

# SONOFF\_ZBDongle-E\_User Guide



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## Product User Guide - For advanced users

### 1. Product Information

#### 1.1 Overview

<b>Product Name</b>	SONOFF Zigbee 3.0 USB Dongle Plus V2
<b>Product Model</b>	ZBDongle-E

#### 1.2 Introduction

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**SONOFF Zigbee 3.0 USB Dongle Plus V2** is a universal Zigbee USB coordinator, model “**ZBDongle-E**” . It can be used as a Zigbee gateway in Home Assistant, openHAB, Zigbee2MQTT, or other open-source platforms to control all your Zigbee devices locally.

Additionally, it supports easy firmware flashing using the official Dongle Quick Flasher, allowing it to function as a Zigbee router for network extension, a Thread coordinator with OpenThread RCP firmware, or even a MultiPAN coordinator for multi-protocol support.

#### 1.2.1 Appearance Display

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### 1.2.2 Packing List

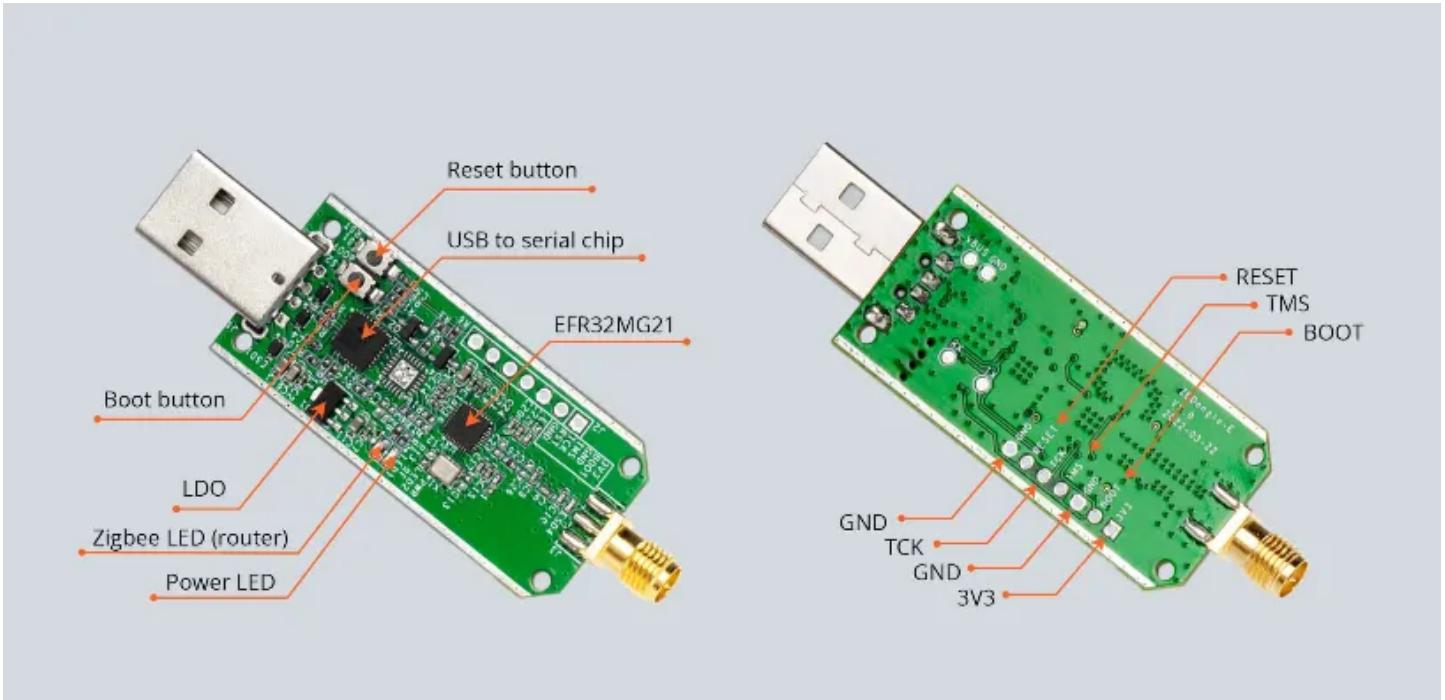
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- ZBDongle-E
- Gain antenna \* 1
- Quick guide \* 1
- Packaging box \* 1



## 1.3 Hardware Specification

Name	Description
Zigbee SoC	EFR32MG21 ARM® Cortex®-M33
USB-Serial Chip	CP2102(N)
Input	DC 5.0 V
Stand-by power consumption	60 mW
Signal range	135 m in free line of sight
Signal Strength	Max 20 dB + antenna gain 2 dB
RF Frequency	2.4 GHz
RF Standard	IEEE 820.15.4 / Zigbee 3.0
Working Temperature	-10 °C to 40 °C
Working Humidity	5%-95%RH
Supported OS	Windows, Ubuntu, Raspberry Pi OS / Raspbian, Docker
Dimensions	75 mm × 25.5 mm × 13.5 mm



## 1.4 Compatibility

### 1.4.1 Compatible Open-Source Platforms

Open-Source Platform	Supported
Home Assistant	✓
Zigbee2MQTT	✓
OpenHab	✓
ioBroke	✓
homeseer	✓
Domoticz	✓
Jeemom	✓

# Work With Most Popular Smart Home Systems

Works with popular home automation systems such as Home Assistant, ioBroker, Zigbee2MQTT, openHAB, Domoticz, Jeedom, etc



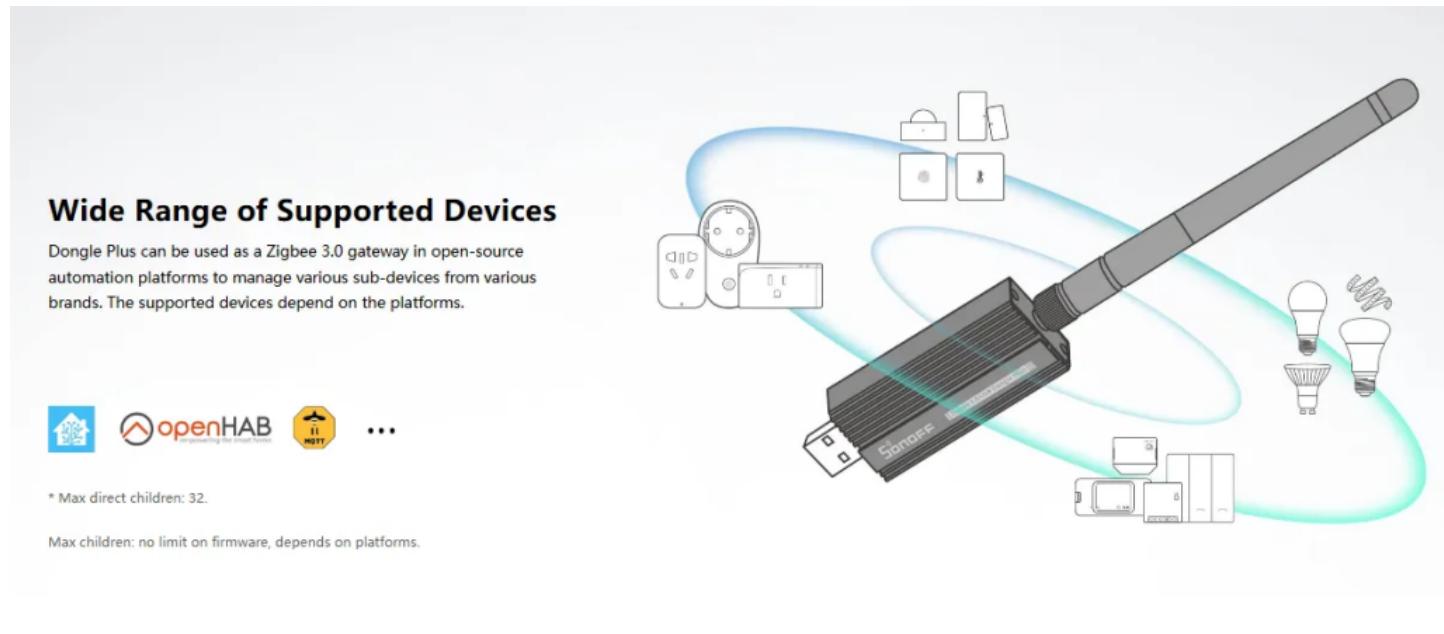
## 1.4.2 Compatible Devices

In theory, all Zigbee 3.0 devices are supported, including various lights, switches, and sensors from brands such as Philips Hue, IKEA Tradfri, Xiaomi Aqara, Ledvance Smart, Silvercrest, Schneider Electric, Nous, and SONOFF.

Actual device compatibility depends on the supported device list of each platform.

1. ZHA: <https://www.home-assistant.io/integrations/zha>
2. Zigbee2MQTT: <https://www.zigbee2mqtt.io/supported-devices/>
3. ioBroker: <https://github.com/Jey-Cee/ioBroker.deconz>
4. Domoticz: <https://github.com/Smanar/Domoticz-deCONZ>
5. Openhab: <https://www.openhab.org/addons/bindings/deconz/>
6. Jeedom: <https://compatibility.jeedom.com/index.php?v=d&p=home&protocol=Zigbee>

For more information on supported devices, please refer to: <https://zigbee.blakadder.com/>



## 2. Getting Started



## 2.1 Overview

This article serves as a quick-start guide for the SONOFF Dongle, covering topics such as connecting to operating systems, integrating with open-source platforms, and firmware updates.

## 2.2 Step 1: Connecting to the Operating System

Operating System	Plug & Play
Windows	No. Driver installation required
Linux/Ubuntu	Yes
Raspberry Pi OS	Yes
Mac OS	No. Driver installation required
Virtual Machine	It depends on the host where the virtual machine is deployed

Please connect the device to the USB port of the host, and install the appropriate driver according to the host operating system.

**Note:** This tutorial is compatible with the SONOFF ZBDongle-E



## 2.2.1 Connecting to Windows

### 2.1.1.1 Step 1: Install Driver

- Install the CP210x Driver: [CP210x\\_VCP\\_Windows](#)
- Or you can download and install the driver via the official Silicon Labs website: [Silicon Labs CP210x Driver Download](#)

#### Download and Install VCP Drivers

Downloads for Windows, Macintosh, Linux and Android below.

\*Note: The Linux 3.x.x and 4.x.x version of the driver is maintained in the current Linux 3.x.x and 4.x.x tree at [www.kernel.org](#).

#### Software Downloads

Software (11)

#### Software · 11

<a href="#">CP210x Universal Windows Driver</a>	v11.4.0 12/18/2024
<a href="#">CP210x VCP Mac OSX Driver</a>	v6.0.2 10/27/2021
<a href="#">CP210x VCP Windows</a>	v6.7 9/4/2020
<a href="#">CP210x Windows Drivers</a>	v6.7.6 9/4/2020
<a href="#">CP210x Windows Drivers with Serial Enumerator</a>	v6.7.6 9/4/2020

[Show 6 more Software](#)

#### Legacy OS Software Versions

Driver Package download links and support information

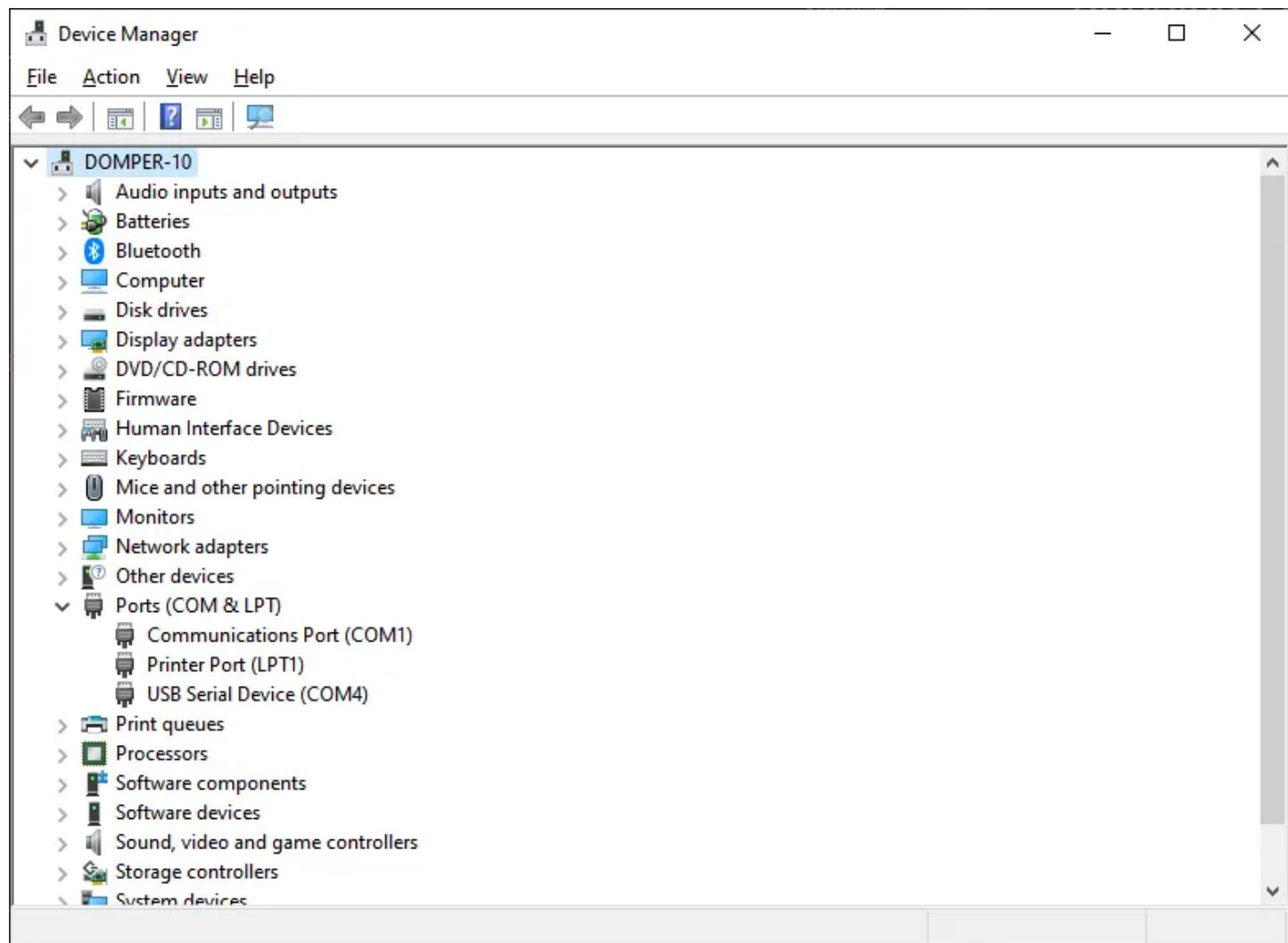
#### Serial Enumeration Driver

What is the serial enumeration driver and why would I need it?

Note: Products purchased before 2024 use the CH9102 serial chip. Normally, the driver is pre-installed in the operating system. If the device is not recognized, please download and install the driver manually:[CH343SER](#)

### 2.1.1.2 Step 2: Confirm that the device is recognised

After the driver is successfully installed, open Device Manager and expand Ports (COM & LPT). The corresponding USB device will be recognized.



As shown above, the serial port for the device is: COM4

### 2.2.2 Connecting to Linux

Most recent versions of Ubuntu or other Linux distributions already include the CP210x driver by default, so no additional installation is required.

After connecting the ZBDongle device, you can check if it was recognized by entering the following command in the terminal:

代码块

```
1 $ sudo dmesg
```

```
2 ...
3 [ 534.580638] usb 3-8: new full-speed USB device number 2 using xhci_hcd
4 [ 534.708589] usb 3-8: New USB device found, idVendor=10c4, idProduct=ea60,
bcdDevice= 1.00
5 [ 534.708604] usb 3-8: New USB device strings: Mfr=1, Product=2,
SerialNumber=3
6 [ 534.708611] usb 3-8: Product: Sonoff Zigbee 3.0 USB Dongle Plus V2
7 [ 534.708616] usb 3-8: Manufacturer: Itead
8 [ 534.708620] usb 3-8: SerialNumber: 76536147c914ef11950378b8bf9df066
9 [ 534.736381] usbcore: registered new interface driver usbserial_generic
10 [ 534.736392] usbserial: USB Serial support registered for generic
11 [ 534.739907] usbcore: registered new interface driver cp210x
12 [ 534.739925] usbserial: USB Serial support registered for cp210x
13 [ 534.739948] cp210x 3-8:1.0: cp210x converter detected
14 [ 534.741643] usb 3-8: cp210x converter now attached to ttyUSB0
```

## Checking the Serial Port Path

To obtain the serial port path of the connected device, use the following command:

代码块

```
1 ls -l /dev/serial/by-id
```

Example output:

代码块

```
1 coolkit@coolkit-All-Series:~$ ls -l /dev/serial/by-id
2 total 0
3 lrwxrwxrwx 1 root root 13 3月 31 18:09 usb-
Itead_Sonoff_Zigbee_3.0_USB_Dongle_Plus_V2_76536147c914ef11950378b8bf9df066-
if00-port0 -> ../../ttyUSB0
```

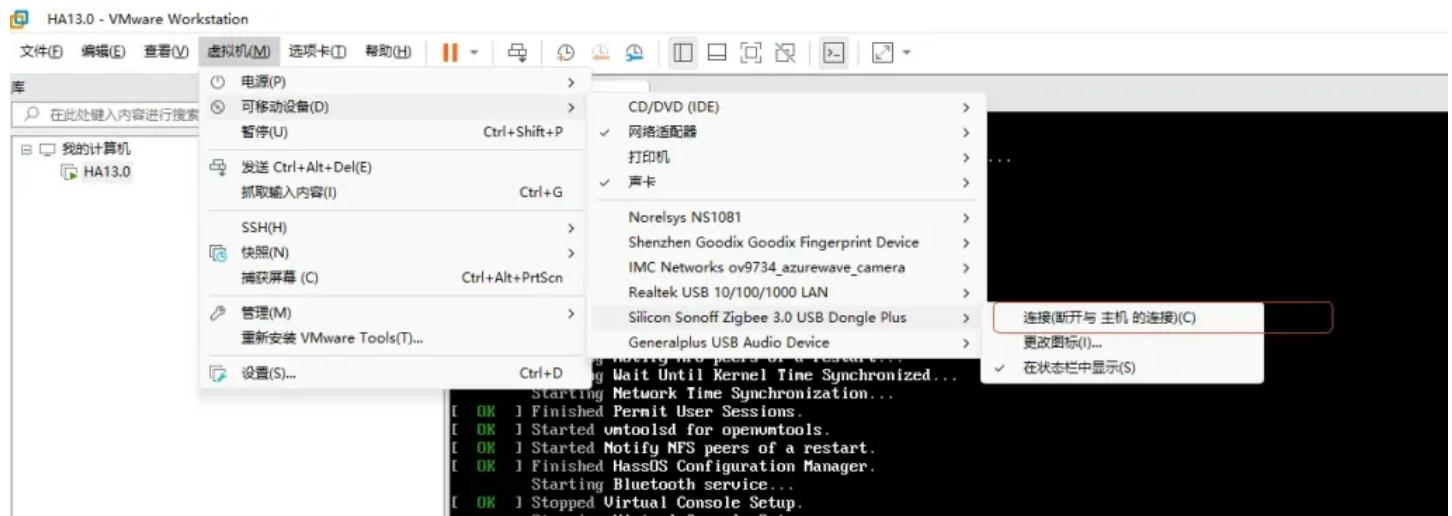
The corresponding serial port path is:

代码块

```
1 /dev/ttyUSB0
```

## 2.2.3 Connecting to Virtual Machine

If Home Assistant is running on a virtual machine, in addition to installing the appropriate driver for the operating system, make sure to connect the device to the virtual machine. VMware is used as an example here.



## 2.2.4 Connecting to macOS

### 2.2.4.1 Step 1: Install Driver

Install the CP20x driver: [Mac OSX VCP Driver](#)

or download from: [Silicon Labs CP210x Driver Download](#)

OVERVIEW DOWNLOADS TECH DOCS COMMUNITY & SUPPORT

### Download and Install VCP Drivers

Downloads for Windows, Macintosh, Linux and Android below.

\*Note: The Linux 3.x.x and 4.x.x version of the driver is maintained in the current Linux 3.x.x and 4.x.x tree at [www.kernel.org](#).

### Software Downloads

Software (11)

Software · 11

Driver	Version	Release Date
CP210x Universal Windows Driver	v11.4.0	12/18/2024
CP210x VCP Mac OSX Driver	v6.0.2	10/27/2021
CP210x VCP Windows	v6.7	9/4/2020
CP210x Windows Drivers	v6.7.6	9/4/2020
CP210x Windows Drivers with Serial Enumerator	v6.7.6	9/4/2020

Show 6 more Software

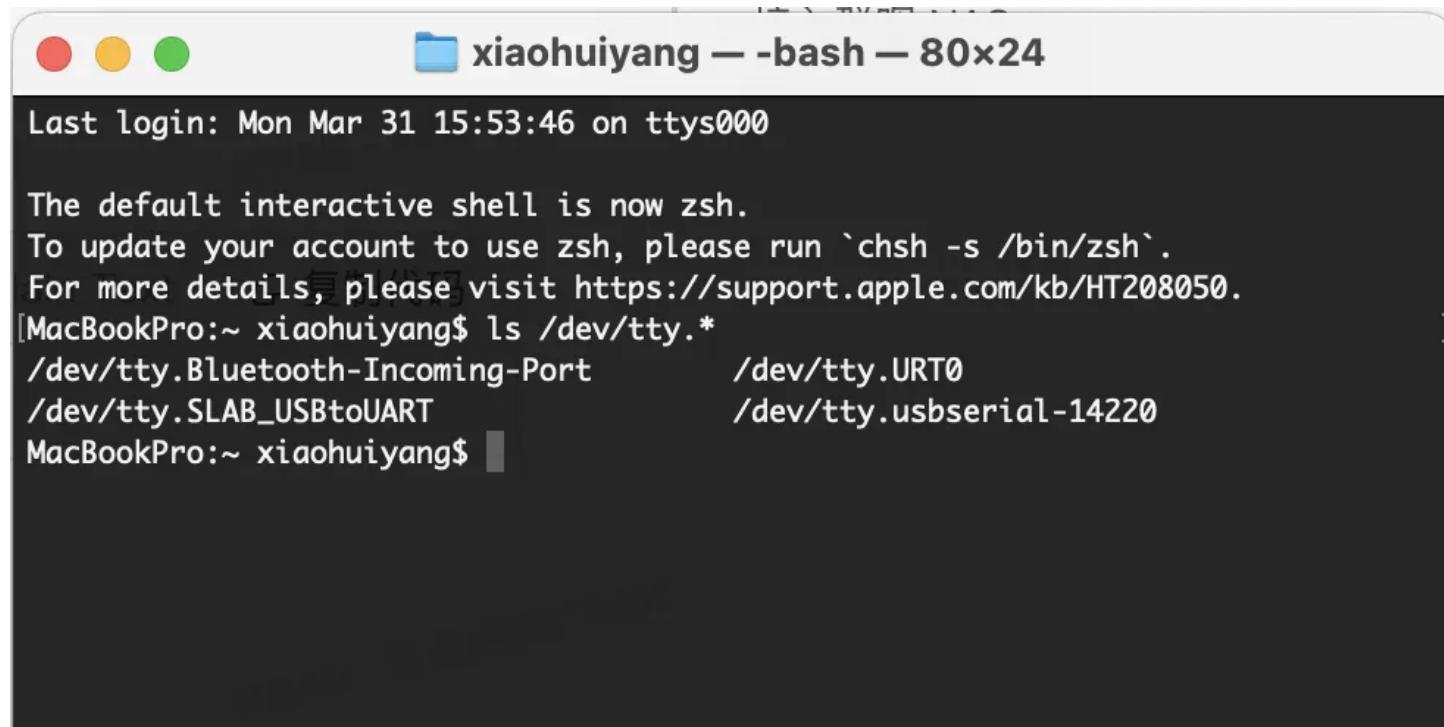
## 2.2.4.2 Step 2: Confirm that the device is recognised

After successful installation, run the following command in Terminal:

代码块

```
1 ls /dev/tty.*
```

If recognized, the information will be returned after Enter:



```
Last login: Mon Mar 31 15:53:46 on ttys000
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
[MacBookPro:~ xiaohuiyang$ ls /dev/tty.*]
/dev/tty.Bluetooth-Incoming-Port          /dev/ttym0
/dev/tty.SLAB_USBtoUART                   /dev/ttym1
MacBookPro:~ xiaohuiyang$ ]
```

The serial port is:

代码块

```
1 /dev/ttym1
```

## 2.2.5 Connecting to Raspberry Pi OS

Most Raspberry Pi OS typically includes the CP210x driver by default. No installation is required.

After connecting the ZBDongle device, you can check if it was recognized by entering the following command in the terminal:

代码块

```
1 $ sudo dmesg
2 ...
```

```
3 [ 534.580638] usb 3-8: new full-speed USB device number 2 using xhci_hcd
4 [ 534.708589] usb 3-8: New USB device found, idVendor=10c4, idProduct=ea60,
bcdDevice= 1.00
5 [ 534.708604] usb 3-8: New USB device strings: Mfr=1, Product=2,
SerialNumber=3
6 [ 534.708611] usb 3-8: Product: Sonoff Zigbee 3.0 USB Dongle Plus V2
7 [ 534.708616] usb 3-8: Manufacturer: Itead
8 [ 534.708620] usb 3-8: SerialNumber: 76536147c914ef11950378b8bf9df066
9 [ 534.736381] usbcore: registered new interface driver usbserial_generic
10 [ 534.736392] usbserial: USB Serial support registered for generic
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13 [ 534.739948] cp210x 3-8:1.0: cp210x converter detected
14 [ 534.741643] usb 3-8: cp210x converter now attached to ttyUSB0
```

## Checking the Serial Port Path

To obtain the serial port path of the connected device, use the following command:

代码块

```
1 ls -l /dev/serial/by-id
```

Example output:

代码块

```
1 coolkit@coolkit-All-Series:~$ ls -l /dev/serial/by-id
2 total 0
3 lrwxrwxrwx 1 root root 13 3月 31 18:09 usb-
  Itead_Sonoff_Zigbee_3.0_USB_Dongle_Plus_V2_76536147c914ef11950378b8bf9df066-
  if00-port0 -> ../../ttyUSB0
```

The corresponding serial port path is:

代码块

```
1 /dev/ttyUSB0
```

## 2.3 Step 2: Connecting to Open-source Platforms

### 2.3.1 Connecting to Home Assistant via ZHA

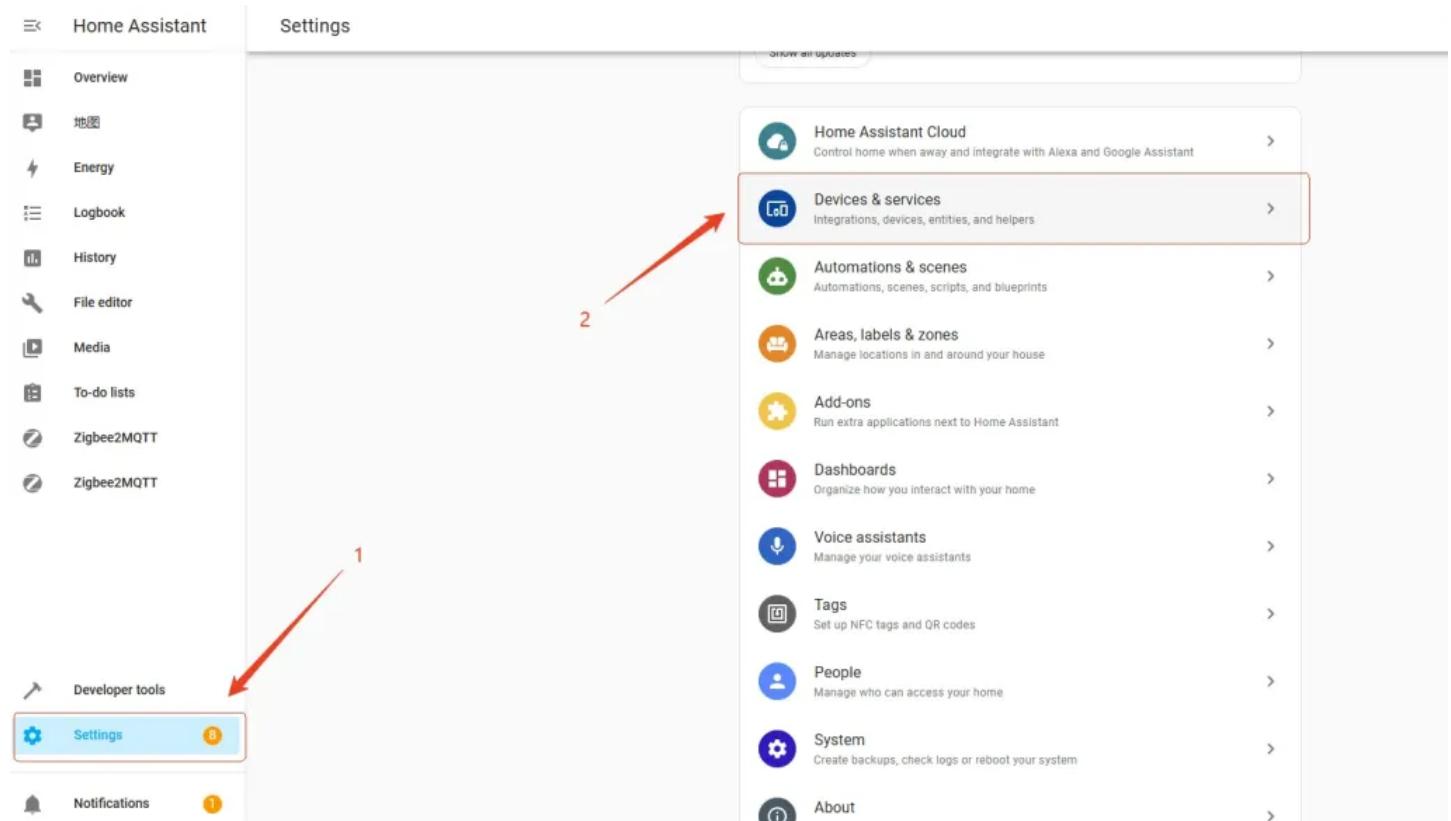
This guide is based on Home Assistant. For more details, please visit: [Home Assistant – ZHA](#)

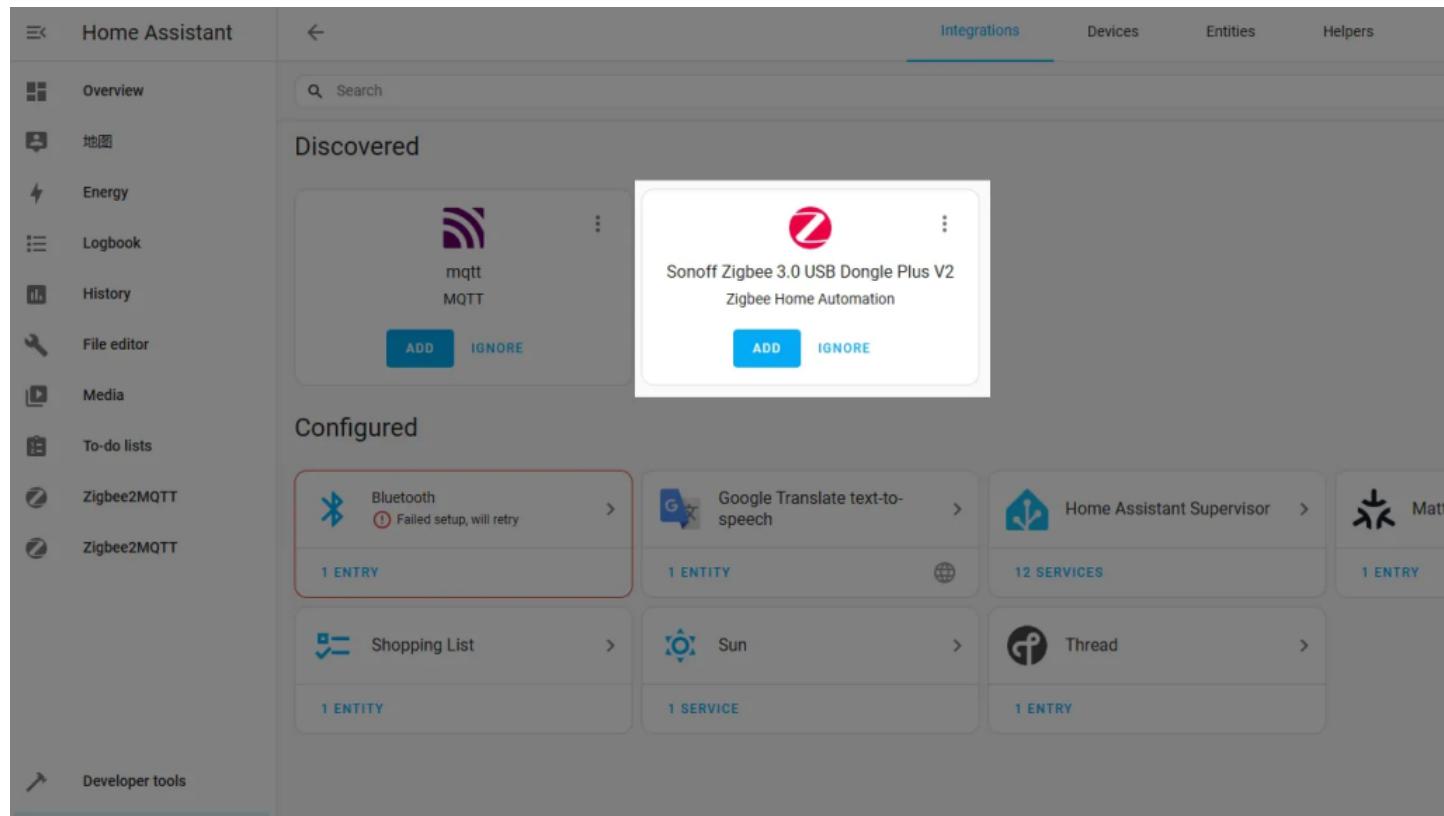
### 2.3.1.1 Preparation

Before getting started, ensure that Home Assistant is installed and the ZBDongle is connected to the host's USB port. If not yet installed, please follow the [Home Assistant Installation Guide](#).

### 2.3.1.2 Step 1: Add Integration

In most cases, once the device is connected to the **operating system**, it will be automatically discovered by Home Assistant. Go to [Settings > Devices & Services](#), and click “ADD” to start the configuration.





## Auto Discovery Name

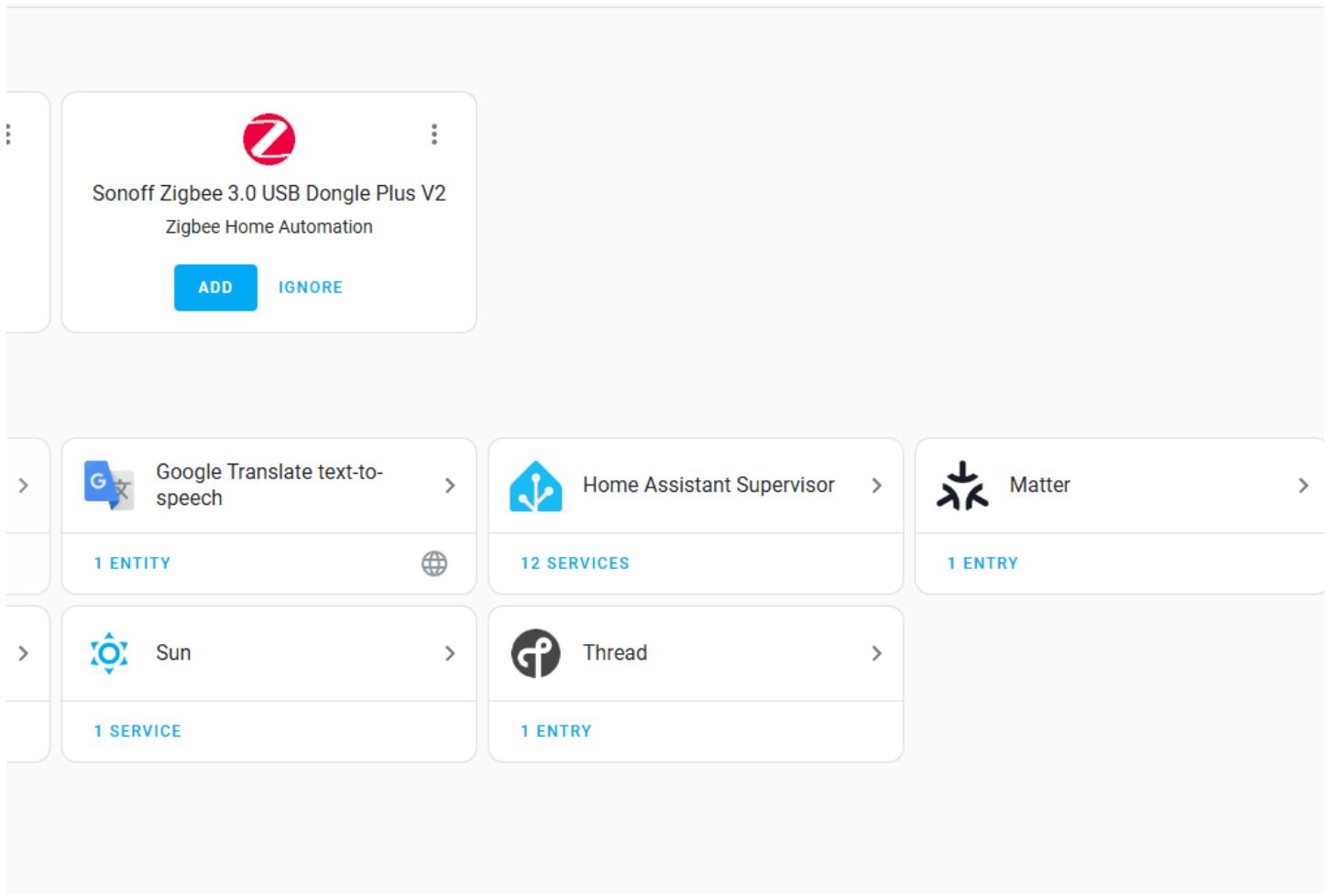
Product	USB Auto Discovery
ZBDongle-E	SONOFF Zigbee 3.0 USB Dongle Plus V2

### 2.3.1.3 Step 2: Configure the ZBDongle

After clicking the “**ADD**” button, follow the prompts to configure the ZBDongle. You will need to select a network initialization method:

- 1. Restore from previous network backup:** Used when replacing the Zigbee coordinator. Restores based on the last available network backup.
- 2. Keep existing network settings:** Used when the Zigbee coordinator remains the same and ZHA integration is re-added. Generally not recommended.
- 3. Manually upload network backup:** Used when manually migrating network data during HA migration.
- 4. Erase and create a new network:** Used to create a new Zigbee network by erasing existing network data.

1.



#### 2.3.1.4 Step 3: Add a Zigbee Sub-device

Put the Zigbee sub-device into pairing mode. Then go to the **ZHA Integration > Devices** page, click “**Add Device**”, and the integration will begin scanning and automatically adding the Zigbee sub-device.



# Zigbee

- 6 devices >
- 72 entities >
- Documentation 
- Known issues 
- Enable debug logging 

## Integration entries

Sonoff Zigbee 3.0 USB Dongle Plus V2  
6 devices and 72 entities

**CONFIGURE** 

**ADD ENTRY**

### 代码块

1 **Note:** The name will vary depending on the product added.

#### 2.3.1.5 Troubleshooting

If the device is not automatically discovered due to special circumstances, you can manually add the ZHA integration:

**Settings → Devices & Services → Add Integration → Search for ZHA → Manually select device path → Submit**

 Search

## Discovered

mqtt  
MQTT**ADD****IGNORE**

## Configured

Bluetooth  
! Failed setup, will retry

Google Translate text-to-speech



Home Assistant Supervisor

**1 ENTRY****12 SERVICES**

Matter



Radio Browser



Shopping List

**1 ENTRY****1 ENTITY**

Sun



Thread

**1 SERVICE****1 ENTRY****+ ADD INTEGRATION**

## 2.3.2 Connecting to Home Assistant via Z2M Add-on

This guide is based on the GitHub project: <https://github.com/zigbee2mqtt/hassio-zigbee2mqtt#installation>

### 2.3.2.1 Preparation

Before getting started, ensure that Home Assistant is installed and the ZBDongle is connected to the host's USB port. If not yet installed, please follow the [Home Assistant Installation Guide](#).

### 2.3.2.2 Step 1: Install Add-ons

When connecting HA through the Zigbee2MQTT Add-on, you need to install two add-ons:

- 1. Mosquitto broker (MQTT Broker)**
- 2. Zigbee2MQTT**

### 2.3.2.2.1 Install MQTT Broker

Go to [Settings → Add-ons → Add-on store](#) and install the [Mosquitto broker](#) add-on, then start it.

[Info](#) Documentation

---

## Mosquitto broker

6.5.0

[Changelog](#)

Rating Auth Signed

An Open Source MQTT broker.  
Visit the [Mosquitto broker](#) page for more details.



[INSTALL](#)

---

## Home Assistant Add-on: Mosquitto broker

MQTT broker for Home Assistant.

aarch64 yes amd64 yes armhf yes armv7 yes i386 yes

### About

You can use this add-on to install Eclipse Mosquitto, which is an open-source (EPL/EDL licensed) message broker that implements the MQTT protocol. Mosquitto is lightweight and is suitable for use on all devices from low power single board computers to full servers. For more information, please see [mosquitto](#).

### 2.3.2.2.2 Install Zigbee2MQTT

#### 1、Add Repository

Go back to the Add-on store, click “→ “**Repositories** “, fill in

<https://github.com/zigbee2mqtt/hassio-zigbee2mqtt>

and click “**Add**” → “**Close**” or click the “**Add repository**” button below, click “**Add**” → “**Close**”

## Installation Link

← Add-on Store ⋮

Search

Official add-ons

-  Assist Microphone  
Use Assist with local microphone
-  CEC Scanner  
Scan for HDMI CEC devices
-  deCONZ  
Control a Zigbee network with ConBee or RaspBee by Dresden
-  DHCP server  
A simple DHCP server
-  Dnsmasq  
A simple DNS server
-  Duck DNS  
Free Dynamic DNS (DynDNS or DDNS) service with Let's Encrypt
-  File editor  
Simple browser-based file editor for Home Assistant
-  Git pull  
Simple git pull to update the local configuration
-  Google Assistant SDK  
A virtual personal assistant developed by Google
-  Let's Encrypt  
Manage certificate from Let's Encrypt
-  MariaDB
-  Matter Server

Check for updates

Repositories

Registries

## 2. Install Zigbee2MQTT

Return to the [store list](#), find Zigbee2MQTT, and proceed with installation.

Search

VLC  
Turn your device into a Media Player with VLC



Whisper  
Speech-to-text with Whisper



Z-Wave JS  
Control a Z-Wave network with Home Assistant Z-Wave JS

### ESPHome



ESPHome Device Builder  
Build your own smart home devices using ESPHome, no



ESPHome Device Builder (beta)  
Beta version of ESPHome Device Builder



ESPHome Device Builder (dev)  
Development version of ESPHome Device Builder

### Home Assistant Add-on: Zigbee2MQTT



Zigbee2MQTT  
Use your ZigBee devices without the vendor's bridge or gateway



Zigbee2MQTT Edge  
Development build of the Zigbee2MQTT add-on



Zigbee2MQTT Proxy  
Proxy for externally running Zigbee2MQTT

### Home Assistant Community Add-ons



AdGuard Home  
Network-wide ads & trackers blocking DNS server



Advanced SSH & Web Terminal  
A supercharged SSH & Web Terminal access to your Home



AirCast  
AirPlay capabilities for your Chromecast devices.



AirSonos  
AirPlay capabilities for your Sonos (and UPnP) devices.



AppDaemon  
Python Apps and Dashboard using AppDaemon 4.x for Home



Bazarr  
Download and manage subtitles for Sonarr and Radarr

### 2.3.2.3 Step 2: Configure Zigbee2MQTT

Open the **Zigbee2MQTT** add-on → **Configuration** page.

You need to configure the device's adapter type and serial port path under serial.

**Options**

```
data_path*
/config/zigbee2mqtt
```

socat

```
1 enabled: false
2 master: pty, raw, echo=0, link=/tmp/ttyZ2M, mode=777
3 slave: tcp-listen:8485, keepalive, nodelay, reuseaddr, keepidle=1, keepintvl=1, keepcnt=5
4 options: "-d -d"
5 log: false
6
```

mqtt

```
1
```

serial

```
1 adapter: zstack
2 port: /dev/ttyUSB0
```

Show unused optional configuration options

**SAVE**

The following format:

**代码块**

```
1 adapter: Adapter Type
2 port: ZBDongle Serial Port Path
```

### Example Configuration:

**For ZBDongle-E、Dongle-PMG24、Dongle-LMG21:**

**代码块**

```
1 adapter: ember
2 port: /dev/ttyUSB0
```

**For ZBDongle-P(SONOFF Zigbee 3.0 USB Dongle Plus):**

**代码块**

```
1 adapter: zstack
2 port: /dev/ttyUSB0
```

The serial port path may vary depending on the host system. On Linux, you can find the serial path by running:

代码块

```
1 ls -l /dev/serial/by-id
```

Example output:

代码块

```
1 coolkit@coolkit-All-Series:~$ ls -l /dev/serial/by-id
2 total 0
3 lrwxrwxrwx 1 root root 13 3月 31 18:09 usb-
  Itead_Sonoff_Zigbee_3.0_USB_Dongle_Plus_V2_76536147c914ef11950378b8bf9df066-
  if00-port0 -> ../../ttyUSB0
```

The serial port path in this case is:

代码块

```
1 /dev/ttyUSB0
```

For other operating systems, please refer to the [respective connection instructions](#).

After completing the configuration, start the **Zigbee2MQTT** add-on. Wait for about two minutes, then you can click to enter the **Web UI Console** to add and manage devices.

Enter search criteria 							
#	Pic	Friendly name	IEEE Address	Manufacturer	Model	LQI	Power

### 2.3.3 Connecting to Zigbee2MQTT

This guide follows the official Zigbee documentation. For more operations, please visit [Zigbee2MQTT](#).

#### 2.3.3.1 Preparation

Before getting started, ensure that Zigbee2MQTT is installed and that the ZBDongle is connected to the host's USB port.

If Zigbee2MQTT and Mosquitto MQTT Broker have not been installed yet, please refer to the [Zigbee2MQTT Installation Guide](#) and the [Mosquitto Installation Guide](#).

#### 2.3.3.2 Step 1: Start Zigbee2MQTT

It is recommended that Zigbee2MQTT be updated to version **2.2.0**, which supports automatic discovery and configuration of ZBDongle-E.

Run the following commands to start Zigbee2MQTT:

##### 代码块

```
1 cd /opt/zigbee2mqtt  
2 sudo pnpm start
```

If started successfully, you will see output similar to the following, indicating that Zigbee2MQTT has been launched correctly:

#### 代码块

```
1 [2025-04-02 09:44:12] info:      z2m: Logging to console, file (filename:  
log.log)  
2 [2025-04-02 09:44:12] info:      z2m: Starting Zigbee2MQTT version 2.2.0  
(commit #c5c07e7d)  
3 [2025-04-02 09:44:12] info:      z2m: Starting zigbee-herdsman (3.4.11)  
4 [2025-04-02 09:44:12] info:      zh:adapter:discovery: Matched adapter:  
{"path":"/dev/ttyUSB0","manufacturer":"Itead","serialNumber":"76536147c914ef11950378b8bf9df066-  
50378b8bf9df066","pnpId":"usb-  
Itead_Sonoff_Zigbee_3.0_USB_Dongle_Plus_V2_76536147c914ef11950378b8bf9df066-  
if00-port0","vendorId":"10c4","productId":"ea60"} => ember: path=/dev/ttyUSB0,  
score=4  
5 ...  
6 [2025-04-02 09:44:15] info:      z2m: zigbee-herdsman started (restored)  
7 [2025-04-02 09:44:15] info:      z2m: Coordinator firmware version: '{"meta":  
{"build":0,"ezsp":13,"major":7,"minor":4,"patch":4,"revision":"7.4.4  
[GA]","special":0,"type":170},"type":"EmberZNet"}'  
8 [2025-04-02 09:44:15] info:      z2m: 0x00124b00258a5e02 (0x00124b00258a5e02):  
S26R2ZB - SONOFF Zigbee smart plug (Router)  
9 [2025-04-02 09:44:15] info:      z2m: Currently 1 devices are joined.  
10 [2025-04-02 09:44:15] info:      z2m: Connecting to MQTT server at  
mqtt://localhost  
11 [2025-04-02 09:44:15] info:      z2m: Connected to MQTT server  
12 [2025-04-02 09:44:15] info:      z2m: MQTT publish: topic  
'zigbee2mqtt/bridge/state', payload '{"state":"online"}'  
13 [2025-04-02 09:44:15] info:      z2m: Started frontend on port 8081  
14 [2025-04-02 09:44:15] info:      z2m: MQTT publish: topic  
'zigbee2mqtt/0x00124b00258a5e02', payload '{"state":"OFF"}'  
15 [2025-04-02 09:44:15] info:      z2m: Zigbee2MQTT started!
```

## (Optional) Manually Configure Zigbee2MQTT

This section is only required if:

- Your Zigbee2MQTT version is **below 2.2.0**, or
- You encounter errors when starting Zigbee2MQTT.

Normally, running Zigbee2MQTT will automatically detect and configure the dongle without manual intervention.

To manually configure, modify the configuration.yaml file. Example steps on Linux:

#### 代码块

```
1 cp /opt/zigbee2mqtt/data/configuration.example.yaml  
      /opt/zigbee2mqtt/data/configuration.yaml  
2 nano /opt/zigbee2mqtt/data/configuration.yaml
```

The first command backs up the original configuration file. The second command opens configuration.yaml for editing. Modify the following sections:

#### 代码块

```
1 # MQTT settings  
2 mqtt:  
3     base_topic: zigbee2mqtt  
4     server: 'mqtt://localhost'  
5  
6 frontend:  
7     enabled: true          //Enable frontend  
8 # adapter settings  
9 serial:  
10    port: /dev/ttyUSB0    //Replace with the serial port path obtained in Step  
11    1  
11    adapter: ember  
12 //For the ZBDongle-P, the adapter is zstack.  
13 //For the ZBDongle-E, the firmware version below 7.4 uses ezsp, while firmware  
version 7.4 and above uses ember.
```

After editing, press “**CTRL + O**” to **save** and “**CTRL + X**” to **exit**.

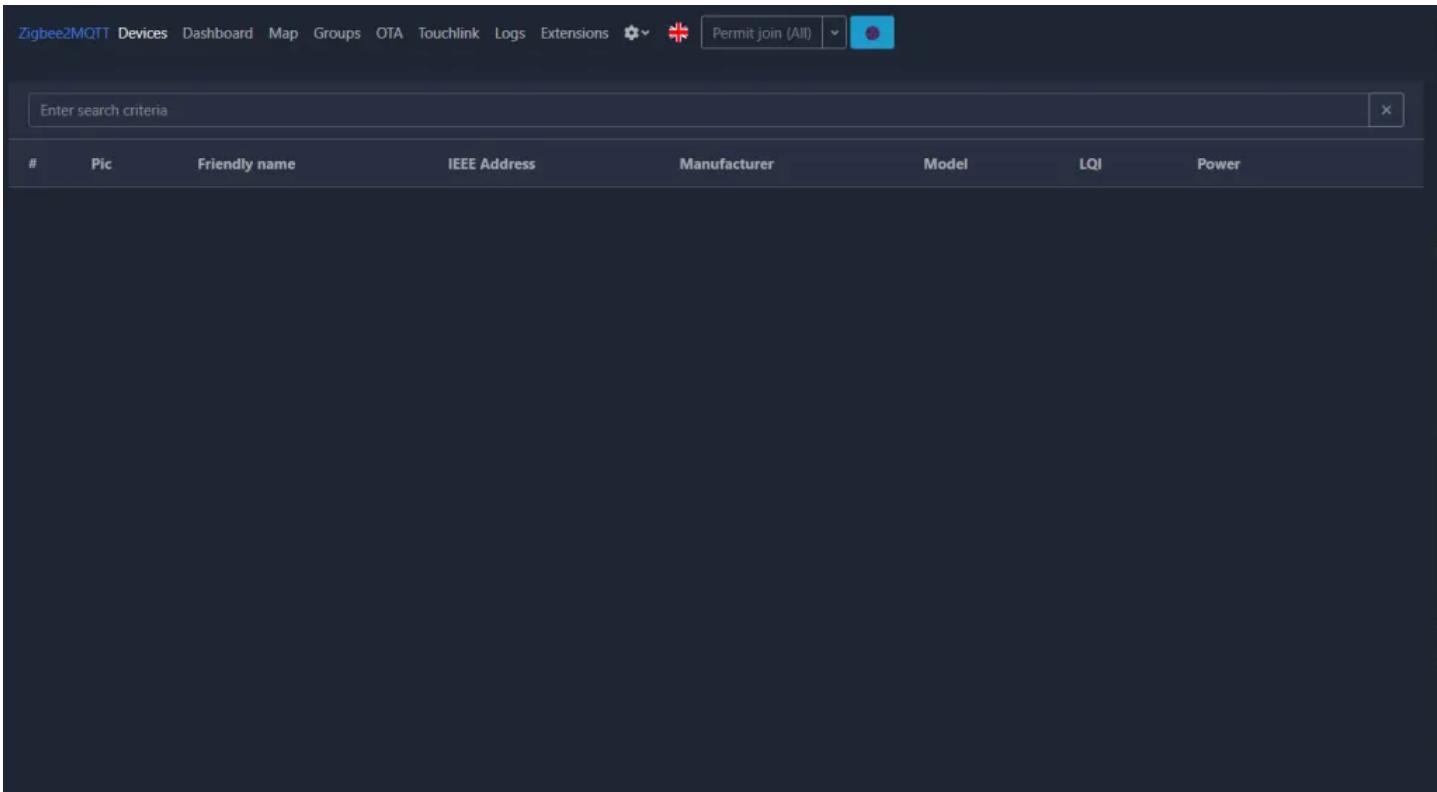
Then, **restart** Zigbee2MQTT:

#### 代码块

```
1 cd /opt/zigbee2mqtt  
2 sudo pm2 start
```

### 2.3.3.3 Step 2: Access the Frontend Console

You can access the Zigbee2MQTT frontend via:

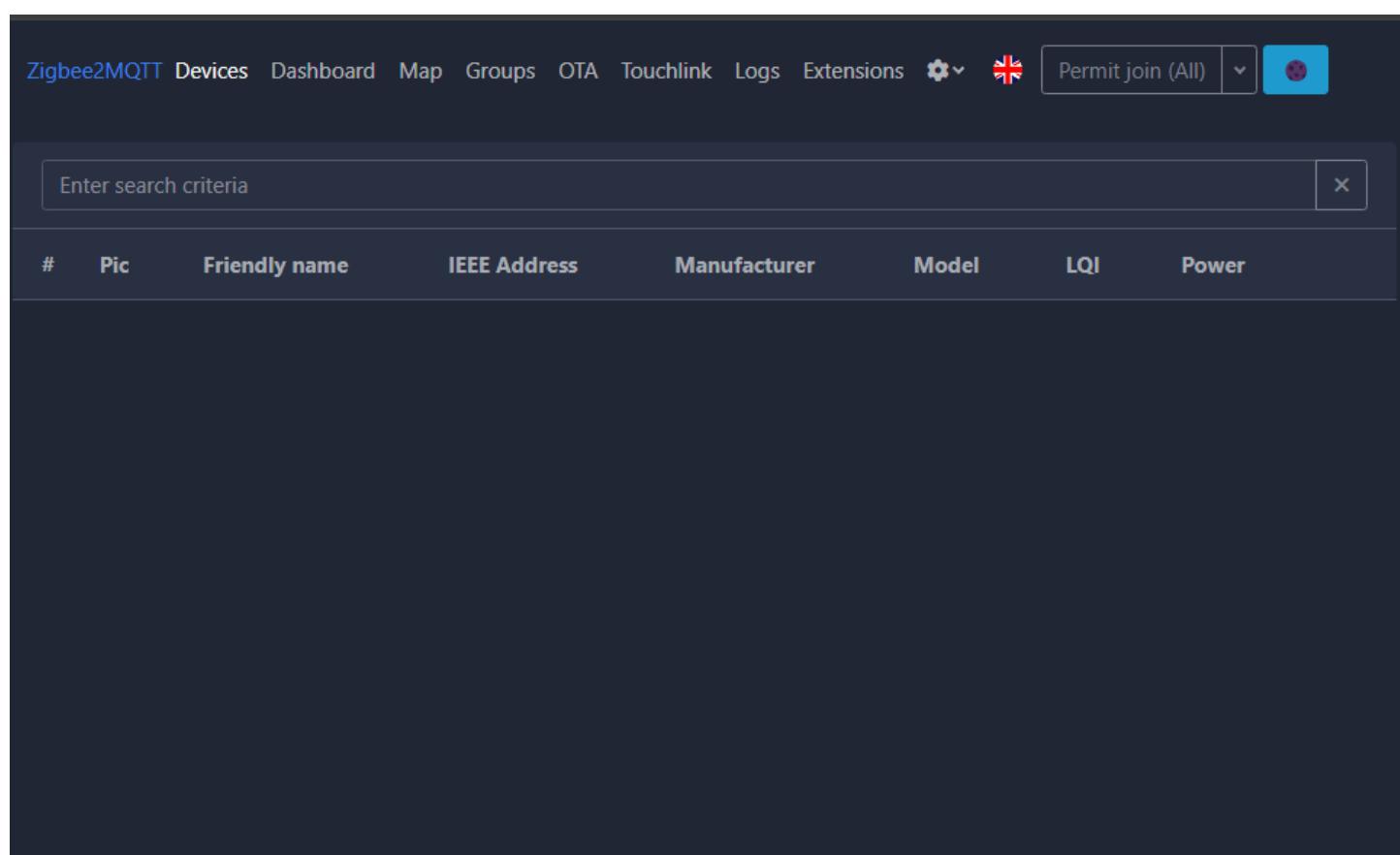


#### 2.3.3.4 Step 3: Add a Zigbee Sub-device

Put your Zigbee device into pairing mode, then click “**Permit join (All)**” in the Zigbee2MQTT frontend.

The device will be scanned and added automatically.

The Zigbee2MQTT Supported Devices List: [Zigbee2MQTT Support device](#)



## 2.3.4 Connecting to OpenHab

This guide is based on OpenHab. For more details, please visit [OpenHab – Zigbee Bindings](#).

**Note:** **ZBDongle-P (TI CC2652P Chip)** is currently not supported. For detailed progress, please refer to [GitHub](#).

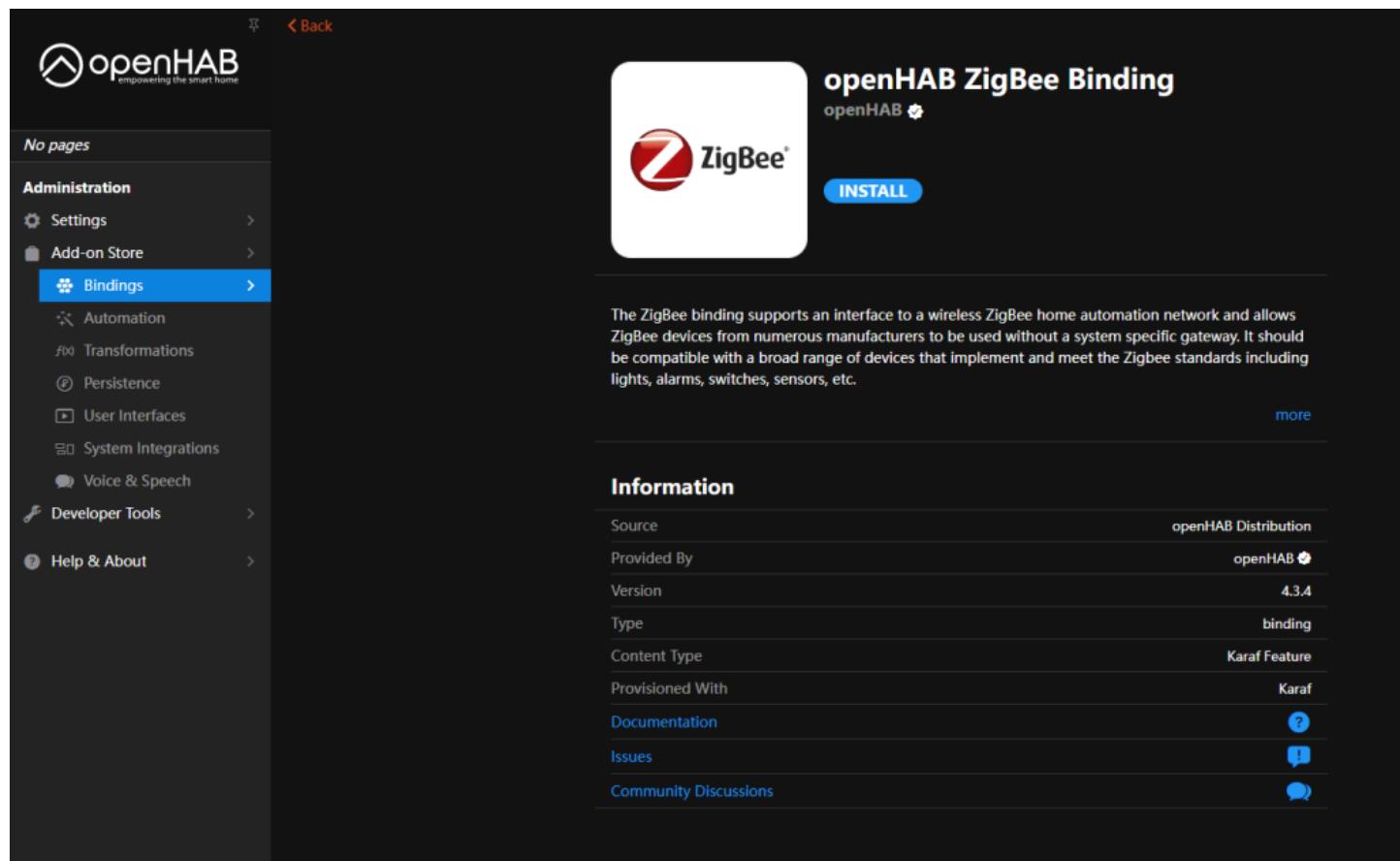
### 2.3.4.1 Preparation

Before getting started, ensure that Zigbee2MQTT is installed and that the ZBDongle is connected to the host's USB port.

If OpenHab have not been installed yet, please refer to the [OpenHab installation guide](#) for setup instructions.

### 2.3.4.2 Step 1: Install Zigbee Binding

Go to the Add-on Store, search for Zigbee, and install the **openHAB ZigBee Binding**.



The screenshot shows the openHAB Add-on Store interface. On the left, there is a sidebar with navigation links: 'No pages', 'Administration' (with 'Settings', 'Add-on Store', 'Bindings' selected), 'Automation', 'Transformations', 'Persistence', 'User Interfaces', 'System Integrations', 'Voice & Speech', 'Developer Tools', and 'Help & About'. The main content area displays the 'openHAB ZigBee Binding' page. It features the ZigBee logo, a large 'INSTALL' button, and a brief description: 'The ZigBee binding supports an interface to a wireless ZigBee home automation network and allows ZigBee devices from numerous manufacturers to be used without a system specific gateway. It should be compatible with a broad range of devices that implement and meet the Zigbee standards including lights, alarms, switches, sensors, etc.' Below this is a 'more' link. A 'Information' section provides details about the binding, including its source (openHAB Distribution), provider (openHAB), version (4.3.4), type (binding), content type (Karaf Feature), provisioned with (Karaf), documentation (link), issues (link), and community discussions (link).

### 2.3.4.3 Step 2: Add Things

Go to the Things page, click the “Add” icon, and select Ember Coordinator. Then configure the following parameters:

#### 代码块

- 1 Port: Select the usb-Itead-Sonoff-Zigbee-3.0-USB-Dongle-V2 device
- 2 Flow Control: Select None

Keep other settings as default. After configuration, click “Create Things”.

Once the Thing’s status turns green (ONLINE), the setup is complete

### Add Things

The screenshot shows the openHAB Administration interface. On the left, there is a sidebar with the following menu items:

- No pages
- Administration
  - Settings
  - Add-on Store
  - Bindings
- Automation
- Transformations
- Persistence
- User Interfaces
- System Integrations
- Voice & Speech
- Developer Tools
- Help & About

On the right, the main content area is titled "ZigBee Binding" and shows the following details:

- openHAB** (with a gear icon)
- A large button with the ZigBee logo and the text "ZigBee®".
- A red "REMOVE" button.
- A "more" link.
- A description: "The ZigBee binding supports an interface to a wireless ZigBee home automation network and allows ZigBee devices from numerous manufacturers to be used without a system specific gateway. It should be compatible with a broad range of devices that implement and meet the Zigbee standards including lights, alarms, switches, sensors, etc."
- Information** section with the following details:
  - Source: openHAB Distribution
  - Provided By: openHAB (with a gear icon)
  - Version: 4.3.4

### Configuration

The screenshot shows the 'New Ember Coordinator' configuration page. On the left, a sidebar lists 'Administration' sections: Settings, Things (selected), Model, Items, Pages, Rules, Scenes, Scripts, Schedule, Add-on Store, Developer Tools, Help & About, and a user profile for 'xiao' at 'http://192.168.1.130:8080'. The main content area is titled 'Serial Port Configuration' and includes fields for 'Port' (set to '/dev/serial/by-id/usb-Itead\_Sonoff\_Zigbee\_3.0\_USB\_Dongle\_Plus\_V2\_76536147c914ef11950378b8bf9df066-if0'), 'Required Serial Port Flow Control' (set to 'None'), 'Required Serial Port Baud Rate' (set to '115200'), and 'Baud Rate' options (38400, 57600, 115200).

The screenshot shows the 'Things' page under the 'Administration' section. It displays a list of '1 Things' with an 'Ember Coordinator' entry. The entry shows the binding as 'zigbee:coordinator\_ember:9073372545' and has an 'ONLINE' status indicator. The page also includes a search bar, tabs for 'Alphabetical', 'By binding', and 'By location', and a bottom navigation bar with 'INBOX (0)' and a '+' button.

## 2.3.4.4 Step 3: Add a Zigbee Sub-device

Put your Zigbee device into pairing mode. Then, click the “**Add**” button at the bottom right of the Things page, select Zigbee Binding, and click “**SCAN**” to start scanning and adding Zigbee devices.

Q Search (for advanced search, use the developer sidebar (Shift+Alt+D))

## 1 Things

Alphabetical

By binding

By location

E

Ember Coordinator

zigbee:coordinator\_ember:9073372545 ⓘ

ONLINE >

✉ INBOX (0)

+

Once added, the device can be configured as a Switch and controlled.

### 2.3.5 Connecting to ioBroker

This guide is based on ioBroker. For more details, please visit [ioBroker – Zigbee](#).

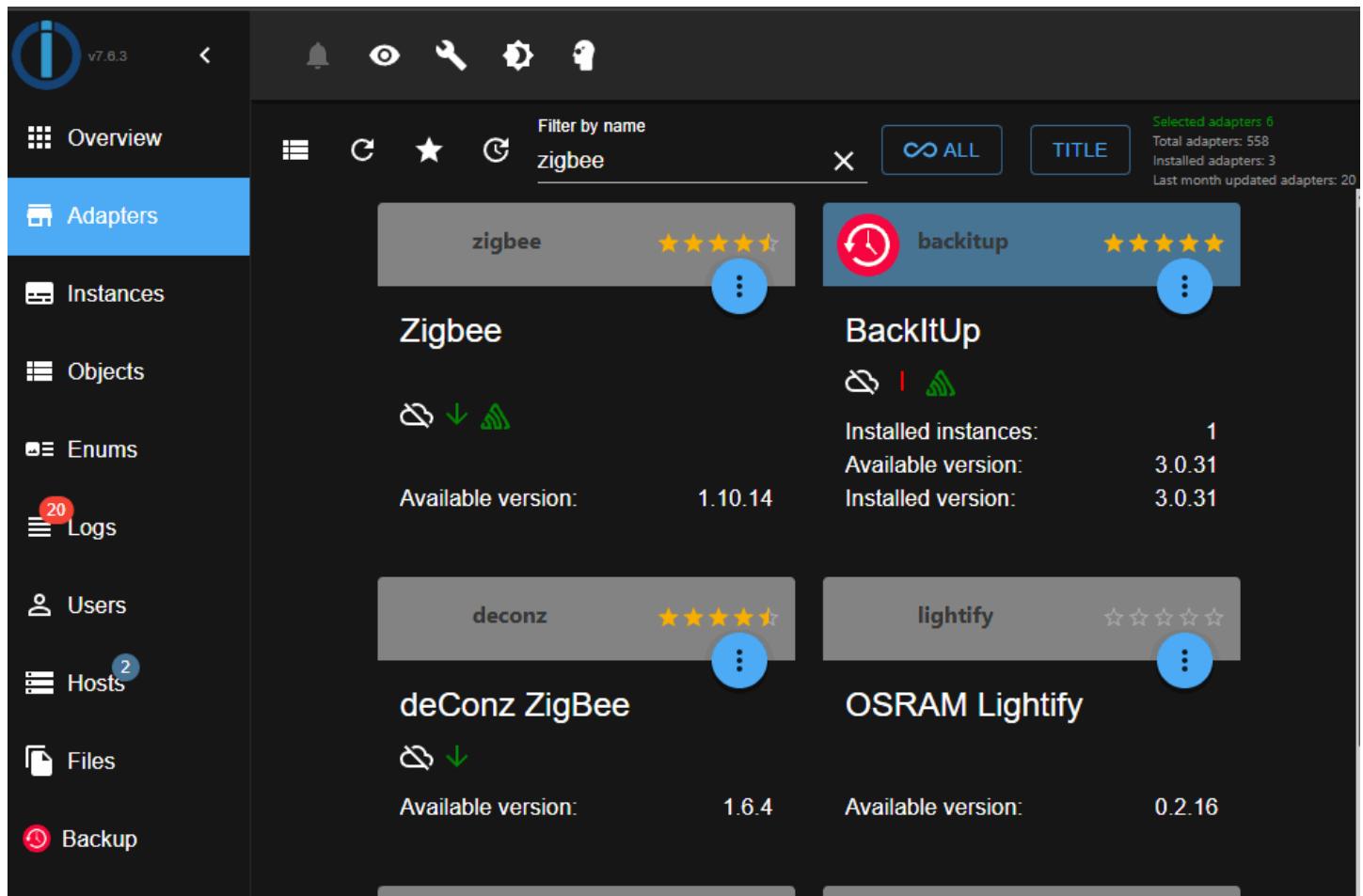
#### 2.3.5.1 Preparation

Before getting started, make sure that ioBroker is installed and that the ZBDongle is plugged into the host's USB port.

If ioBroker has not yet been installed, please refer to the [ioBroker installation guide](#) for setup instructions.

#### 2.3.5.2 Step 1: Add Adapter

After logging into ioBroker, go to **Adapters**, search for **zigbee**, and install the first **Zigbee adapter** listed.



### 2.3.5.3 Step 2: Configure the Adapter

Go to Instances, open the settings for the Zigbee adapter, and configure the serial port path and device type:

**For ZBDongle-E、Dongle-PMG24、Dongle-LMG21**

代码块

```
1 COM port name: /dev/ttyUSB0      //configure according to the actual serial path  
2 Type: SL-EFR32(EMBER) FW 7.4.x.x
```

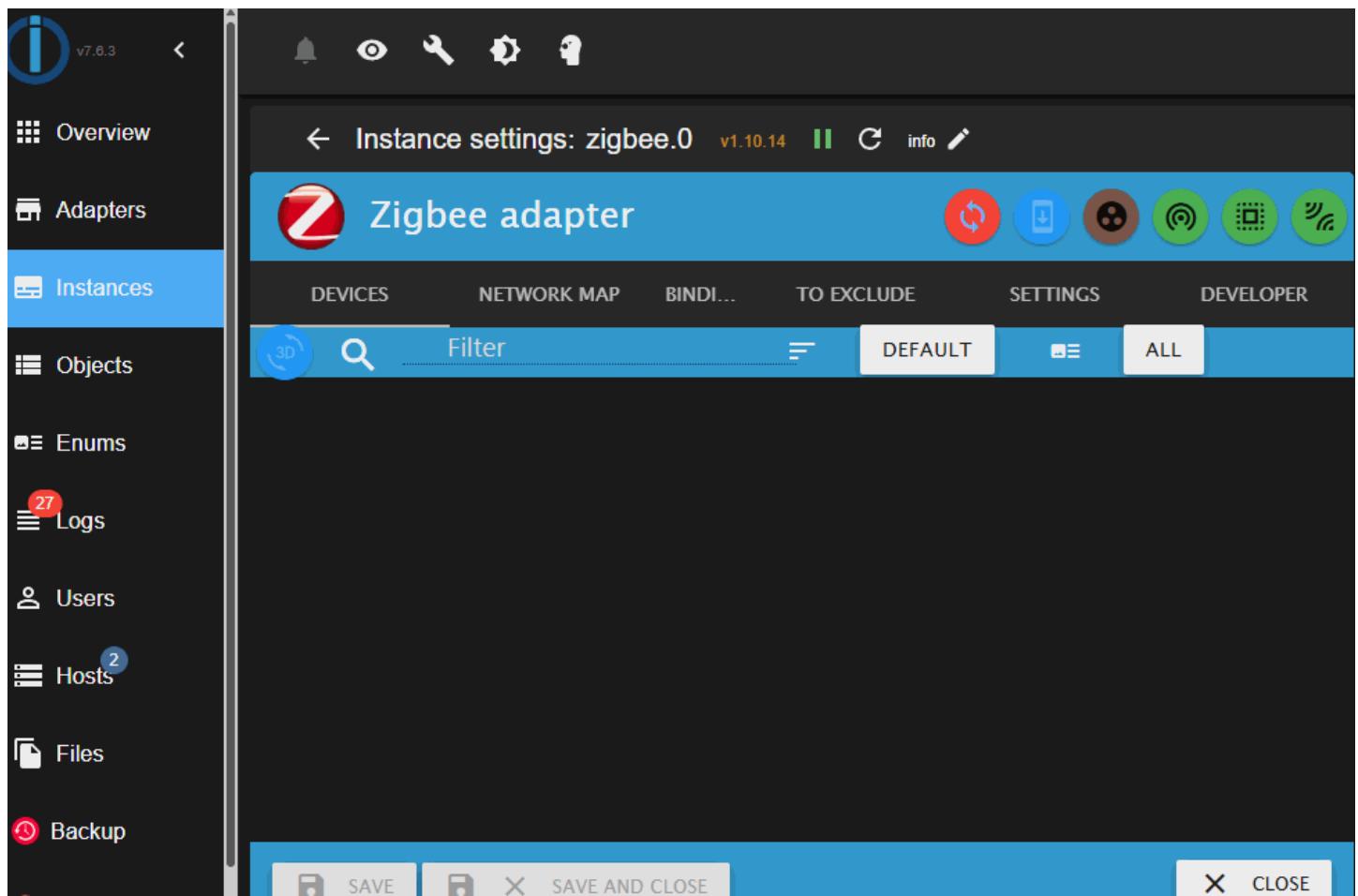
**For ZBDongle-P(SONOFF Zigbee 3.0 USB Dongle Plus)**

代码块

```
1 COM port name: /dev/ttyUSB0      //configure according to the actual serial path  
2 Type: TIZ-Stack/CCxxox
```

After completing the configuration, click “**Save**” .

Wait until the status icon turns **green** — this indicates that the configuration is complete.



#### 2.3.5.4 Step 3: Add a Zigbee Sub-device

Put your Zigbee device into pairing mode.

Then, go to the **Zigbee** page and click the “**Pairing**” icon to start searching for and automatically adding Zigbee devices.

The screenshot shows the Coolkit application interface. On the left is a sidebar with the following items:

- Adapters
- Instances (highlighted in blue)
- Objects
- Enums
- Logs (with a red badge showing 38)
- Users
- Hosts (with a blue badge showing 2)
- Files
- Backup
- Zigbee

The main area displays a list of instances with the following details:

Instance Name	Status	Actions	Description	Access Level	Control
admin.0	Green	gear, wrench, circular arrow	Admin	Admin	Wi-Fi
backitup.0	Green	gear, wrench, circular arrow	BackitUp	Admin	Wi-Fi
discovery.0	Green	gear, wrench, circular arrow	Discovery devices	Admin	Wi-Fi
zigbee.0	Green	gear, wrench, circular arrow	Zigbee	Admin	Wi-Fi

At the top of the main area, there are icons for bell, eye, key, gear, and user. Below the table, a message states: "Disk free: 94%, Total RAM usage: 620 Mb / Free: 86% = 6706 Mb [Host: coolkit-All-Series - 5 processes]".

### 3. How to Upgrade/Flash Firmware

All SONOFF Dongle products support firmware switching (including Zigbee Coordinator, Zigbee Router, and other firmware variants) through the [SONOFF Dongle Flasher](#) tool.

- **SONOFF Dongle Flasher:** <https://dongle.sonoff.tech/sonoff-dongle-flasher/>
- **Another option:** [Flash firmware via Home Assistant Add-on](#)

#### 3.1 Supported Firmware

For ZBDongle-E(SONOFF Zigbee 3.0 USB Dongle Plus V2)

Firmware Type	Supported	Flashing Guide
Zigbee NCP	✓	<a href="#">Click to view</a>
Zigbee Router	✓	<a href="#">Click to view</a>
OpenThread RCP	✓	<a href="#">Click to view</a>
MultiPAN RCP	✓	<a href="#">Click to view</a>
Custom Firmware	✓	<a href="#">Click to view</a>

## 3.2 How to Flash Customize Firmware

Please Check Link: [https://dongle.sonoff.tech/guide/zbdongle-e/how\\_to\\_flash\\_customize\\_firmware/](https://dongle.sonoff.tech/guide/zbdongle-e/how_to_flash_customize_firmware/)

## 3.3 How to Upgrade Zigbee Firmware

Please Check Link: [https://dongle.sonoff.tech/guide/zbdongle-e/how\\_to\\_upgrade\\_zigbee\\_firmware/](https://dongle.sonoff.tech/guide/zbdongle-e/how_to_upgrade_zigbee_firmware/)

## 3.4 How to Flash Zigbee Router Firmware

Please Check Link: [https://dongle.sonoff.tech/guide/zbdongle-e/how\\_to\\_flash\\_zigbee\\_router\\_firmware/](https://dongle.sonoff.tech/guide/zbdongle-e/how_to_flash_zigbee_router_firmware/)

## 3.5 How to Flash OpenThread Firmware

Please Check Link: [https://dongle.sonoff.tech/guide/zbdongle-e/how\\_to\\_flash\\_openthread\\_firmware/](https://dongle.sonoff.tech/guide/zbdongle-e/how_to_flash_openthread_firmware/)

## 3.6 How to Flash MultiPAN Firmware

Please Check Link: [https://dongle.sonoff.tech/guide/zbdongle-e/how\\_to\\_flash\\_multipan\\_firmware/](https://dongle.sonoff.tech/guide/zbdongle-e/how_to_flash_multipan_firmware/)

## 3.7 Flash Firmware via Home Assistant Add-on

Please Check Link: <https://dongle.sonoff.tech/guide/zbdongle-e/flash-firmware-via-home-assistant-add-on/>

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When flashing with the [SONOFF Dongle Flasher](#), choose the firmware, the correct function, and then start flashing.

## 4. FAQ

### 1. How to put the device with router firmware into pairing mode?

Just press and hold the Boot button for more than 8 seconds and then release it. When you see the green light flashing, you will enter pairing mode.

### 2. Devices supported by SONOFF Zigbee Dongle Plus

SONOFF Zigbee Dongle Plus works great with most Zigbee devices, including popular brands like Sonoff, Aqara, Philips Hue, Huawei, IKEA, Tuya, and many more, mainly depends on the home automation platform on which the user uses dongle Plus:

ZHA: Due to policy reasons, direct links cannot be placed, Please check the SONOFF official website.

Zigbee2MQTT: Due to policy reasons, direct links cannot be placed, Please check the SONOFF official website.

ioBroker: Due to policy reasons, direct links cannot be placed, Please check the SONOFF official website.

Domoticz: Due to policy reasons, direct links cannot be placed, Please check the SONOFF official website.

Openhab: Due to policy reasons, direct links cannot be placed, Please check the SONOFF official website.

Jeedom: Due to policy reasons, direct links cannot be placed, Please check the SONOFF official website.

In addition to check the supported devices through the official platform, you also can view Blakadder compatibility lists which provides an extensive overview of the devices supported by different platforms.

### 3. How many devices can Sonoff Zigbee 3.0 USB dongle support

50 children Zigbee devices can be directly added to the ZBDongle-P in coordinator mode and max 200 zigbee devices with routers

30 children Zigbee devices can be directly added to the ZBDongle-E in coordinator mode and extra 30 zigbee devices with a router, no limit on firmware but depends on platforms

### 4. What is the difference between ZBDongle-P and ZBDongle-E

The main differences between ZBDongle-P and ZBDongle-E are the chip and the supported platform. ZBdongle-P uses CC2652P while ZBDongle-E EFR32MG21, and ZBDongle-E supports Openhab but ZBDongle-P doesn't support yet.

### 5. Can I run 2 Dongles with ZHA and Zigbee2MQTT on the same machine together

Yeah, you can run two dongles at the same time. One in ZHA, the other one in Z2M, as long as you can uniquely identify them on the USB ports and keep separate Zigbee channels, ZHA defaults to 15, Z2M defaults to 11

## **6. Can I run Zigbee2MQTT and ZHA together on the same Dongle plus?**

No. Z2M and ZHA are the same protocol (Zigbee). You can run one or the other, or buy a second dongle and run both on separate dongles.

## **7. Can I run 2 Dongles with ZHA simultaneously**

No, users can only add one ZHA integration to Home Assistant (but HA can connect to multiple deCONZ or Zigbee2MQTT instances).

## **8. How to flash Zigbee dongle plus as Router?**

Zigbee dongle plus is pre-installed with coordinator firmware, which can only be used to add sub-devices and cannot be added by other gateways (the Zigbee protocol stipulates that there can only be one gateway in each Zigbee network).

If you need to expand the Zigbee signal range, you can flash the router firmware using the Sonoff Dongle Flasher web tool. Zigbee dongle plus running routing firmware will disguise itself as a light bulb

## **9. How to check the firmware of SONOFF dongle plus and flash the firmware**

You can use the official Sonoff Dongle Flasher web tool to check for the latest firmware and flash your device.

## **10. Do I need a USB extension cable**

It's highly recommended using a USB extension cable between your USB port and your Zigbee dongle plus to minimise interferences.