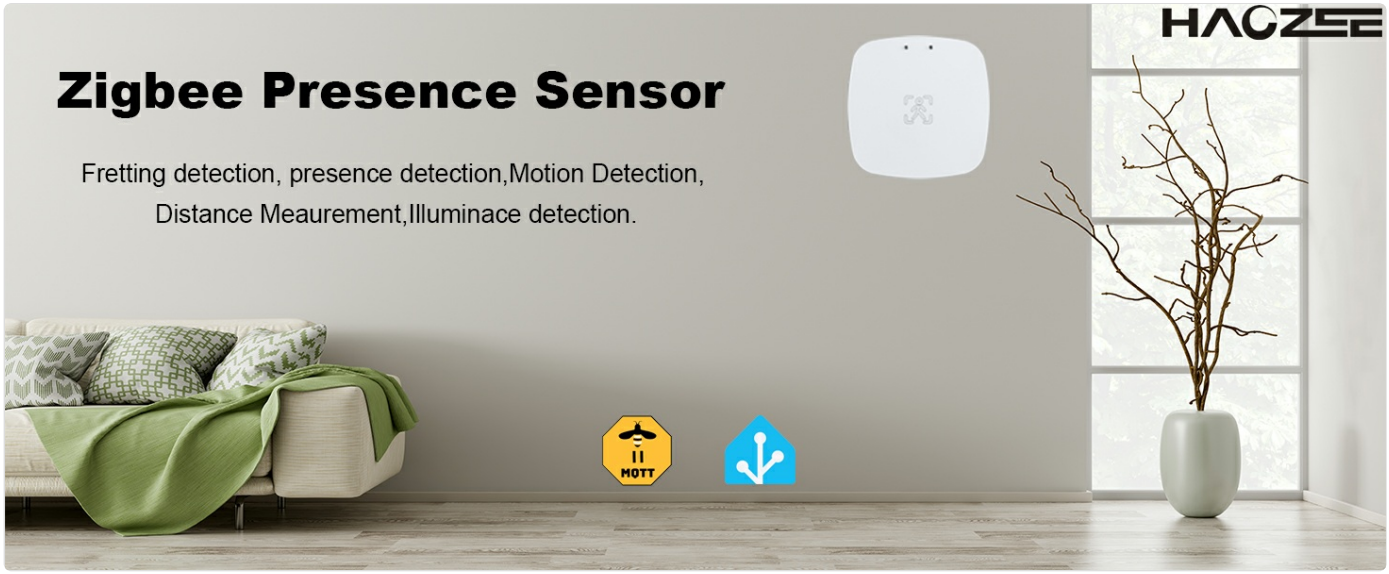

Figure 1.2: Overview of the Zigbee Presence Sensor's capabilities including fretting, presence, motion, distance, and illuminance detection.

2. Key Features

- **24G Millimeter Wave Radar:** Detects both moving and non-moving human presence with high accuracy and faster response times compared to 5.8G radar or traditional PIR sensors.
- **Home Assistant Integration:** Fully supports Home Assistant via Zigbee2mqtt, providing access to advanced functions like Presence Distance, Illuminance (lux), Detection Distance, and Presence Sensitivity for comprehensive home automation.
- **Tuya Zigbee Hub Compatibility:** Works with Tuya Zigbee gateways, serving as a central bridge for all Tuya Zigbee smart devices, ensuring stable signal transmission.
- **Smart Scene Linkage:** Enables automated actions such as turning lights on/off upon entry or exit, enhancing convenience and energy efficiency.
- **Adjustable Detection Parameters:** Allows customization of minimum and maximum detection distances, sensitivity, and fading time to suit specific environmental needs.
- **Built-in Light Sensor:** Includes an illuminance sensor (lux) for light-aware automations, such as activating lights only when it's dark.
- **Wired Power Supply:** Powered by USB 5V1A, ensuring continuous operation.

Figure 2.1: Illustration of the 24G Mmwave Radar's ability to detect both moving and non-moving human presence.

Figure 2.2: Example of linkage lighting automation, keeping lights on while reading or turning them off after leaving.

3. Package Contents

Verify that all items are present in the package:

- 1 x Haozee MmWave Human Presence Sensor (Model: ZY-Z-WALL)
- 1 x User Manual (this document)
- Wall mount accessories (if applicable, based on product images showing wall mount)

Note: A USB 5V1A power adapter and USB-C cable are required for operation and are not included in the package.

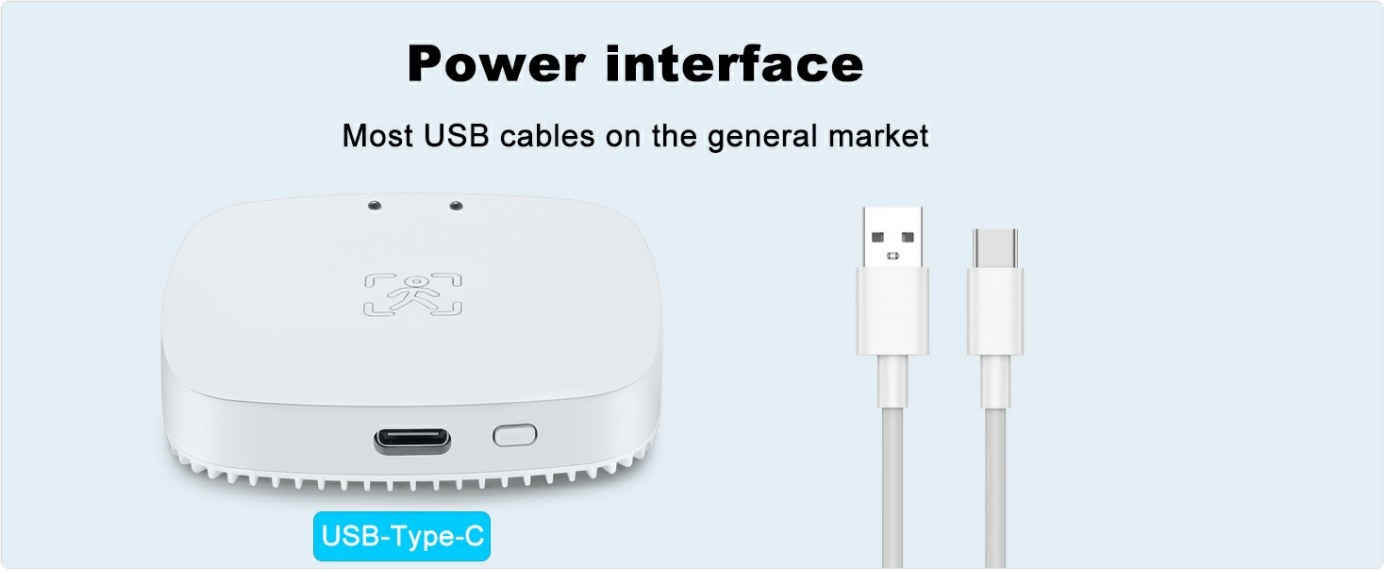

Figure 3.1: The sensor features a USB-C power interface for connection to a 5V1A power source.

4. Setup Guide

4.1 Powering the Device

1. Connect a standard USB-C cable (not included) to the sensor's USB-C port.
2. Connect the other end of the USB-C cable to a 5V1A USB power adapter (not included).
3. Plug the power adapter into a wall outlet. The sensor requires constant power to operate.

Figure 4.1: Close-up of the sensor's top, highlighting the USB-C power port and pairing button.

4.2 Connecting to a Zigbee Hub

The Haozee MmWave Human Presence Sensor requires a Zigbee hub to function within your smart home ecosystem. It is compatible with Tuya Zigbee Hubs and is highly recommended for use with Home Assistant via Zigbee2mqtt for full functionality.

1. Ensure your Zigbee hub (e.g., Tuya Zigbee Hub or Home Assistant with Zigbee2mqtt) is powered on and in pairing mode. Refer to your hub's specific instructions for enabling pairing mode.
2. With the sensor powered on, press and hold the pairing button (small button next to the USB-C port) for approximately 5-7 seconds until the indicator light (if present) blinks, indicating it's in pairing mode.
3. Once successfully paired, the sensor will appear in your Zigbee hub's device list.
4. **For Home Assistant Users:** It is strongly recommended to use Zigbee2mqtt for full access to the sensor's advanced features (Presence Distance, Illuminance, Sensitivity, etc.). While ZHA may offer basic functionality, Zigbee2mqtt provides comprehensive control and data.

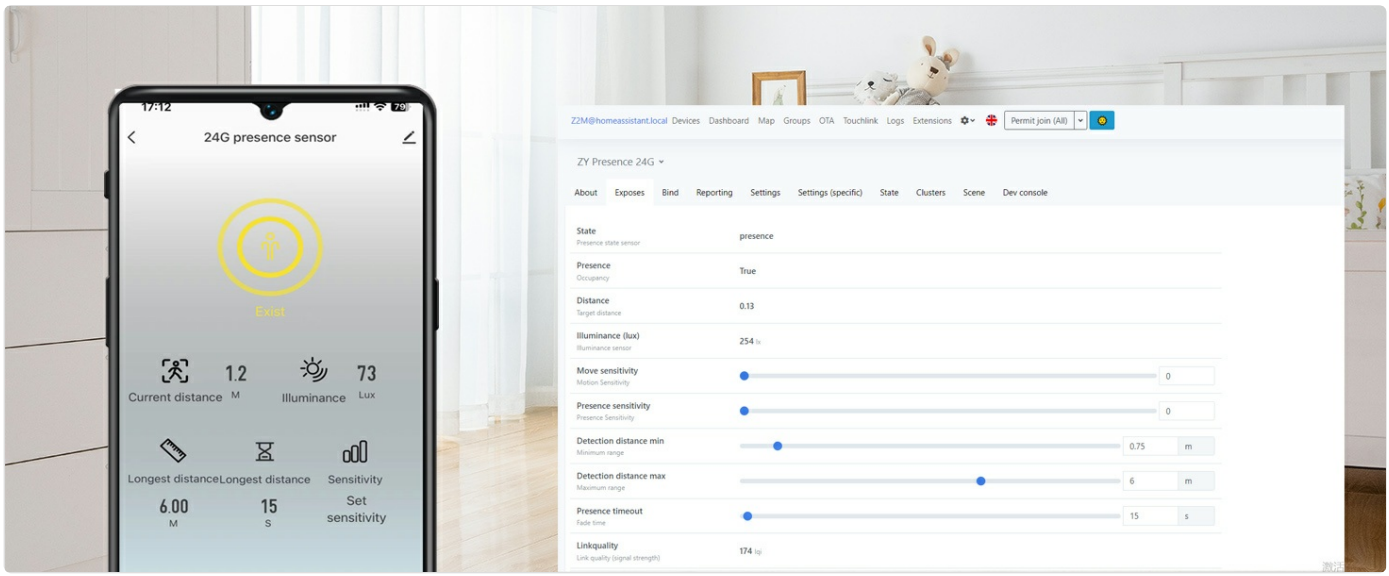

Figure 4.2: Example of the sensor's configuration interface within Zigbee2mqtt, allowing adjustment of various parameters.

4.3 Mounting the Sensor

The sensor can be wall-mounted or ceiling-mounted for optimal detection. Consider the desired detection area and the sensor's maximum range (32 feet / 9 meters) when choosing a location.

- **Horizontal Installation (Wall Mount):** Ideal for detecting presence across a room or hallway. Mount the sensor at a height of 1-1.5 meters (approximately 3.3-4.9 feet) from the floor.
- **Top Mount (Ceiling Mount):** Suitable for detecting presence within a specific area directly below the sensor.

Use the provided wall mount accessories to securely attach the sensor to your chosen surface. Ensure the sensor's detection area is unobstructed.

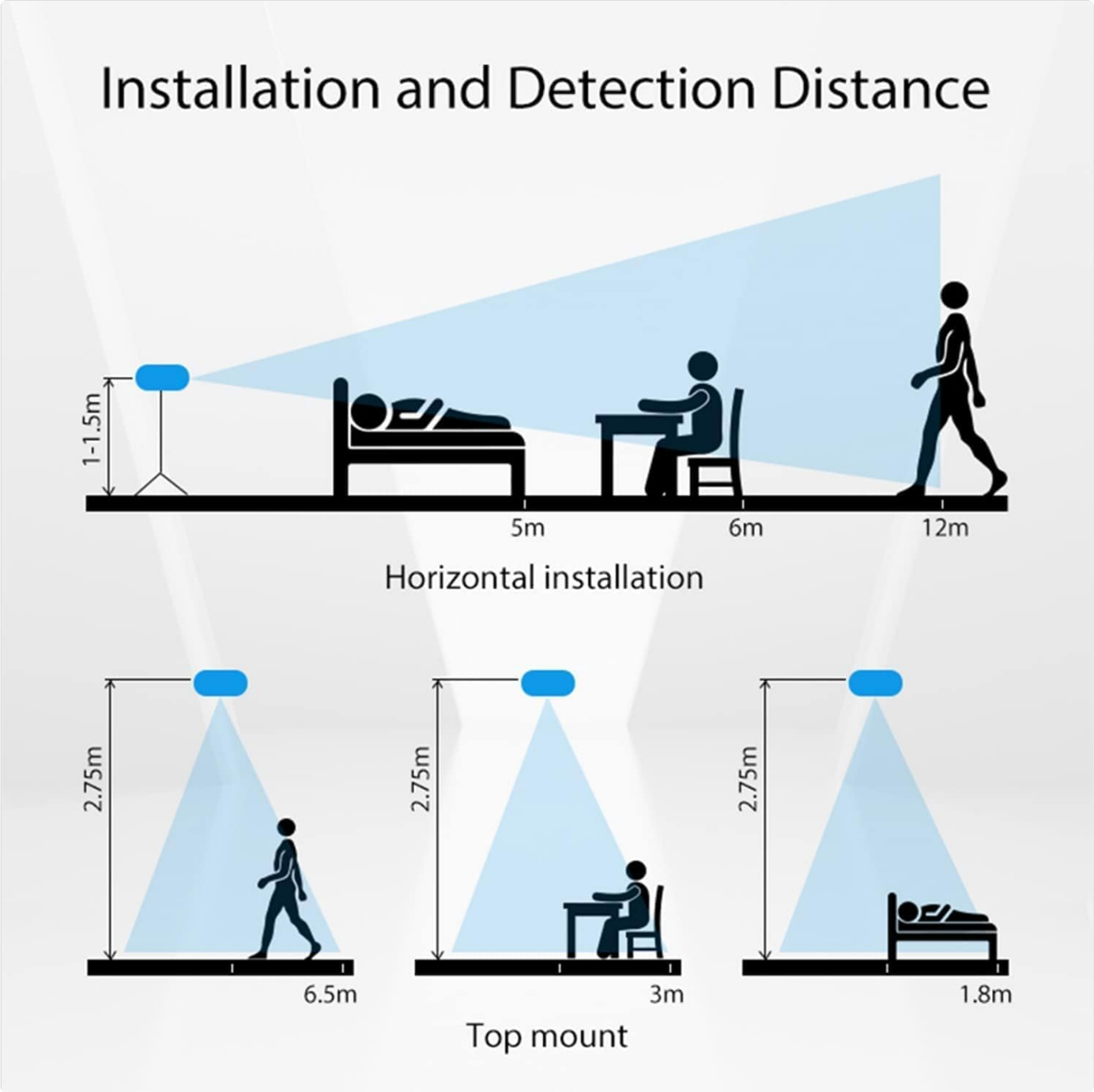

Figure 4.3: Visual guide for optimal installation and detection distances for both horizontal and top mounting.

5. Operating Instructions

5.1 Presence Detection

Once powered and connected to your Zigbee hub, the sensor will begin detecting human presence. Unlike traditional PIR sensors, this millimeter wave radar can detect subtle movements, including breathing, allowing it to register presence even when a person is stationary (e.g., sitting, sleeping).

Figure 5.1: The sensor actively emits millimeter waves to detect human presence within its field.

5.2 Adjusting Detection Parameters

The sensor offers several adjustable parameters to fine-tune its performance for your specific needs. These settings are typically accessed through your Zigbee hub's interface (e.g., Zigbee2mqtt in Home Assistant or the Tuya Smart app).

- **Detection Distance (Min/Max):** Set the minimum and maximum range for presence detection. This allows you to define a specific zone where detection is active.
- **Presence Sensitivity:** Adjust the sensitivity level to control how easily the sensor detects subtle movements or stillness. Higher sensitivity may detect more subtle presence but could also lead to false positives in some environments.
- **Fading Time (Presence Timeout):** Configure the duration after which the sensor reports "no presence" once a person has left the detection area.
- **Illuminance (Lux) Detection:** The built-in light sensor provides ambient light readings, which can be used in automations (e.g., turn on lights only if it's dark and presence is detected).

Figure 5.2: The sensor allows for flexible automation by adjusting parameters like minimum and maximum detection distance (e.g., 0.1m to 9m).

5.3 Smart Scene Linkage

Leverage the sensor's presence detection capabilities to create intelligent automations within your smart home system. Examples include:

- **Automated Lighting:** Turn lights on when presence is detected in a room and off when no presence is detected for a set period. Combine with the illuminance sensor to only activate lights when ambient light is low.
- **Security Alerts:** Link with other Tuya or Zigbee sensors (e.g., door/window sensors) to trigger alarms or notifications if unexpected presence is detected.
- **Climate Control:** Adjust thermostat settings based on room occupancy.

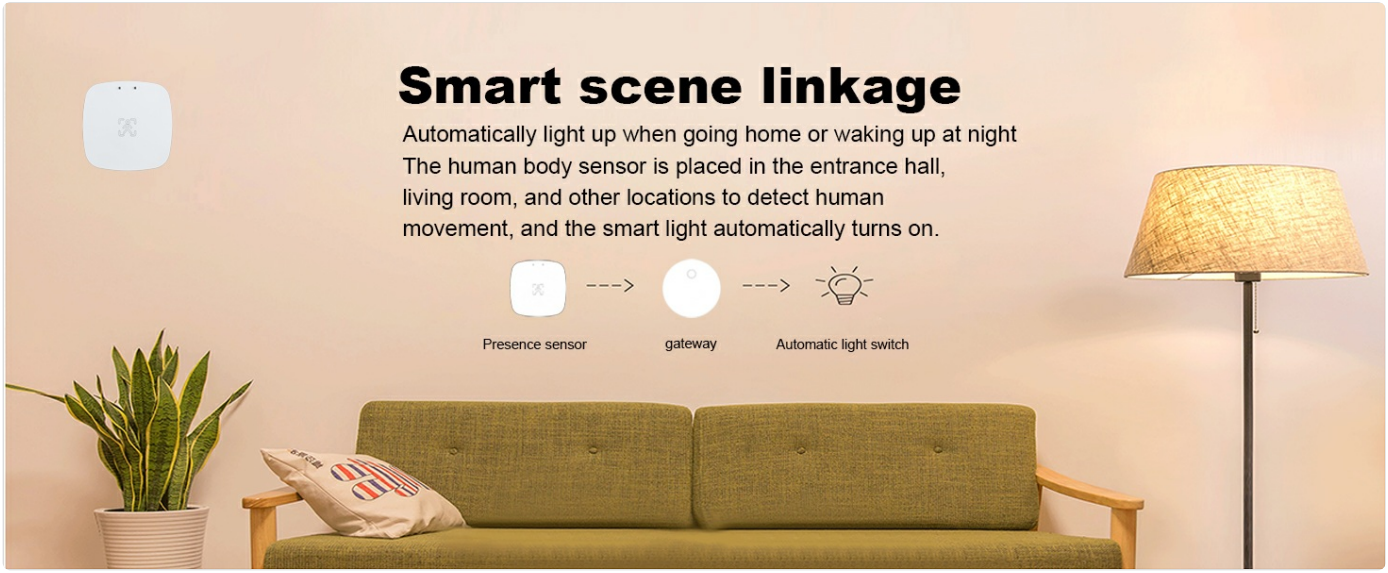

Figure 5.3: Diagram illustrating how the presence sensor links with a gateway to control an automatic light switch.

6. Maintenance

The Haozee MmWave Human Presence Sensor requires minimal maintenance to ensure optimal performance.

- **Cleaning:** Periodically wipe the sensor's surface with a soft, dry cloth to remove dust or debris. Do not use abrasive cleaners or solvents.
- **Power Supply:** Ensure the sensor remains continuously powered via its USB 5V1A connection. Intermittent power can affect performance or connectivity.
- **Firmware Updates:** Check your Zigbee hub's software or the manufacturer's website for any available firmware updates for the sensor. Updates can improve performance, add features, or fix bugs.
- **Obstructions:** Regularly check that there are no new obstructions (e.g., furniture, curtains) blocking the sensor's detection field.

7. Troubleshooting

7.1 Sensor Not Detecting Presence

- **Check Power:** Ensure the sensor is properly powered via its USB-C connection and the power adapter is functioning.
- **Verify Zigbee Connection:** Confirm the sensor is still paired and connected to your Zigbee hub. If disconnected, attempt to re-pair it.
- **Obstructions:** Ensure there are no physical obstructions (e.g., large furniture, thick walls) blocking the sensor's line of sight or radar waves.
- **Detection Parameters:** Review the sensor's settings (e.g., Detection Distance, Presence Sensitivity) in your hub's interface. Adjust sensitivity higher if needed.
- **Placement:** Refer to Section 4.3 for optimal mounting and placement guidelines.

7.2 Inconsistent Detection or False Readings

- **Sensitivity Adjustment:** If experiencing false positives, try lowering the Presence Sensitivity. If missing detections, try increasing it.
- **Interference:** While millimeter wave radar is robust, strong electromagnetic interference from other devices nearby could potentially affect performance. Try relocating the sensor or other devices.

- **Firmware:** Ensure the sensor's firmware is up to date.

7.3 Issues with Home Assistant Integration

- **Zigbee2mqtt Recommendation:** As noted in the features, this sensor is designed to work best with Home Assistant via Zigbee2mqtt. If you are using ZHA (Zigbee Home Automation), you may only have basic functionality and limited access to advanced settings. Consider migrating to Zigbee2mqtt for full control.
- **Hub Compatibility:** Ensure your Zigbee coordinator for Home Assistant is fully compatible with Zigbee2mqtt and supports the sensor's specific Zigbee profile.
- **Network Health:** Verify the health of your Zigbee network. A weak signal or too many devices on a single router can cause instability.

8. Specifications

Parameter	Value
Brand	Haozee
Model Number	ZY-Z-WALL
Color	White
Power Source	Corded Electric (USB 5V1A)
Maximum Range	32 Feet (approx. 9 meters)
Mounting Type	Wall Mount
Product Dimensions	3.6"D x 3.6"W x 1.26"H (approx. 9.14cm D x 9.14cm W x 3.2cm H)
Item Weight	2.89 ounces (approx. 82 grams)
Compatible Devices	Tuya Zigbee Hub, Zigbee2mqtt, Home Assistant
Technology	24G Millimeter Wave Radar, Zigbee

Figure 8.1: Detailed product dimensions.

9. Warranty and Support

For warranty information and technical support, please refer to the official Haozee website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

Online Resources:

- Haozee Official Website: Visit the Haozee Store on Amazon
- For Home Assistant and Zigbee2mqtt specific support, refer to their respective community forums and documentation.

Related Documents

	[TH16 Wi-Fi Temperature & Humidity Sensor User Manual - Setup & Features] Official user manual for the TH16 Wi-Fi Temperature & Humidity Sensor. Learn about its features and how to set it up using the Smart Life app for real-time environmental monitoring.