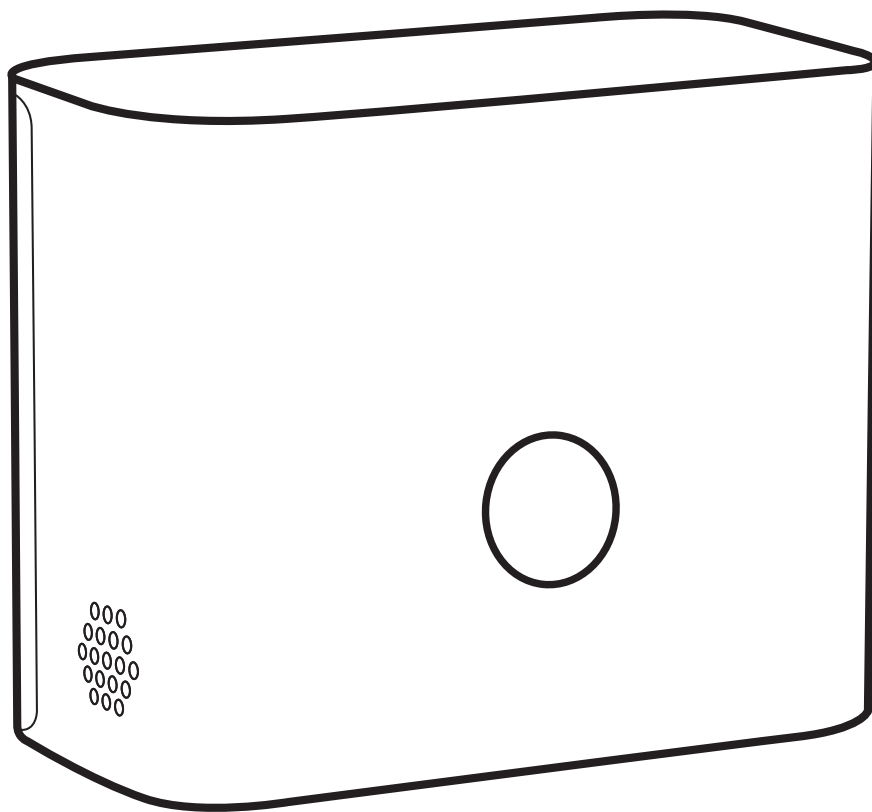


Smart Air Quality Sensor (A10)

User Manual



THIRD REALITY

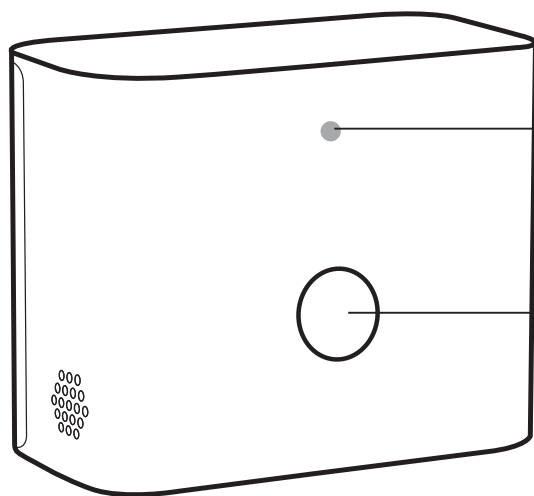
Contents

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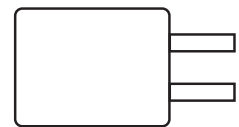
Introduction

The Smart Air Quality Sensor monitors carbon dioxide (CO₂), the VOC Index, temperature, and relative humidity. It provides real-time readings to help you track changes in indoor air conditions.

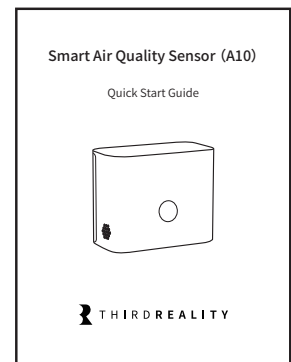
What's in the Box



Smart Air Quality Sensor ×1



Power Adapter ×1



Quick Start Guide ×1

Specifications

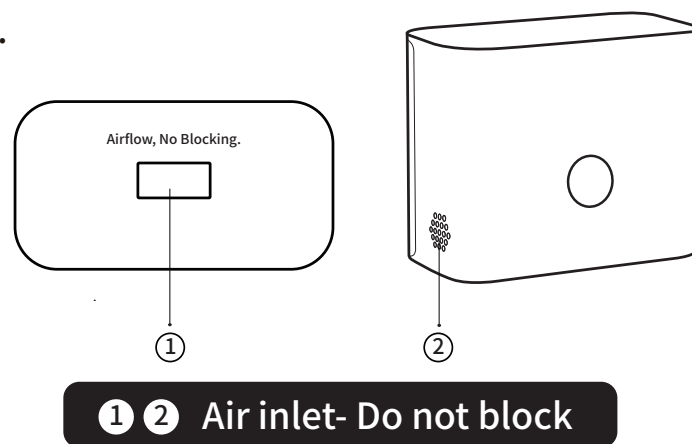
Parameter	Specification
Model Number	3RAQ1096Z
Input	5V DC, 1A
Wireless Connectivity	Zigbee 3.0
Temperature	-10°C to 60°C(14°F to 140°F) Accuracy: $\pm 0.1^{\circ}\text{C}$ ($\pm 0.18^{\circ}\text{F}$)
Humidity	Range: 10% to 100% RH Accuracy: $\pm 1.0\%$ RH
CO ₂	Range: 400 to 5000 ppm Accuracy: $\pm 5\%$
VOC Index	Range: 0 to 500
Recommend Working Condition	5°C ~ 60°C (41°F ~ 140°F) 20% ~ 80% RH

LED Status

LED Indication	Device Status
Red LED flashes rapidly	Pairing mode
Red LED flashes slowly	Device offline
LED is off	Pairing successfully

Installation

1. Select a suitable indoor wall outlet. Avoid locations near open windows, air-conditioning vents, or other sources of airflow that may affect measurement accuracy.
2. Locate the adapter recess on the rear of the sensor.
3. Align the USB Type-A port on the power adapter with the USB Type-A plug on the sensor.
4. Push the power adapter straight onto the USB Type-A plug until the connection is fully seated.
5. With the bottom ventilation openings facing downward, plug the assembled unit into the wall outlet. Make sure the openings remain unobstructed.



Setup

1. Make sure a compatible Zigbee gateway has been set up. Then open the gateway app and power on the Smart Air Quality Sensor.
2. Press and hold the center button for 5 seconds. Release the button when the red LED turns on. The LED then flashes rapidly to indicate pairing mode.
3. Follow the on-screen instructions in the gateway app to complete setup.
4. After setup is complete, the sensor appears automatically in the app.

Understanding the Measurements

VOC Index

The VOC Index reflects relative changes in indoor volatile organic compound (VOC) levels. Higher index values may indicate increased VOC levels and potentially poorer indoor air quality. The following categories are provided for general reference.

VOC Index Range	Air Quality Level
0~100	Good
100~200	Moderate
200~500	Poor

CO₂ Concentration

CO₂ concentration indicates the amount of carbon dioxide in indoor air and provides a general indication of ventilation conditions. A higher reading may indicate insufficient ventilation. The following categories are provided for general reference.

CO ₂ Concentration	Ventilation Status
400~1000 ppm	Good
800~1400 ppm	Moderate
1400~5000 ppm	Poor

Pairing with 3R-Installer App

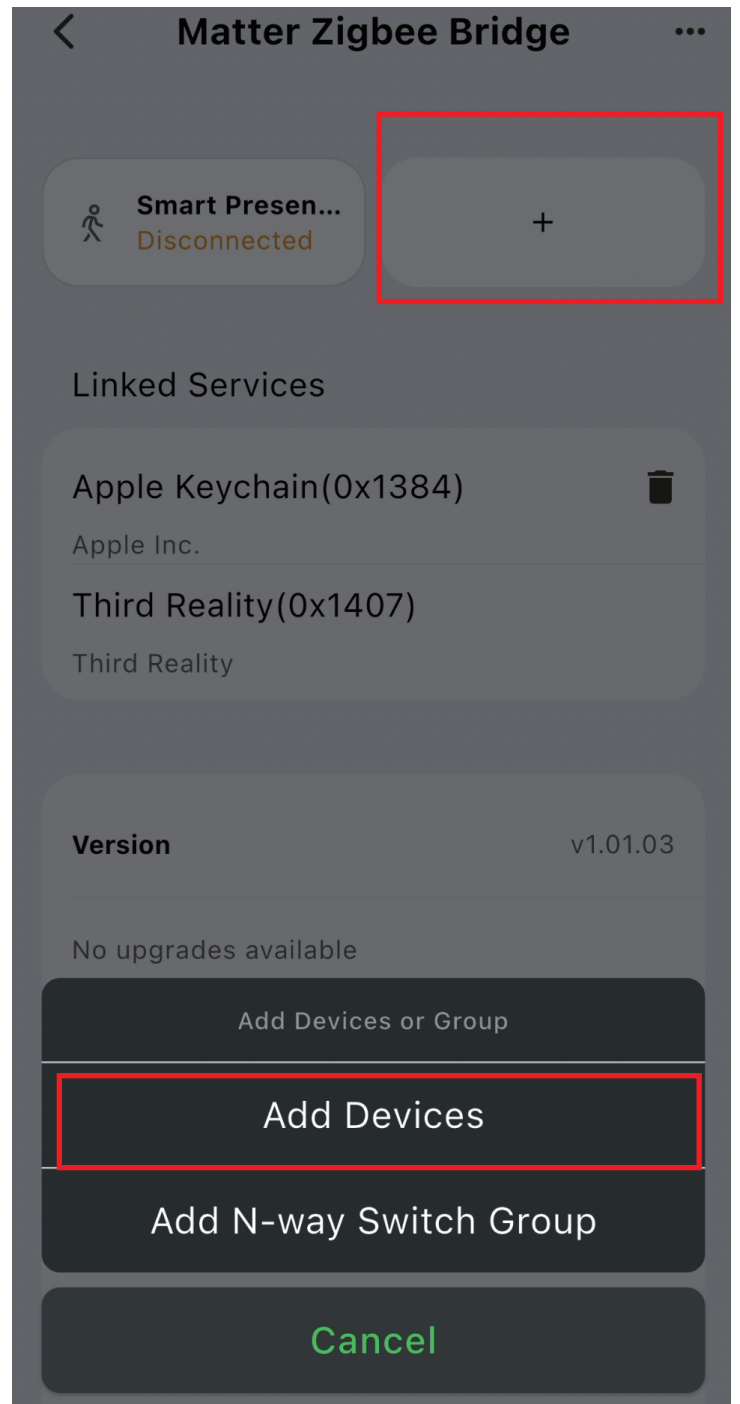
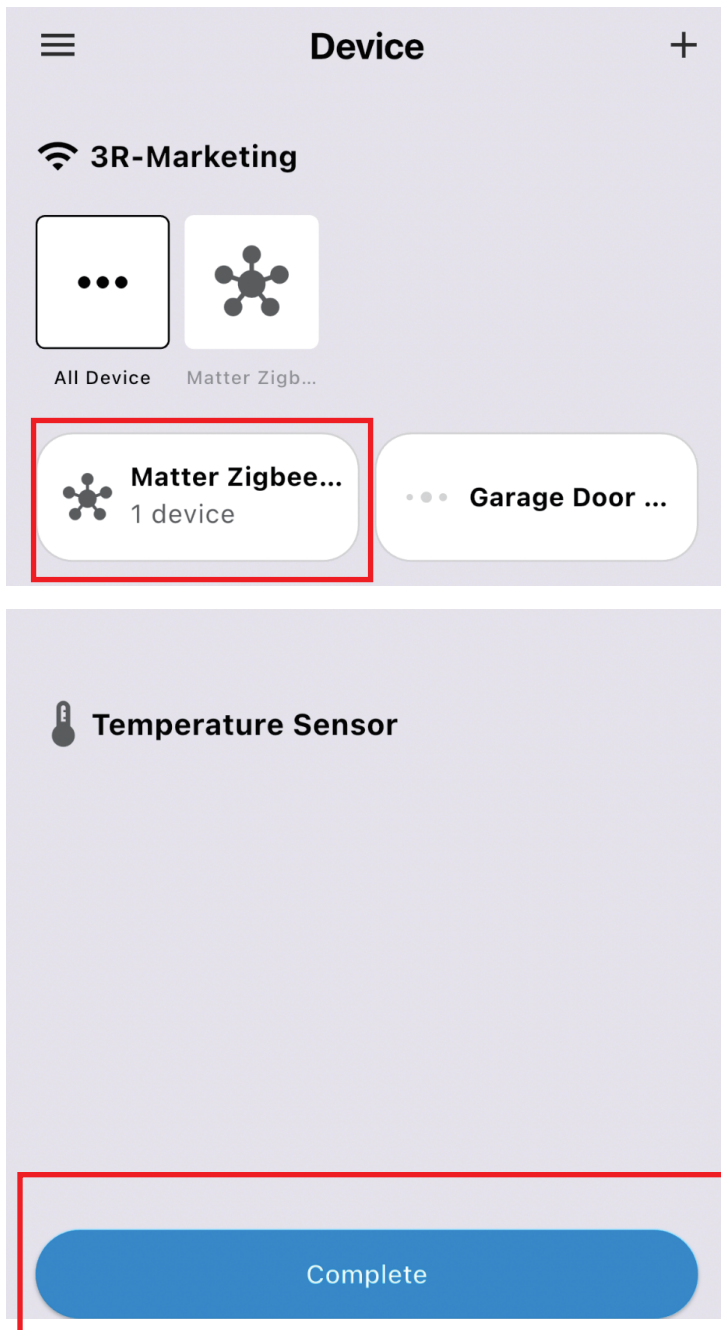
Device: Smart Bridge MZ1

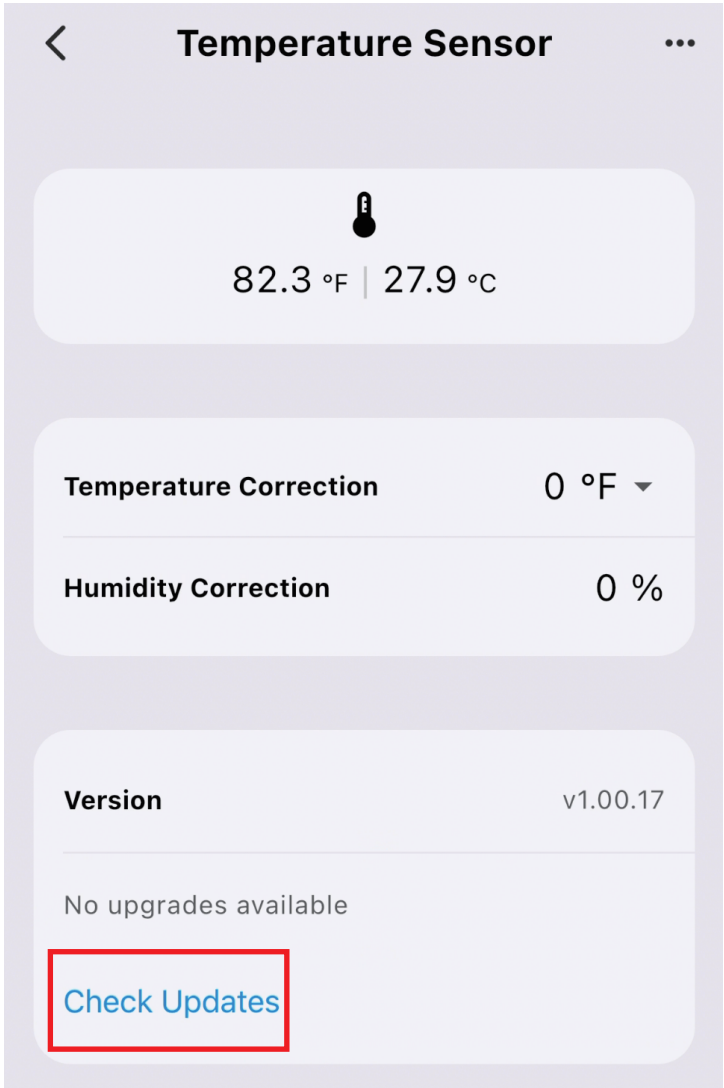
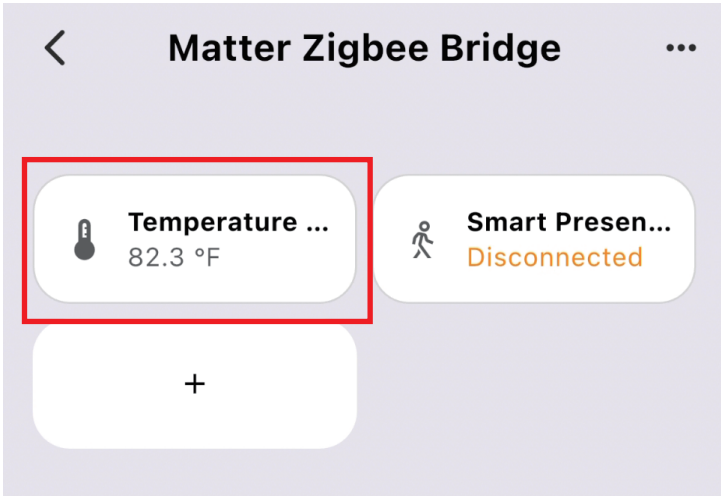
App: 3R-Installer App



Pairing steps:

1. Open 3R-Installer App, Ensure your bridge is already set up within your smart home system.
2. Press and hold the center button for 5 seconds until the red light turns on, then release, the device enters pairing mode.
3. The device will pair with the bridge, and a new device will appear in your smart home app.
4. After the pairing is successful, tap "Complete", then back to main interface.
5. Tap "Smart Air Quality Sensor" icon on device page, you can see the details. Follow the instructions to control the air quality sensor.





Pairing with Amazon Alexa

Compatible Device: Echo V4, Echo Plus V1 & V2,

Echo Studio, Echo Show 10 Gen2 & Gen3

App: Amazon Alexa App



Pairing steps:

1. Make sure the app and the firmware of your Echo devices has been updated to the latest version.
2. Press and hold the center button for 5 seconds until the red light turns on, then release, the device enters pairing mode.
3. Start adding devices by saying "Alexa, discover my devices", or open Alexa App, go to device page, tap "+" on top right, choose "Add Device", then click "other" by sliding down, tap "DISCOVER DEVICES", the sensor will be paired to Alexa within seconds.
4. After the pairing is successful, you can control the device by voice and App.

Supported Measurements:

- Temperature
- Humidity

 **All Devices** 

 **Tina's Echo**
Online

 **Alexa on This Phone**
Online

Add Device
Echo, Smart Home and Accessories

Add Group
Create rooms, device groups and larger areas

Combine speakers
Set up multi-room music, a home cinema or a stereo pair.

 **Smoke and CO Detector**

 **Soap Dispenser**

 **Water Heater**

 **Water Leak Detector**

 **Other** 

 Home  Devices  More

Connect your Zigbee device to Alexa

- 1 Make sure your device is within 30 feet of your [compatible Echo](#) or hub.
- 2 Put your device into pairing mode by powering it off and on again.
- 3 Press Discover Devices

When you discover devices, Alexa may connect additional compatible devices in your home. You can learn about or delete these devices in device settings.

Discover Devices



1 Other temperature sensor found and connected

Your temperature sensor has been added to your Alexa account. Next, we'll help you finish setting up your device.



Living room device is set up and ready to use

Devices

Explore Smart Home features

Groups

Bathroom

Bedroom

Garage

See all

Devices

Device Type

Sort By

Living room device

Recently added

Living room Plug

Device is unresponsive

Living room switch

Ask Alexa

First device

Current temperature

88°F

Humidity

62.27%

Create a Routine

10

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 Smart Air Quality Sensor.
 - Open the following link in a PC browser and log in to your SmartThings account:
<https://bestow-regional.api.smartthings.com/invite/adMKr50EXzj9>
 - On the My Hubs section, find your SmartThings Hub.
 - Click Enroll.
 - After enrollment, click Available Drivers.
 - Find ThirdReality Air Quality Sensor and click Install.
 - When the button changes to Uninstall, the driver has been installed successfully.

Note: If your hub has already been enrolled in this driver channel, you do not need to enroll it again. Please go to Available Drivers and make sure the ThirdReality Air Quality Sensor driver is installed.



SmartThings

Channel Information

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

My Hubs

Aeotec Hub

My home

Enroll



SmartThings

Channel Information

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

My Hubs

Aeotec Hub

My home

Unenroll

Available Drivers

- Name
ThirdReality Air Quality Sensor
- Description
SmartThings driver for ThirdReality Air Quality Sensor (3RAQ1096Z)
- Permissions
 - zigbee: Enable full access to Zigbee actions

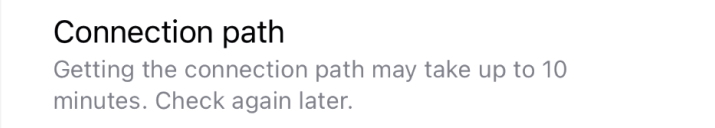
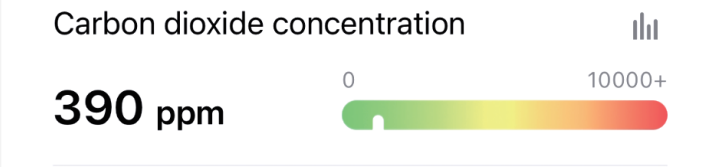
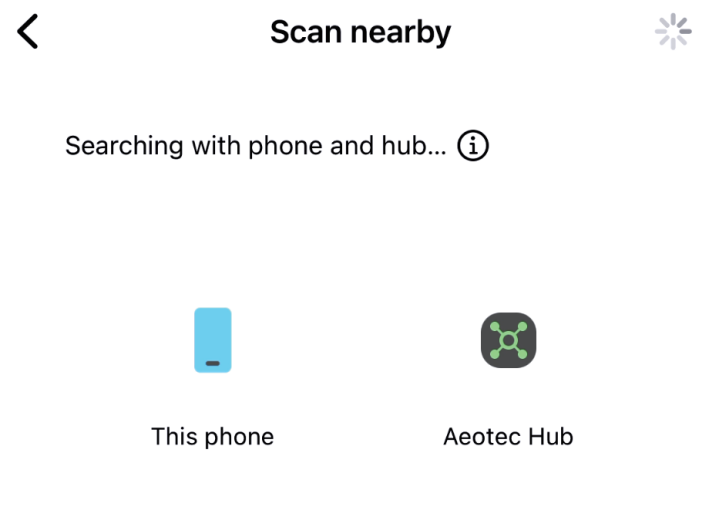
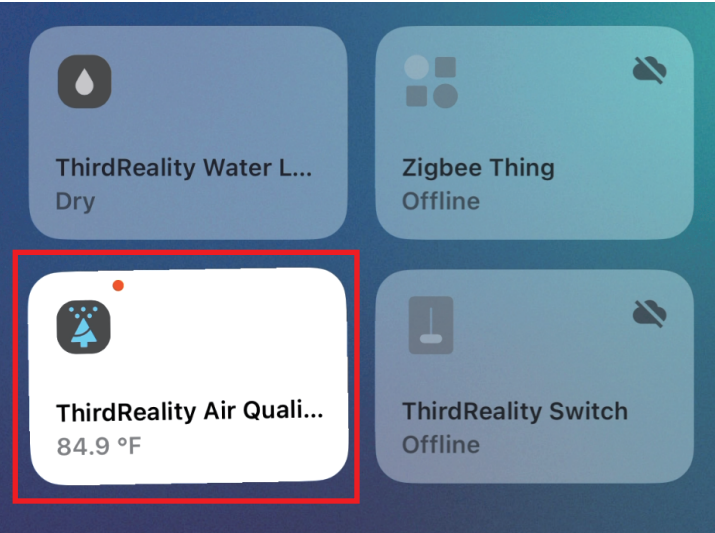
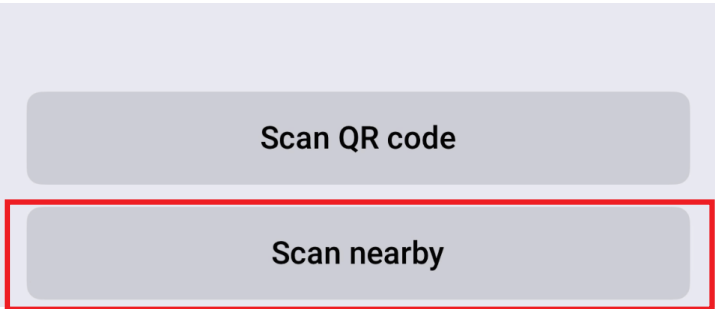
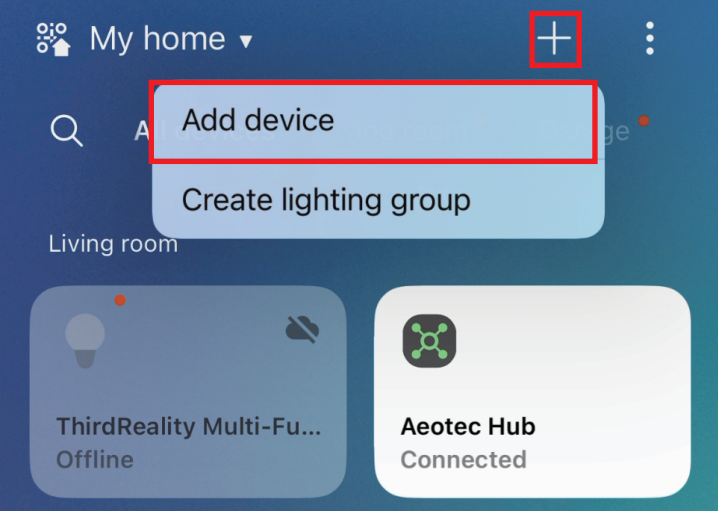
Install

3. Press and hold the center button for 5 seconds until the red light turns on, then release, the device enters pairing mode.
4. Open your SmartThings App, tap “+” on the top right corner to “Add device” and then tap “Scan nearby”.
5. After the pairing is completed, the device will beep once, then the device will be added to your SmartThings hub in a few seconds.
6. Create routines to control connected devices.

Supported Measurements:

- Temperature
- Humidity
- VOC Index
- CO₂
- Air Quality Level

Note: The sensor measures and reports VOC Index values only. For platform compatibility, SmartThings may display this data under the label “TVOC Index.” This is only a naming difference—the displayed value remains the original VOC Index reading, and measurement accuracy is not affected.



Pairing With Home Assistant

Device: Zigbee dongle

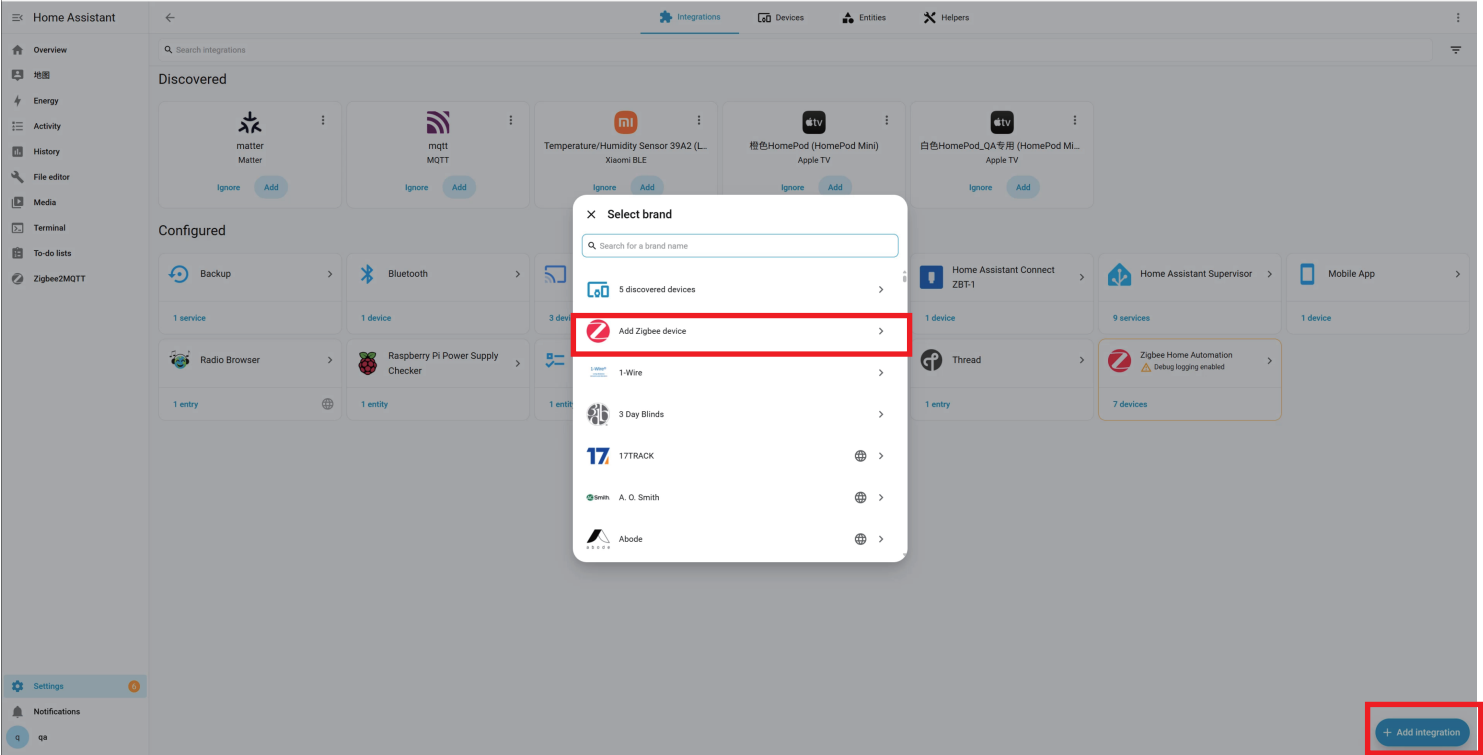
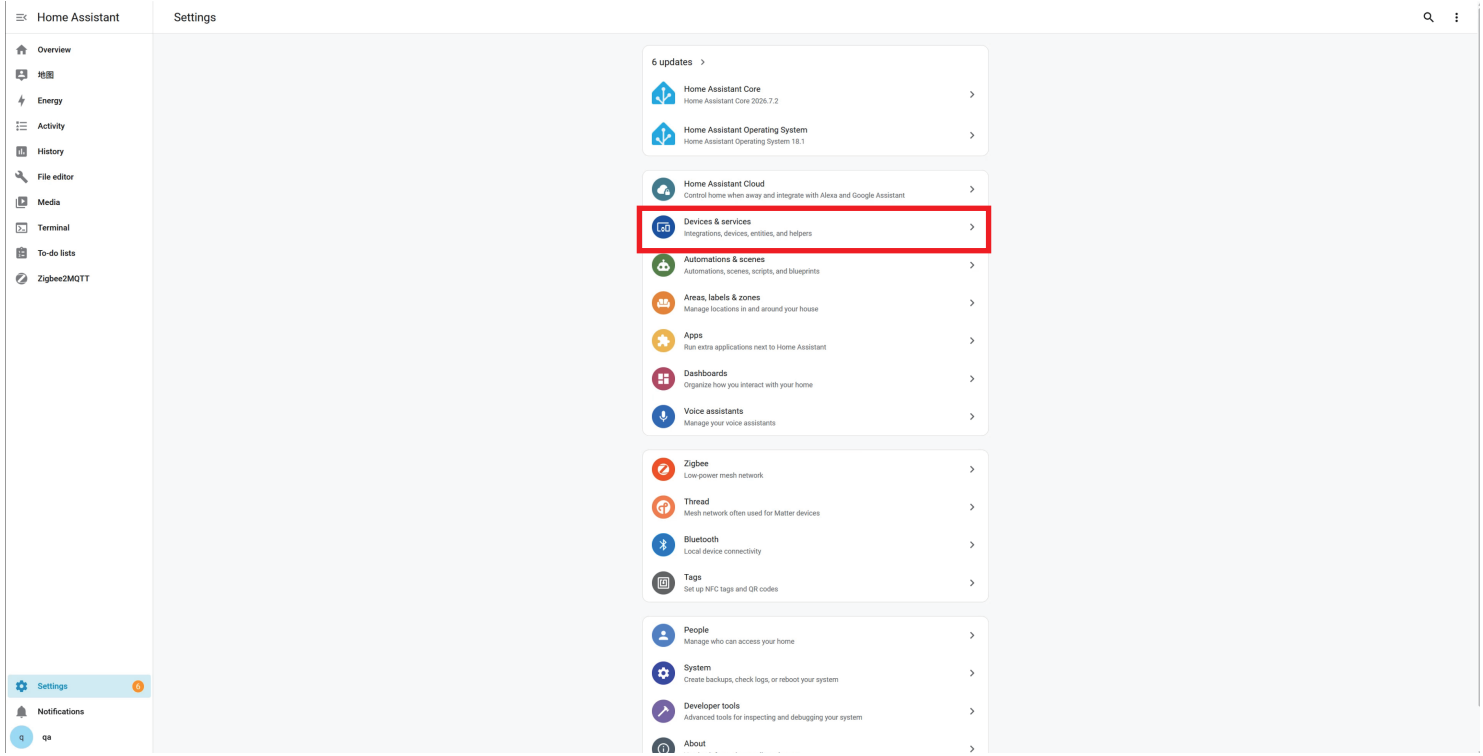


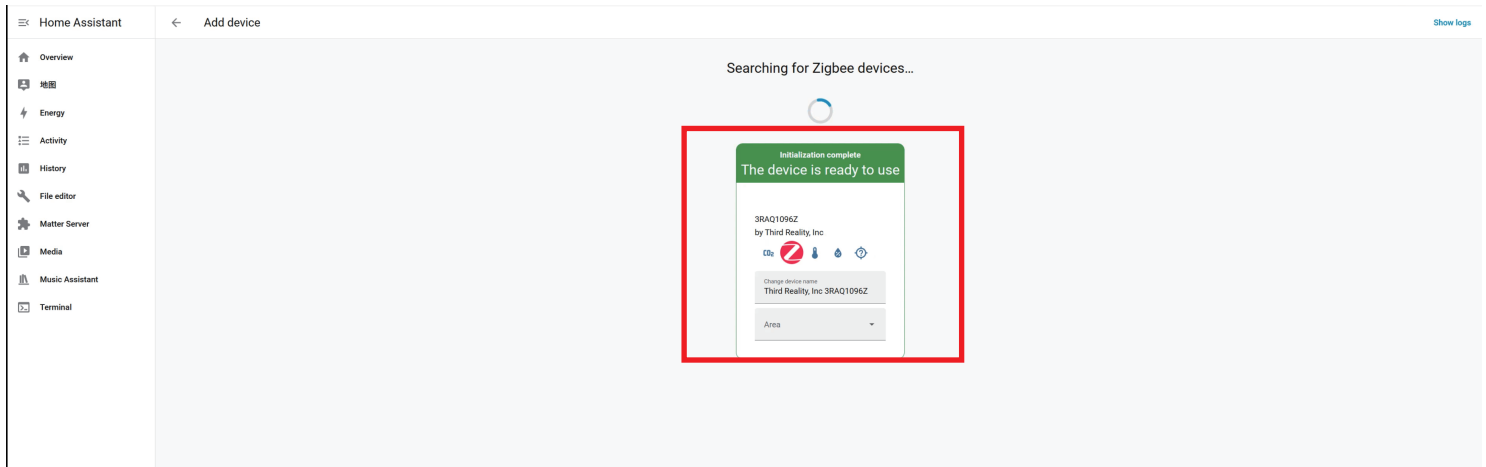
Zigbee Home Automation

1. Press and hold the center button for 5 seconds until the red light turns on, then release, the device enters pairing mode.
2. In Zigbee Home Automation, go to “Settings” page, click “Devices & Services”. Then click the “Add integration” on the “Integrations” page, click “Add Zigbee Device”.
3. After the pairing is successful, it will be shown as "Third Reality, Inc 3RAQ1096Z" on the page.
4. Back to "Devices & Services" page, click the device list under the "Hub Smart Home Controller" button, then you can find the Smart Air Quality Sensor added before. Click to enter in the control interface to operate the Smart Air Quality Sensor.
5. You can add "Automated Actions" and check device status on the "Device" page.

Supported Measurements:

- Temperature
- Humidity
- CO2





Device	Area	Integration	Manufacturer	Model	Battery
SONOFF ZBDongle-E		Zigbee Home Automation	SONOFF	ZBDongle-E	-
Third Reality, Inc 3RAQ1096Z		Zigbee Home Automation	Third Reality, Inc	3RAQ1096Z	-
Third Reality, Inc 3RDS178Z		Zigbee Home Automation	Third Reality, Inc	3RDS178Z	-
Third Reality, Inc 3RMS26Z	zhai	Zigbee Home Automation	Third Reality, Inc	3RMS26Z	-
Third Reality, Inc 3RSPQ2064Z	zhai	Zigbee Home Automation	Third Reality, Inc	3RSPQ2064Z	-
Third Reality, Inc 3RSS009Z		Zigbee Home Automation	Third Reality, Inc	3RSS009Z	-
Third Reality, Inc 3RV301031Z	zhai	Zigbee Home Automation	Third Reality, Inc	3RV301031Z	100%
Third Reality, Inc 3RW50218Z		Zigbee Home Automation	Third Reality, Inc	3RW50218Z	-

Device info

3RAQ1096Z
by Third Reality, Inc
Connected via [SONOFF ZBDongle-E](#)
Firmware: 0x00000011
Zigbee: 4C:E1:75:B6-1A:3F:00:00

Zigbee info

Zigbee Home Automation

Reconfigure

Sensors

CO2 397 ppm

Humidity 55.12%

Temperature 29.6 °C

Add to dashboard

Configuration

Firmware Up-to-date

Add to dashboard

Diagnostic

Confirm Press

+2 disabled entities

Add to dashboard

Automations

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

Scenes

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

Scripts

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

Activity

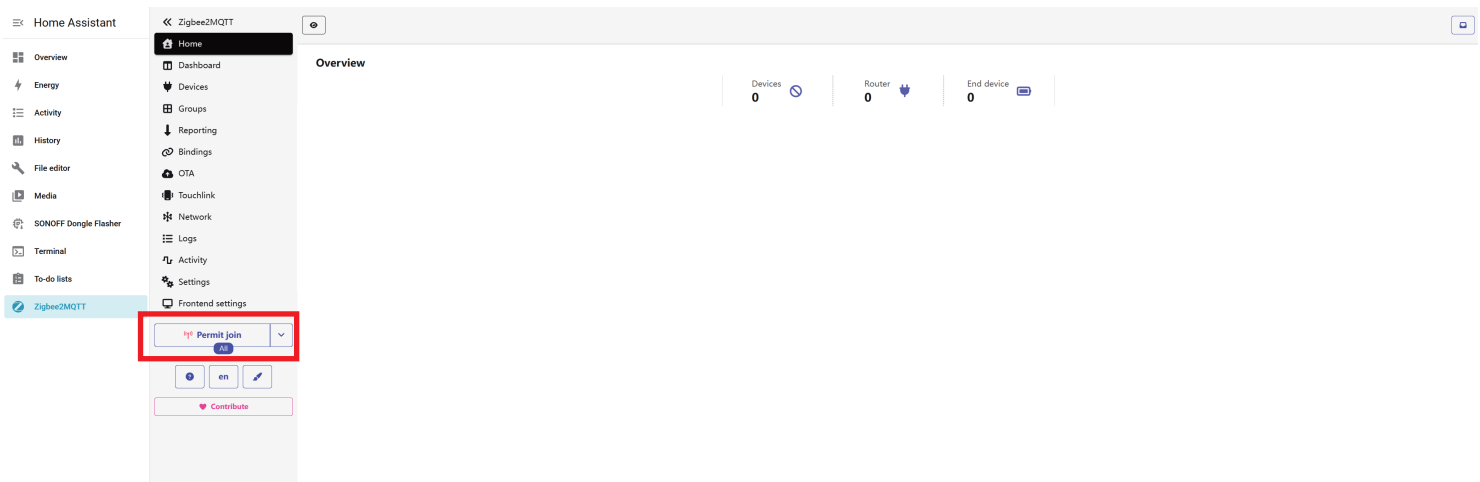
No activity found.

Zigbee2MQTT

1. Press and hold the center button for 5 seconds until the red light turns on, then release, the device enters pairing mode.
2. Permit join to start Zigbee pairing in Zigbee2MQTT.
3. Pairing completed, the device will be displayed in the device list.
Go to Settings page, create automation.

Supported Measurements:

- Temperature
- Humidity
- VOC Index
- CO2



Home Assistant

Overview

Energy

Activity

History

File editor

Media

SONOFF Dongle Flasher

Terminal

To-do lists

Zigbee2MQTT

<< Zigbee2MQTT

Home

Dashboard

Devices

Groups

Reporting

Bindings

OTA

Touchlink

Network

Logs

Activity

Settings

Frontend settings

Permit join

en

Contribute

Overview

Devices1

Router0

End device1

Recent activity

0x4ce175b61a3f0000

Smart air quality sensor

57

0x4ce175b61a3f0000

linkquality: 51 → 57, voc_index: 100 → 105

2026/8/5 13:43:06

0x4ce175b61a3f0000

linkquality: 57 → 51, voc_index: 100 → 103

2026/8/5 13:42:36

0x4ce175b61a3f0000

update.state: null → idle

2026/8/5 13:42:16

0x4ce175b61a3f0000

humidity: 53.2 → 54.21, linkquality: 51 → 57

2026/8/5 13:42:16

0x4ce175b61a3f0000

linkquality: 63 → 51, voc_index: 95 → 100

2026/8/5 13:42:06

0x4ce175b61a3f0000

linkquality: 69 → 63, voc_index: 92 → 95

2026/8/5 13:41:36

0x4ce175b61a3f0000

voc_index: 80 → 92

2026/8/5 13:41:26

0x4ce175b61a3f0000

voc_index: 70 → 80

2026/8/5 13:41:07

0x4ce175b61a3f0000

linkquality: 63 → 69, voc_index: 56 → 70

2026/8/5 13:40:56

0x4ce175b61a3f0000

voc_index: 34 → 56

2026/8/5 13:40:46

Home Assistant

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Settings

Frontend settings

Permit join

en

Contribute

0x4ce175b61a3f0000

About

Exposes

Bind

Reporting

Settings

Settings (specific)

State

Clusters

Groups

Scene

Dev console

Docs

0x4ce175b61a3f0000

Supported nature

Interview state: Interviewed

Edit description

Type

EndDevice

DC Source

IEEE Address

0x4ce175b61a3f0000

OUI: ?

Network address

0xe793

Network address in decimal format: 59283

Zigbee Model

3RAQ1096Z

Third Reality, Inc

Definition (Zigbee2MQTT)

3RAQ1096Z

Smart air quality sensor

Third Reality

Firmware ID

v1.00.17

20260328-3R

Firmware version

-1

Availability: Disabled

Last seen

Disabled

Availability: Disabled

Recent activity

linkquality: 57 → 51, voc_index: 100 → 103

2026/8/5 13:42:36

MQTT

zigbee2mqtt/0x4ce175b61a3f0000

Report problem

Home Assistant

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SONOFF Dongle Flasher

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en

Contribute

0x4ce175b61a3f0000

About

Exposes

Bind

Reporting

Settings

Settings (specific)

State

Clusters

Groups

Scene

Dev console

Docs

Temperature

Measured temperature value

29.73 °C

Humidity

Measured relative humidity

53.2 %

CO2

Measured value

390 ppm

Voc index

Measured VOC index

95 VOC index points

Link quality

Link quality (signal strength)

63 lg

Pairing with Homey

Device: Zigbee dongle



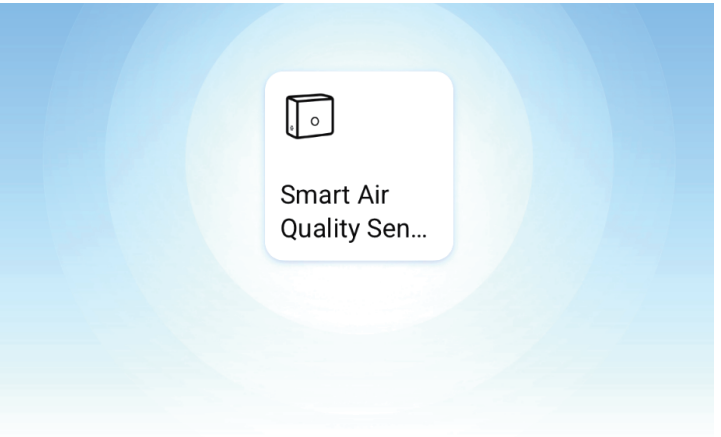
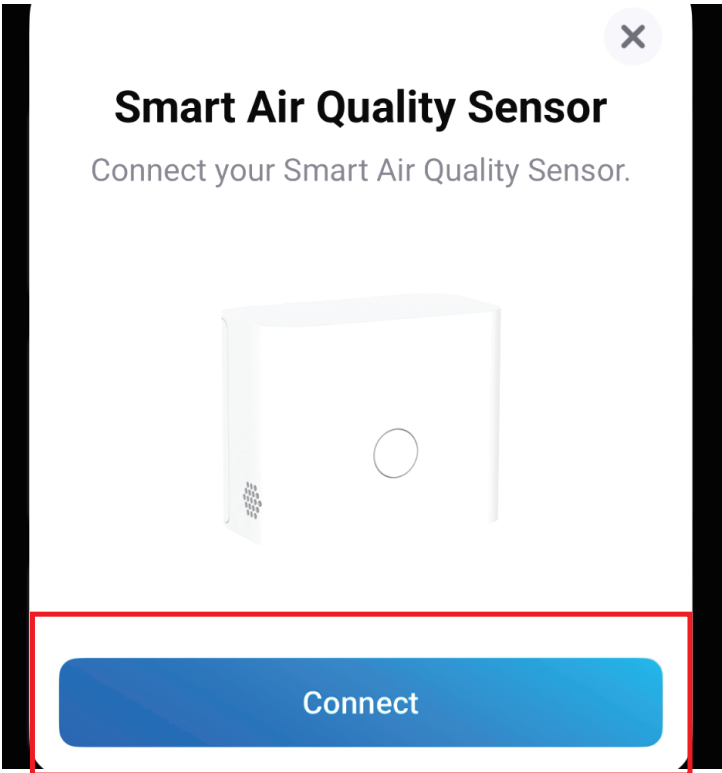
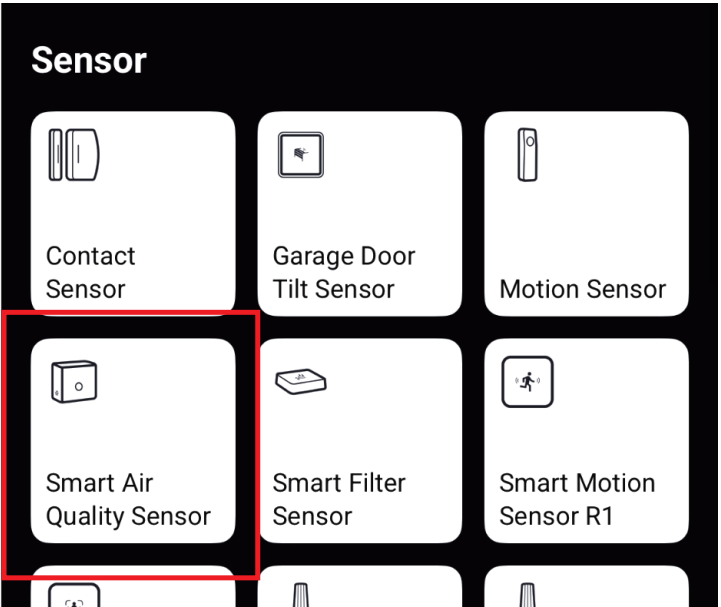
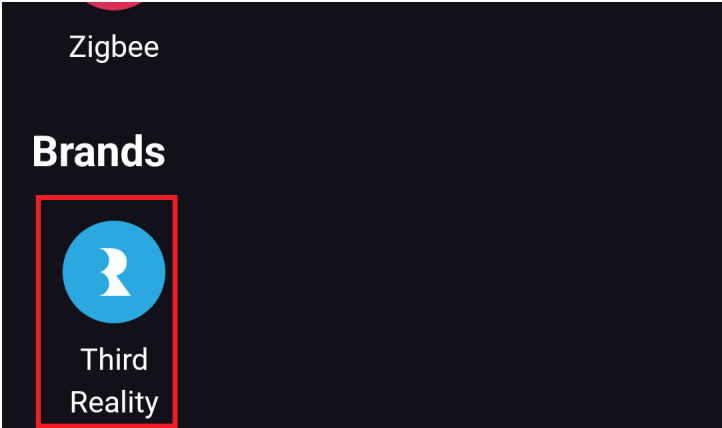
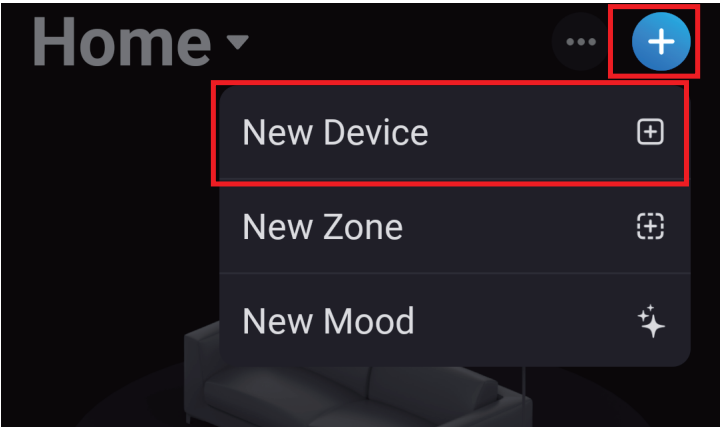
Pairing steps:

1. Install the Third Reality App in your Homey App.
2. Press and hold the center button for 5 seconds until the red light turns on, then release, the device enters pairing mode.
3. Tap "+" in the Devices, tap → "New Device" → "Third Reality" → "Smart Air Quality Sensor" → "Connect" and follow the instruction to add device.
4. After the pairing is successful, you can set different controls for each button and create routines on the "Device" page.

Supported Measurements:

- Temperature
- Humidity
- VOC Index
- CO2

Note: The sensor measures and reports VOC Index values only. For platform compatibility, Homey may display this data under the label “TVOC Index.” This is only a naming difference—the displayed value remains the original VOC Index reading, and measurement accuracy is not affected.



Choose a Zone

Where is this device located?



Smart Air
Quality Sensor
86 °F

Home

Bathroom

Kitchen

Living Room

Master Bedroom



Kitchen ▾



Climate

86.0° | 55%

Devices



Smart Air
Quality Sensor
86 °F



Smart Air Quality Sensor



0
TVOC index



390 ppm
CO₂



55.4 %
Humidity



86 °F
Temperature



Troubleshooting

1. **Why can't the device enter pairing mode or pair successfully?**
 - Make sure the device is in pairing mode (the red LED is flashing quickly). If the device does not enter pairing mode, restore it to factory settings first.
 - Pairing mode will automatically time out if the device is not paired within 3 minutes. To re-enter pairing mode, press and hold the center button for 5 seconds until the red light turns on, then release it.
 - Make sure the gateway is online and the Zigbee network is working properly.
 - This device only supports 2.4GHz Wi-Fi. Please make sure your device is connected to a 2.4GHz network before pairing.
 - Place the device within 10 meters of the gateway and ensure there are no obstacles between them.

2. **Will data be lost if the device goes offline?**

No. The device stores the latest 100 data records locally and will automatically upload the stored data once the network connection is restored. Device settings will remain unchanged after a power restart.

3. **Does the CO₂ sensor require calibration?**

Under normal conditions, no manual calibration is required. The CO₂ sensor uses an automatic calibration algorithm to maintain measurement accuracy. For first-time use, it is recommended to place the device in a well-ventilated environment and allow it to run for more than 30 minutes for sensor warm-up and stabilization.

4. **Why does the VOC Index seem inaccurate at first?**

This is normal. The sensor requires approximately 24 hours to learn the environment and establish a baseline. During this initial period, the VOC Index may fluctuate or be less accurate. It will gradually stabilize after the baseline learning process is completed.

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.

Support and Warranty

For limited warranty information, visit:

<https://thirdreality.com/faq-help-center/>

For customer support, contact us at:

support@thirdreality.com

For questions about other platforms, refer to the support resources provided by the applicable platform.