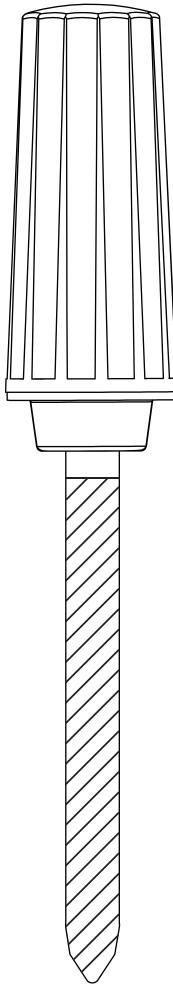


# Smart Soil Moisture Sensor

## User Manual



THIRDREALITY

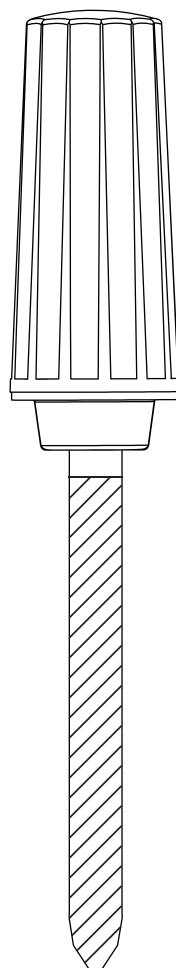
# Contents

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# Introduction

Smart Soil Moisture Sensor is able to detect the environmental conditions of the soil in real time and transmit the data to your smart system through wireless communication capabilities.

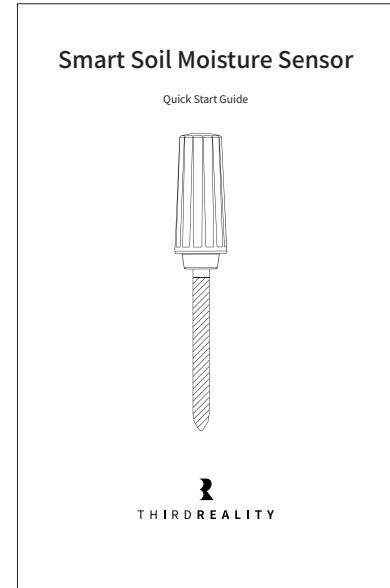
## What's in the Box



Smart Soil Moisture Sensor



AA Battery

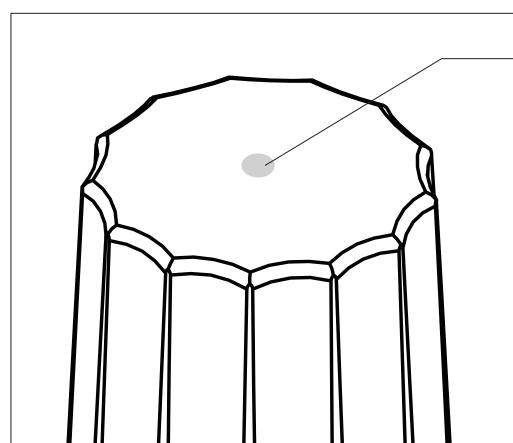


User Guide

# Specifications

Name	Smart Soil Moisture Sensor
Model	3RSM0147Z
Operating Voltage	DC 1.5V
Battery Type	1 x AA Alkaline Battery (included)
Wireless Connectivity	Zigbee 3.0
Working condition	-10°C~50°C(14°F~122°F) RH 0~100%
Temperature Range	-10°C~50°C(14°F~122°F)
Temperature Accuracy	±1.5°C
Humidity Range	0~100%
Humidity Accuracy	±3%

## LED Status

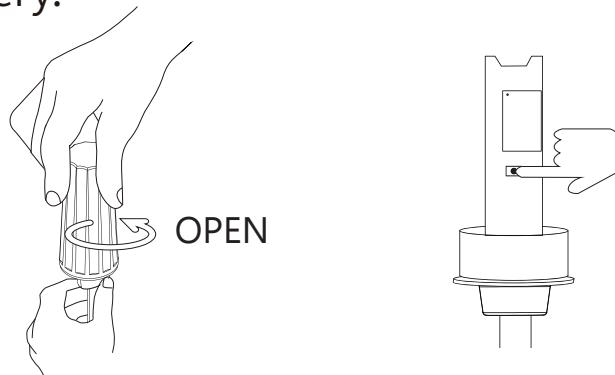


LED Indicator

LED Status	Description
Blue blinking	Pairing mode
Red slow blinking	Offline
Red double blinking	Low battery

# Setup

1. Open the battery cover. Remove the battery insulation tab and install the battery.



2. Press and hold the reset button for 5 seconds until the LED light turns red, release the reset button and the LED starts blue blinking, indicating it enters Zigbee pairing mode.
3. Follow the instructions of your smart home hub /smart speaker with built-in Zigbee hub to pair the sensor in the corresponding app.

## How to Use

Set up your smart soil moisture sensor.

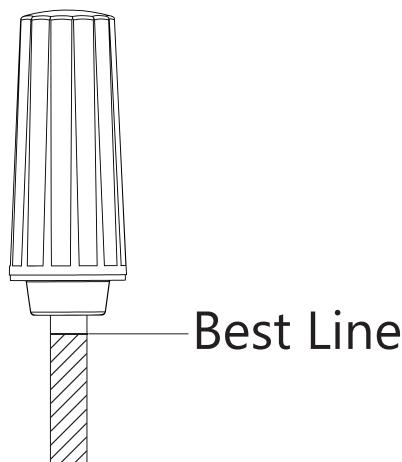
When inserting the sensor into the soil to be measured, align the sensor's marking line with the soil surface to ensure measurement accuracy. Create an automation or water the plant manually based on your observation of specific plant and soil situation, to start irrigation of certain period of time when soil moisture falls below certain value.

**Note:** Check multiple moisture values during certain period of time before and after irrigation, to ensure accurate soil moisture data when creating irrigation automation.

# Installation

Recomand: Use a suitable tool to dig a small hole in the soil and then insert the sensor.

- \* When installing the sensor, make sure the marked best line is flush with the soil surface.

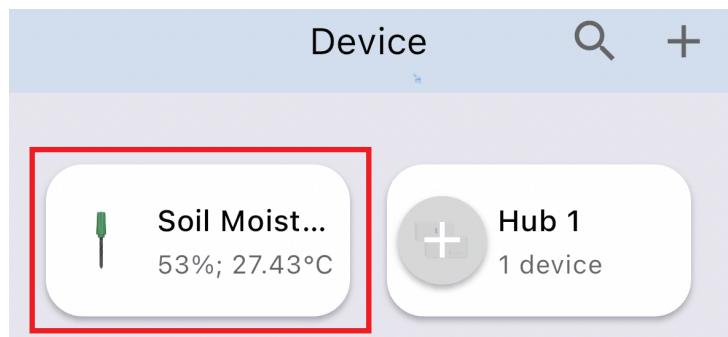
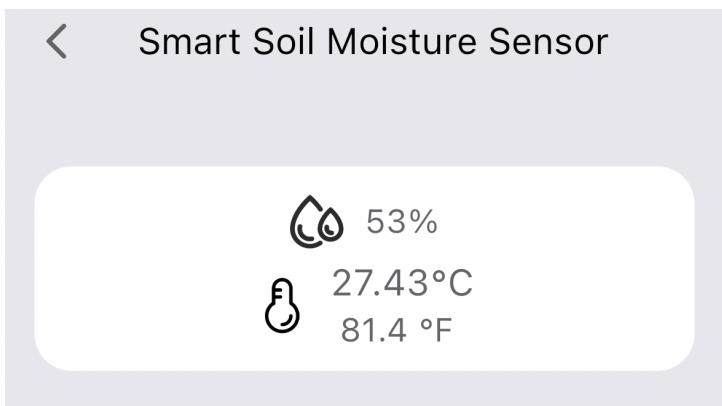
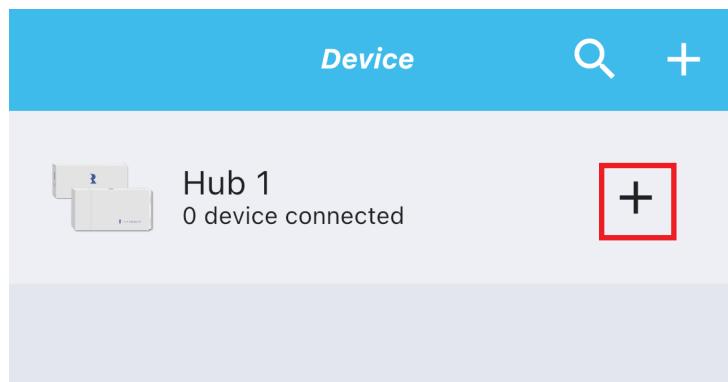


- \* Friction can damage the sensor and affect its accuracy. It is not recommended to insert the sensor directly into hard soil, which may damage the sensor.
- \* Designed to measure soil moisture ONLY.

# Setup with Third Reality Hub and SKILL

The Third Reality Hub (sold separately) allows you to control your device remotely via the Third Reality APP, making it a great option for smart home beginners or those without a system from major providers. Additionally, the Third Reality Cloud supports SKILL integration with Google Home or Amazon Alexa, enabling you to connect your device to these platforms. However, due to the potential for slow and unreliable Cloud-to-Cloud connections, we recommend using the Bridge solution if Google Home or Alexa is your primary smart home platform.

1. Ensure your hub is properly set up with Third Reality App.
2. Open the battery cover, install the battery, press and hold the reset button for 5 seconds and release the hold; The blue blinking LED light indicates the sensor enters Zigbee pairing mode.
3. Open the Third Reality APP, press the “+” icon next to the hub, and select “Quick Pair.”
4. The sensor will pair with your hub and appear in the Third Reality APP.
5. Optionally, you can enable the Third Reality SKILL in either the Alexa or Google Home app to enable Cloud-to-Cloud communication.



Name	Soil Moisture Sensor 1	>
Network	Connected	
Type	Smart Soil Moisture Sensor	
Mac	A4C138260AEC7BE7	
Battery	High	
Version	v1.00.24	
Connected to	Hub 1	

# Setup with Smart Bridge MZ1

The Smart Bridge (sold separately) enables your Zigbee device to become Matter-compatible, allowing seamless integration with major Matter ecosystems like Apple Home, Google Home, Amazon Alexa, Samsung Smart-Things, and Home Assistant. By setting up your Zigbee smart soil moisture sensor with the Smart Bridge, it transforms into a Matter compatible smart color bulb, enabling local control through Matter. Third Reality also offers the 3R-Installer APP, which lets you configure Zigbee smart soil moisture sensor attributes such as default-on behavior and perform firmware updates.

1. Ensure your bridge is already set up within your smart home system.
2. Open the battery cover, install the battery, press and hold the reset button for 5 seconds and release the hold; The blue blinking LED light indicates the sensor enters Zigbee pairing mode.
3. Press the pinhole button on the bridge to activate Zigbee pairing mode. The Zigbee blue LED should start blinking.
4. The sensor will pair with the bridge, and a new device will appear in your smart home app, such as Google Home or Alexa.
5. Optionally, you can install the 3R-Installer APP and use the multi-admin feature in your smart home app to share permissions with the 3R-Installer APP.

☰ Device +

- Smart Bridge... 0 device

Link with Matter Enabled Services

+ Bridge ZIGBEE Devices

⚙️ Matter Reset

Button Tips: Move your configured Zigbee devices to another Matter fabric.

Smart Bridge MZ1 ...

Smart Soil ... 30.54°C; 0% Multi-Func... Disconnect...

Link with Matter Enabled Services

+ Bridge ZIGBEE Devices

⚙️ Matter Reset

Button Tips: Move your configured Zigbee devices to another Matter fabric.

Smart Soil Moisture Sens... ...

TEMPERATURE 30.54°C  
87.0 °F

HUMIDITY 0%

Battery 50%

Version v1.00.19

No upgrades available

Check Updates

## Link with Manual Setup Code or Scan the QR Code

Effective duration: 2 minutes 56 seconds

1216-170-8712 



Done

# Setup with Compatible Third-Party Zigbee Hubs

Third Reality supports integration with various open Zigbee platforms, including Amazon Echo with built-in Zigbee, Samsung SmartThings, Home Assistant (with ZHA or Z2M), Homey and Habitat. If you own any of these devices, you can pair the smart soil moisture sensor directly without the need for an additional bridge or hub.

1. Ensure your Zigbee Hub is already set up within your smart home system.
2. Open the battery cover, install the battery, press and hold the reset button for 5 seconds and release the hold; The blue blinking LED light indicates the sensor enters Zigbee pairing mode.
3. Open your smart home app and follow the on-screen instructions to begin the Zigbee pairing process.
4. The sensor will flash and then turn warm white, indicating it has successfully paired with the Zigbee hub.
5. You can now use your smart home app to turn the sensor on/off.

# Pairing with SmartThings

App: SmartThings App

Devices: SmartThings Hub 2nd Gen(2015) and 3rd Gen(2018), Aeotec Smart Home Hub.



## Pairing steps:

1. Before pairing, check for updates to make sure the SmartThings Hub firmware is up to date.
  2. Add SmartThings drivers for Third Reality Temperature and Humidity Sensor
- Open this link in your PC browser. Log in your SmartThings Account.  
<https://bestow-regional.api.smartthings.com/invite/adMKr50EXzj9>
  - Click "Enroll" -- "Available Drivers" -- "Install" to install the device driver.



## Channel Information

- Name  
Third Reality
- Description  
SmartThings driver for Third Reality devices
- [Terms of Service](#)

## My Hubs

### Aeotec Hub

My home

[Enroll](#)



## Channel Information

- Name  
Third Reality
- Description  
SmartThings driver for Third Reality devices
- [Terms of Service](#)

## My Hubs

### Aeotec Hub

My home

[Unenroll](#)

[Available Drivers](#)



## Third Reality

### Aeotec Hub

#### My home

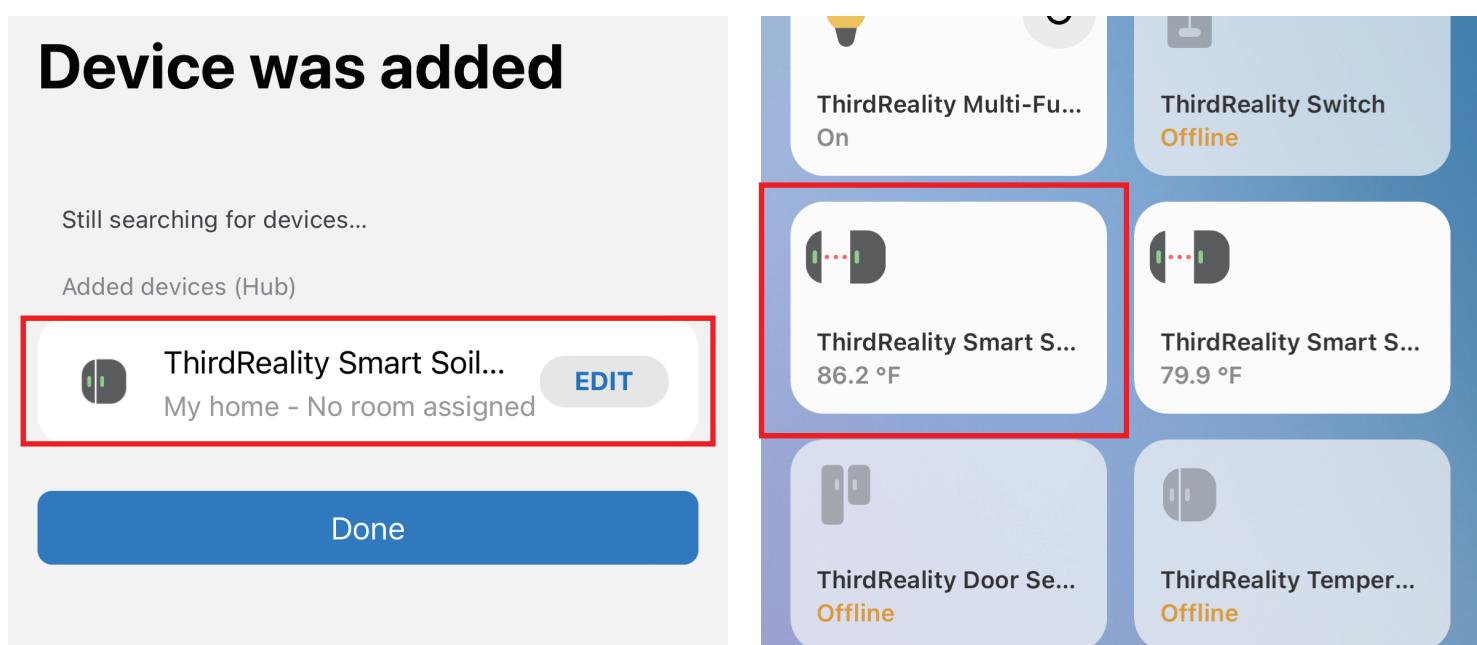
- Name  
ThirdReality Humidity Sensor
- Description  
ThirdReality Temperature and Humidity sensor drivers
- Permissions
  - zigbee: Enable full access to Zigbee actions

[Install](#)

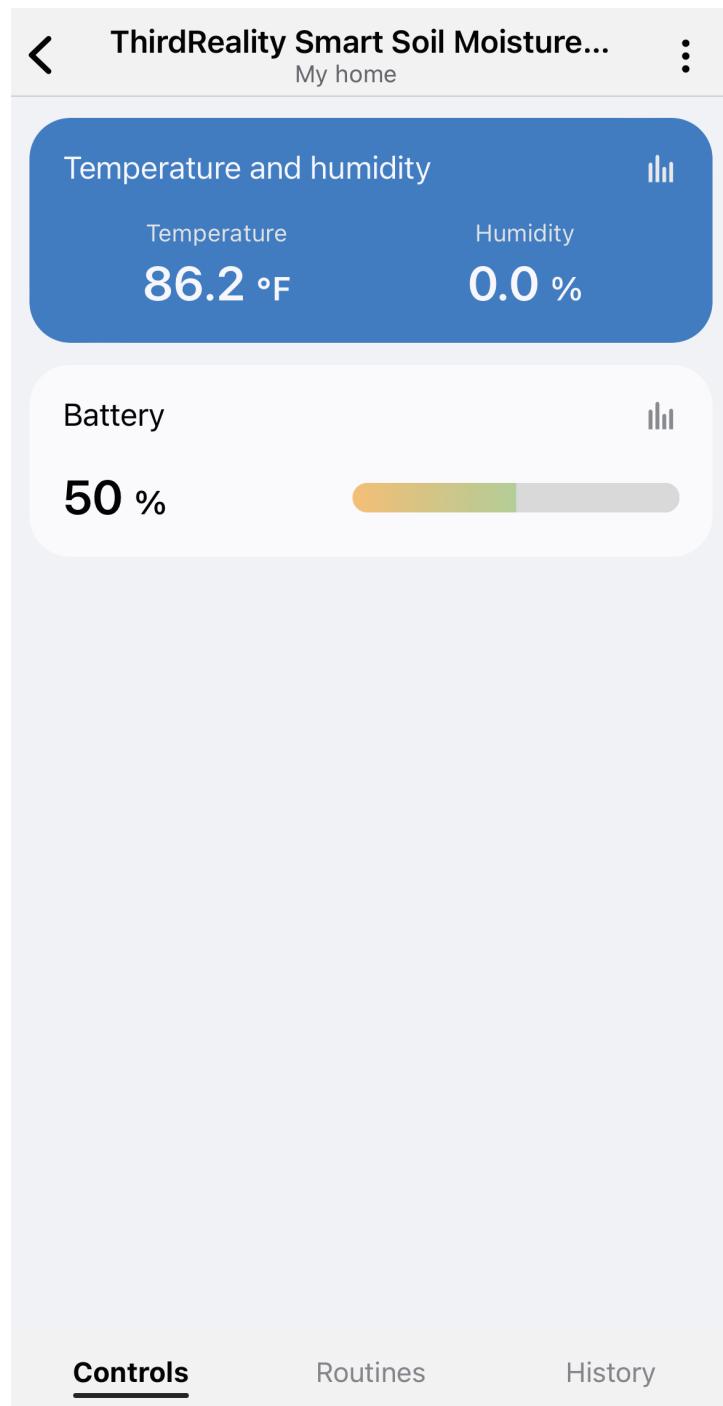
3. Open the battery cover and install the batteries, press and hold the reset button for 5 seconds and release the hold; The LED light turns blue blinking, indicating it enters pairing mode.
4. Open your SmartThings App, tap “+” on the up right corner to “Add device” and then tap “Scan nearby”.



5. The sensor will be added to your SmartThings hub in a few seconds.



## 6. Create routines to control connected devices.



# Pairing with Hubitat

Website: <http://find.habitat.com/>



## Pairing steps:

1. Open the battery cover and install the batteries, press and hold the reset button for 5 seconds and release the hold; The LED light turns blue blinking, indicating it enters pairing mode.
2. Visit your Hubitat Elevation hub device page from your web browser, select the Devices menu item from the sidebar, then select Discover Devices in the upper right.
3. Click Start Zigbee Pairing button after you select a Zigbee device type, the Start Zigbee Pairing button will put the hub in Zigbee pairing mode for 60 seconds.
4. Pairing is completed.
5. Set device type to generic Zigbee Temperature/Humidity sensor, Save Device.
6. Tap Apps, and Create New Basic Rules, select Humidity Sensor - smart soil moisture sensor, turn on your plant watering system when humidity changes.

Hubitat ELEVATE YOUR ENVIRONMENT

Devices

Compatible device list

Clear Search... + Add device

Disable ↑↓	Label (Name) ↑↓	Type ↑↓	Room ↑↓	Source ↑↓	DNI ↑↓	Status ↑↓	Last Activity ↑↓	⋮ ↑↓
<input type="checkbox"/>	1 (Advanced Zigbee CT Bulb)	Advanced Zigbee CT Bulb		System	2EA3 840ECFD298800000	<span style="color: green;">OK</span>	8/27/2024 10:40:35	
<input type="checkbox"/>	729ms (Generic Zigbee Motion Sensor (no temp))	Generic Zigbee Motion Sensor (no temp)		System	8439 282C02BFFFFE6379	<span style="color: green;">OK</span>	7/29/2024 15:44:55	60
<input type="checkbox"/>	Advanced Zigbee CT Bulb	Advanced Zigbee CT Bulb		System	1AE0 840ECFD32AAC0000	<span style="color: green;">OK</span>	8/27/2024 10:40:20	
<input type="checkbox"/>	del (Third Reality Smart Button)	Third Reality Smart Button		System	5A05 282C02BFFFFE38F45	<span style="color: green;">OK</span>	8/06/2024 13:42:54	100
<input type="checkbox"/>	Generic Zigbee Switch	Generic Zigbee Switch		System	4F31 282C02BFFFFE900C0	<span style="color: green;">OK</span>	8/27/2024 10:13:02	

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Hubitat ELEVATE YOUR ENVIRONMENT

Add device

Find by device type  
Bulbs, dimmers, locks, outlets, switches...

Find by brand  
Aeotec, Bosch, Centralite, Dome, Ecolink...

Add device manually:

Zigbee Z-Wave Matter Iris V1 Zigbee

</> Virtual

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Add device

Home - Zigbee Cancel

Make sure that the device has been **factory reset**. Simply removing it from a previous mesh may not allow it to be joined. A factory reset will ensure it is discoverable.

+ Stop Zigbee pairing

Pairing, 90s remaining

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Smart Soil Moisture Sensor

Status attribute for Devices/Rooms  
None

Save Preferences

Device Information

Device Name \* Device  
Device Network Id \* 9528

Device Label Smart Soil Moisture Sensor

Type \* Generic Zigbee Temperature/Humidity Sensor

Zigbee Id A4C138EEDB829E73

Room No room assigned

Event history size, per event type (1-2000)  
11

Hub Mesh enabled

State history size, per attribute (1-2000)  
30

Too many events alert threshold, per hour (100-2000)  
300

Save Device

Advanced

Device Details

When Smart Soil Moisture Sensor humidity is below 40%, turn on Plant Watering System

Basic Rule

When Smart Soil Moisture Sensor humidity is below 40% ... Turn on Plant Watering System

When a ... Choose Humidity Sensors Smart Soil Moisture Sensor Senses that Humidity has fallen below ...

Humidity Sensor Humidity 40

Do this action: Select switches to turn on \* Plant Watering System

Turn on Add Another Action Add Wait Until ... Delete

Add optional restrictions that limit when this rule runs Click to set

Change the Basic Rule Name? Enable Logging Run Actions Show Help Text

Notes

Version 1.0.9 (4/9/2023)

# Pairing With Home Assistant

Device: Zigbee dongle



## Zigbee Home Automation

1. Open the battery cover and install the batteries, press and hold the reset button for 5 seconds and release the hold; The LED light turns blue blinking, indicating it enters pairing mode.
2. In Zigbee Home Automation, go to “Configuration” page, click “integration”.
3. Then click the “Devices” on the Zigbee item, the click “Add Devices”.
4. Pairing completed.
5. Back to “Devices” page to find the sensor added.
6. Click to enter in the control interface to set the sensor.
7. Click “+” belongs to Automation and add trigger and actions.

Home Assistant Settings

1 update

Home Assistant Operating System Update

Home Assistant Operating System 10.3

**Devices & Services** (Integrations, devices, entities and helpers)

Automations & Scenes

Areas & Zones

Add-ons

Dashboards

Voice assistants

Tags

People

System

About

Developer Tools

Settings

Notifications

chenwei

Home Assistant

Integrations

Devices

Entities

Helpers

Search

Discovered

iBeacon

iBeacon Tracker

UPnP

华为路由AX3

UPnP/IGD

CONFIGURE IGNORE

CONFIGURE IGNORE

Configured

Apple TV

Bluetooth

Google Cast

Google Translate text-to-speech

Home Assistant Supervisor

1 DEVICE 1 DEVICE 5 DEVICES 1 ENTITY 10 SERVICES

Matter (BETA)

Mobile App

MQTT

Radio Browser

Raspberry Pi Power Supply Checker

3 DEVICES 1 DEVICE 2 DEVICES 1 ENTRY 1 ENTITY

Shopping List

Sun

Thread

Xiaomi BLE

Zigbee Home Automation

1 ENTITY 1 SERVICE 1 ENTRY 1 DEVICE 9 DEVICES

Developer tools

Settings

Notifications

ham

+ ADD INTEGRATION

Home Assistant Devices

Integrations: Devices Entities Helpers

Search: Search 10 devices

Filters: Group by Sort by Device

Device List:

- Manufacturer: Manufacturer Model Area Integration Battery
- \_\_TZE200\_locansqn TS0601 \_\_TZE200\_locansqn TS0601 - Zigbee Home Automation -
- Silicon Labs EZSP Silicon Labs EZSP - Zigbee Home Automation -
- Third Reality 3RTHS0224Z Third Reality 3RTHS0224Z - Zigbee Home Automation -
- Third Reality 3RTHS0224Z Third Reality 3RTHS0224Z - Zigbee Home Automation -
- Third Reality, Inc 3RDS17BZ Third Reality, Inc 3RDS17BZ - Zigbee Home Automation -
- Third Reality, Inc 3RDS17BZ Third Reality, Inc 3RDS17BZ - Zigbee Home Automation -
- Third Reality, Inc 3RDS17BZ Third Reality, Inc 3RDS17BZ - Zigbee Home Automation -
- Third Reality, Inc 3RSM0147Z Third Reality, Inc 3RSM0147Z - Zigbee Home Automation 50%
- Third Reality, Inc 3RTHS24BZ Third Reality, Inc 3RTHS24BZ Living Room Zigbee Home Automation 100%
- Third Reality, Inc 3RVS01031Z Third Reality, Inc 3RVS01031Z - Zigbee Home Automation 98%

ADD DEVICE

Home Assistant Third Reality, Inc 3RSM0147Z

Device info: 3RSM0147Z by Third Reality, Inc Zigbee info: Zigbee Home Automation RECONFIGURE

Sensors: Humidity 0.0% Temperature 30.7 °C ADD TO DASHBOARD

Logbook: August 27, 2024

- Third Reality, Inc 3RSM0147Z Firmware turned off 9:13:02 AM - 12 minutes ago
- Third Reality, Inc 3RSM0147Z Firmware became unavailable 9:12:52 AM - 12 minutes ago
- Third Reality, Inc 3RSM0147Z Zha Event was fired 9:12:52 AM - 12 minutes ago
- Third Reality, Inc 3RSM0147Z Firmware turned off 9:12:28 AM - 13 minutes ago
- Third Reality, Inc 3RSM0147Z Firmware became unavailable

Configuration: Firmware Up-to-date ADD TO DASHBOARD

Automations: No automations have been added using this device yet. You can add one by clicking the + button above.

Scenes: No scenes have been added using this device yet. You can add one by clicking the + button above.

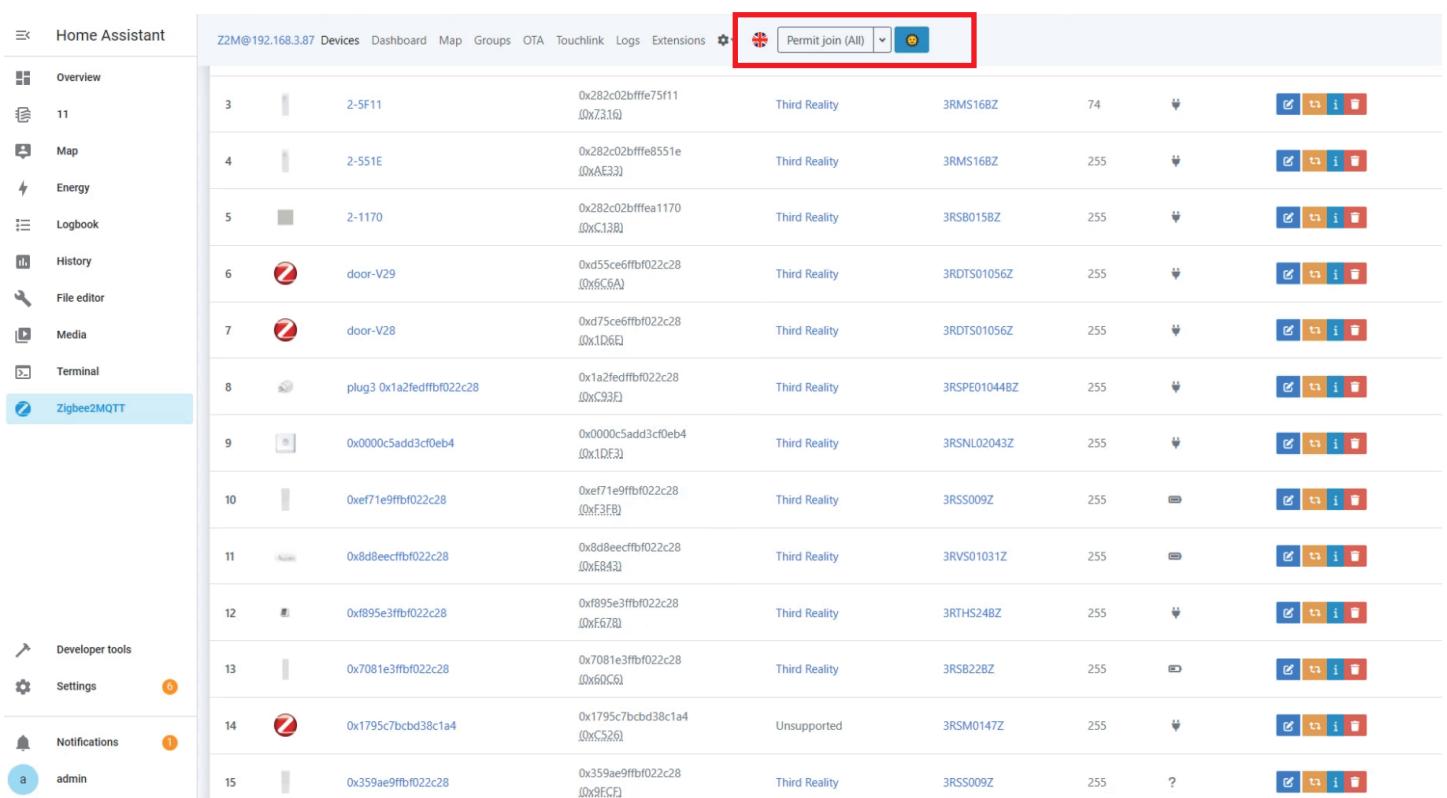
Diagnostic: Battery 50% +2 entities not shown ADD TO DASHBOARD

Scripts: No scripts have been added using this device yet. You can add one by clicking the + button above.

zgbee 50%

# Zigbee2MQTT

1. Open the battery cover and install the batteries, press and hold the reset button for 5 seconds and release the hold; The LED light turns blue blinking, indicating it enters pairing mode.
2. Permit join to start Zigbee pairing in Zigbee2MQTT.
3. Pairing completed, the sensor will be displayed in the device list  
Go to Settings page, create automation.



The screenshot shows the Home Assistant interface with the 'Zigbee2MQTT' tab selected. The main area displays a table of 15 Zigbee devices. The top right of the table has a button labeled 'Permit join (All)'. A red box highlights this button. The table columns include device ID, name, MAC address, manufacturer, model, battery level, and a set of control icons.

3	2-5F11	0x282c02bfff75f11 (0x7316)	Third Reality	3RMS16BZ	74	⚡	
4	2-551E	0x282c02bfff8551e (0x8E33)	Third Reality	3RMS16BZ	255	⚡	
5	2-1170	0x282c02bfff81170 (0xC13B)	Third Reality	3RSB015BZ	255	⚡	
6	door-V29	0xd55ce6ffbf022c28 (0x6C6A)	Third Reality	3RDT01056Z	255	⚡	
7	door-V28	0xd75ce6ffbf022c28 (0x1D6E)	Third Reality	3RDT01056Z	255	⚡	
8	plug3 0x1a2fedffbf022c28	0x1a2fedffbf022c28 (0xC93D)	Third Reality	3RSPE01044BZ	255	⚡	
9	0x0000c5add3cf0eb4	0x0000c5add3cf0eb4 (0x1DE3)	Third Reality	3RSNL02043Z	255	⚡	
10	0xef71e9ffbf022c28	0xef71e9ffbf022c28 (0xF3EB)	Third Reality	3RSS009Z	255	...	
11	0x8d8eecffbf022c28	0x8d8eecffbf022c28 (0xE843)	Third Reality	3RVS01031Z	255	...	
12	0xf895e3ffbf022c28	0xf895e3ffbf022c28 (0xF678)	Third Reality	3RTHS24BZ	255	⚡	
13	0x7081e3ffbf022c28	0x7081e3ffbf022c28 (0x60C6)	Third Reality	3RSB22BZ	255	...	
14	0x1795c7bcd38c1a4	0x1795c7bcd38c1a4 (0x5C26)	Unsupported	3RSM0147Z	255	⚡	
15	0x359ae9ffbf022c28	0x359ae9ffbf022c28 (0x9ECF)	Third Reality	3RSS009Z	255	?	

Z2M@192.168.3.87 Devices Dashboard Map Groups OTA Touchlink Logs Extensions ⚙️ 🇬🇧 Disable join (All) 03:37 🌐								
Overview								
4	2-551E	0x282c02bfff8551e (0xAE33)	Third Reality	3RMS16BZ	255	🔌	    	
5	2-1170	0x282c02bfff81170 (0xC138)	Third Reality	3RSB015BZ	255	🔌	    	
6	door-V29	0xd55ce6ffbf022c28 (0x6C6A)	Third Reality	3RDT501056Z	255	🔌	    	
7	door-V28	0xd75ce6ffbf022c28 (0x1D6E)	Third Reality	3RDT501056Z	255	🔌	    	
8	plug3 0x1a2fedffbf022c28	0x1a2fedffbf022c28 (0xC93F)	Third Reality	3RSPE01044BZ	255	🔌	    	
9	0x0000c5add3cf0eb4	0x0000c5add3cf0eb4 (0x12E3)	Third Reality	3RSNL02043Z	255	🔌	    	
10	0xeff71e9ffbf022c28	0xeff71e9ffbf022c28 (0xF3FB)	Third Reality	3RSS009Z	255	🔌	    	
11	0x8d8eecffbf022c28	0x8d8eecffbf022c28 (0xE843)	Third Reality	3RVS01031Z	255	🔌	    	
12	0xf895e3ffbf022c28	0xf895e3ffbf022c28 (0xF678)	Third Reality	3RTHS24BZ	255	🔌	    	
13	0x7081e3ffbf022c28	0x7081e3ffbf022c28 (0x60C6)	Third Reality	3RSB22BZ	255	🔌	    	
14	door-V29	0x1795c7bcd38c1a4 (0x5C56)	Unsupported	3RSM0147Z	255	🔌	    	
15	0x359ae9ffbf022c28	0x359ae9ffbf022c28 (0x9FCF)	Third Reality	3RSS009Z	255	?	    	
16	0x739e82dbee38c1a4	0x739e82dbee38c1a4 (0x5E78)	Unsupported	3RSM0147Z	N/A	🔌	    	

Z2M@192.168.3.87 Devices Dashboard Map Groups OTA Touchlink Logs Extensions ⚙️ 🇬🇧 Disable join (All) 03:27 🌐								
Overview								
0x739e82dbee38c1a4	▼							
<a href="#">About</a> <a href="#">Exposes</a> <a href="#">Bind</a> <a href="#">Reporting</a> <a href="#">Settings</a> <a href="#">Settings (specific)</a> <a href="#">State</a> <a href="#">Clusters</a> <a href="#">Scene</a> <a href="#">Dev console</a>								
Battery	 50 %							
Temperature	 30.72 °C							
Humidity	 0 %							
Linkquality	140 lqi							

# FCC Regulatory Conformance

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help important announcement.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

## RF Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## Limited Warranty

For limited warranty, please visit [www.3reality.com/devicesupport](http://www.3reality.com/devicesupport).

For customer support, please contact us at [info@3reality.com](mailto:info@3reality.com) or visit [www.3reality.com](http://www.3reality.com).

For help and troubleshooting related to Amazon Alexa, visit the Alexa app.