

# User Manual Dongle-MZG23 (EN)

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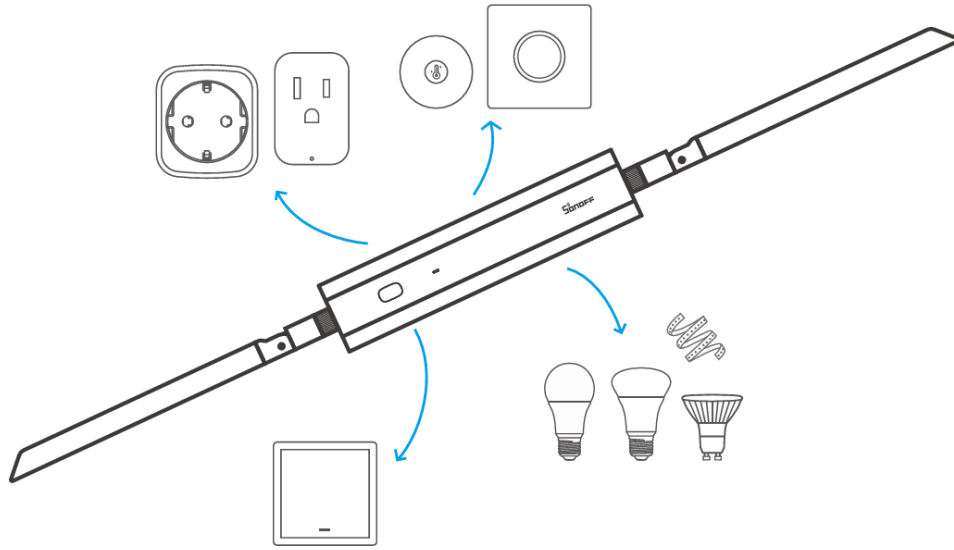
## Introduction

### Product Introduction

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SONOFF Z-Wave 800 Dongle Max is a Z-Wave controller developed based on the ESP32D0+EFR32ZG23, model "Dongle-MZG23". It is designed to connect Z-Wave Devices to open-source platforms like Home Assistant and openHAB. It supports POE power supply and offers multiple connectivity options, making it adaptable to various usage scenarios.

Through the mDNS domain name, users can access the device's WEB console to perform operations such as firmware updates and switching between different working modes. Additionally, it integrates powerful features such as Webhooks, eWeLink-Remote Gateways, MQTT, and VPN.



## Appearance Display

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## Packing List

- SONOFF Z-Wave 800 Dongle Max \* 1
- ScREW accessory package \* 2
- USB Type-C cable (1m) \*1
- Bracket \* 1
- Double-sided tape\* 2
- Quick guide



## Hardware Specification

Name	Description
Wi-Fi SoC	ESP32-D0WDR2-V3
Z-Wave SoC	EFR32ZG23
USB-Serial Chip	CP2102(N)
Input	5V=1A for Type C or 48V=0.25 A for PoE Port
Stand-by power consumption	60mW
Signal range	mesh: 300m in free line of sight LR: 1000m in free line of sight

Signal Strength	Max 20 dBm + antenna gain 2 dBi
RF Frequency	860–930 MHz The frequency used by end devices depends on the region, e.g: US: 908.42/916 MHz (mesh), 912/920 MHz (LR) EU: 868.4/869.85 MHz (mesh), 864.0/866.0 MHz (LR) AU: 919.8/921.4 MHz
RF Standard	Z-Wave
Working Temperature	–10 °C to 60 °C
Working Humidity	5%–95%RH
Supported OS	Windows, Ubuntu, Raspberry Pi OS / Raspbian, Docker
Dimensions	169 mm x 32.5 mm x 22 mm

## Step Overview

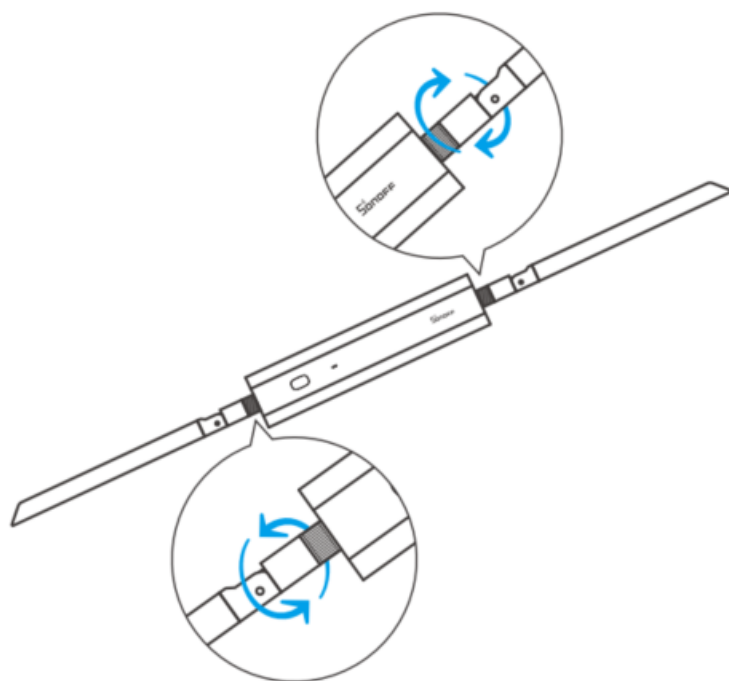
For first-time use, you can refer to the steps below to track your setup progress.

Step	Ethernet Method	Wi-Fi Method	USB Method
1	Install Antenna		
2	Ethernet Power and Connection	Wi-Fi Power and Connection	USB Power and Connection
3	WEB Console First Time Setup		/
4	Connecting to the Open-source Platforms (TCP)		Connecting to the Open-source Platforms (USB)
5	Fixed the Device		

# Antenna Installation

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The package includes two antennas, which should be attached to the left and right sides of the device respectively.

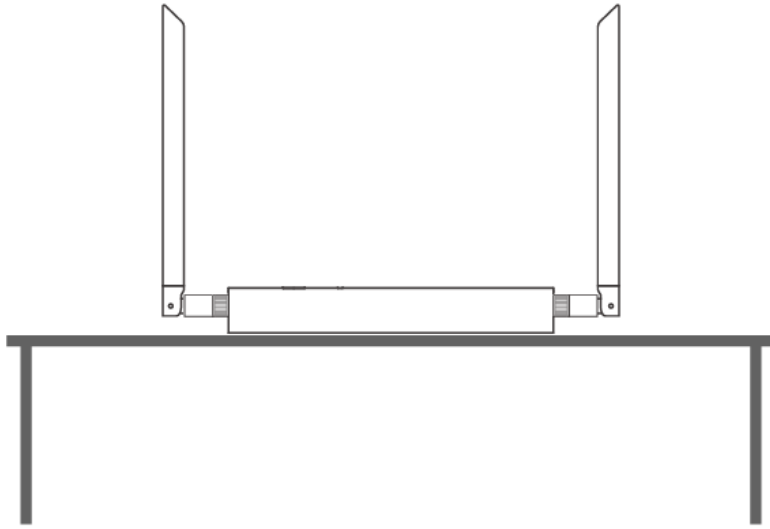


## Fixed the Device

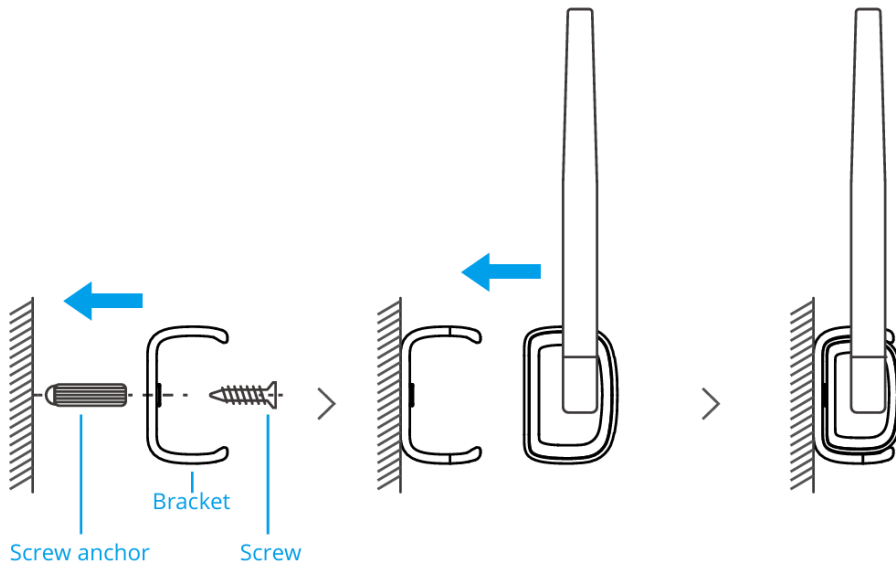
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After the device is working properly, you can choose one of the following methods to fix the device:

- 1、 Desktop placement (Double-sided tape can be used to fix the device to the desktop).



2、 Use screws to secure the bracket, then mount the device onto the bracket.



## Step 1: Power Supply and Connection

### Overview

Before installation, please choose a suitable connection method based on your usage habits or scenario:

Connection Method	Suitable Scenarios	Advantages
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Ethernet Connection	For environments with extendable network cables and LAN access, such as living rooms or bedrooms, or for utilizing idle Ethernet cables to achieve full-house coverage, such as in warehouses.	Use Ethernet to access the network. Supports PoE power supply.
Wi-Fi Connection	When the device is not close to the host and there is no available Ethernet cabling. Ideal for rooms requiring flexible placement, such as bedrooms.	More flexible placement options.
USB Connection	Close to the host device, connected via USB cable. Suitable for placement together with the host at a central home location, such as the living room.	Easier to get started. Use as a USB Dongle.

If you would like to learn more about connection suggestions for different rooms or how to achieve whole-home coverage, you may refer to the following solution:



## Ethernet Connection

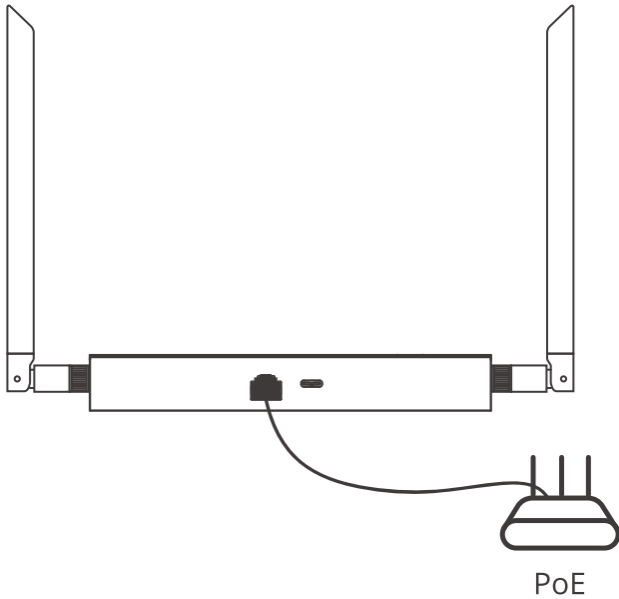
The device connects to the router via an **RJ45 Ethernet cable** to establish a wired network connection.

## Device Power Supply

Before powering on the device, please check whether your router or switch supports PoE (Power over Ethernet).

- If supported, refer to the **PoE Power Supply** section below.
- If not supported, refer to the **Ethernet + Type-C Power Supply** section.

## PoE Power Supply

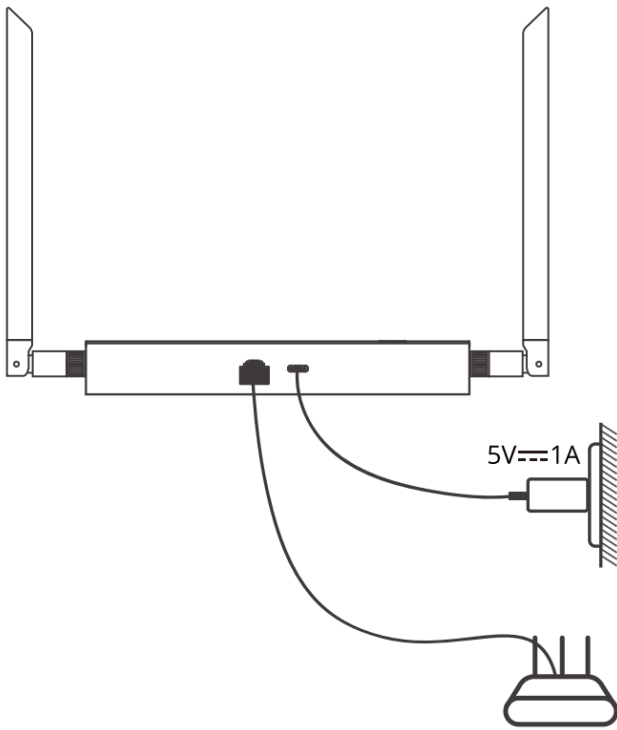


1. Connect the device to a PoE-enabled router, switch, or PoE power module using an RJ45 Ethernet cable. This completes the power connection.
2. Once powered on, the device indicator will remain solid orange, indicating that the device is receiving power properly.

**⚠ Note:** If using a PoE power supply, ensure that your router or switch supports PoE. If your current network equipment does not support it, you may purchase a separate PoE power module to enable this functionality.

If PoE power is not available, please supply power to the device via the Type-C port.

## Ethernet + Type-C Power Supply



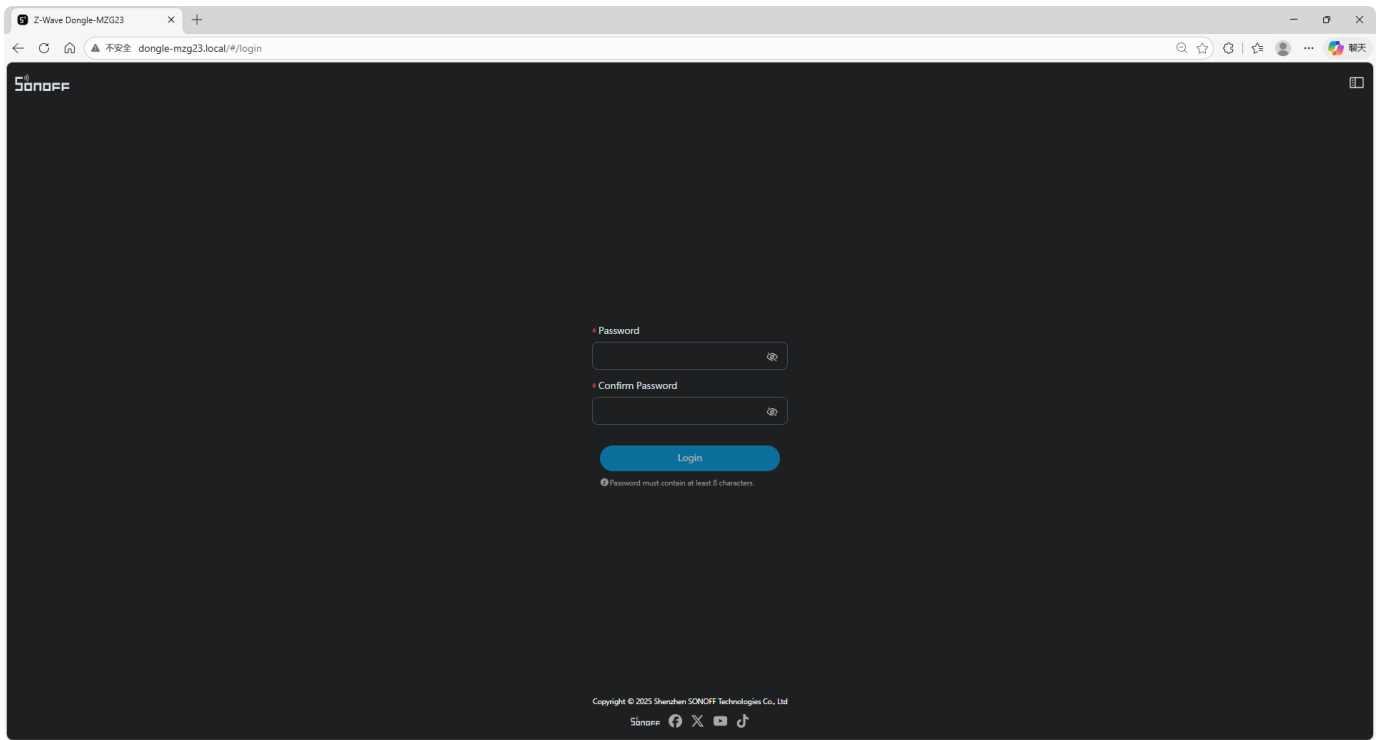
1. Use a Type-C charging cable to connect one end to the device's Type-C port, and the other end to a power adapter. Plug an RJ45 Ethernet cable into the network port and connect it to the router.
2. Once powered on, the device indicator will remain solid orange, indicating that the device is receiving power properly.

## Connecting to the Router

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1. After powering on, the device will attempt to connect to the router. When the indicator turns solid **blue**, the device is online.
2. Connect your mobile phone or computer to the same local network, and access the WEB console by entering the default domain **Dongle-MZG23.local** in your browser. Once the page loads successfully, the WEB functions are ready to use.

\*If the default domain name cannot be used to access the device, you can check the Z-Wave 800 Dongle Max IP address in your router's management interface and access it directly via the IP address.



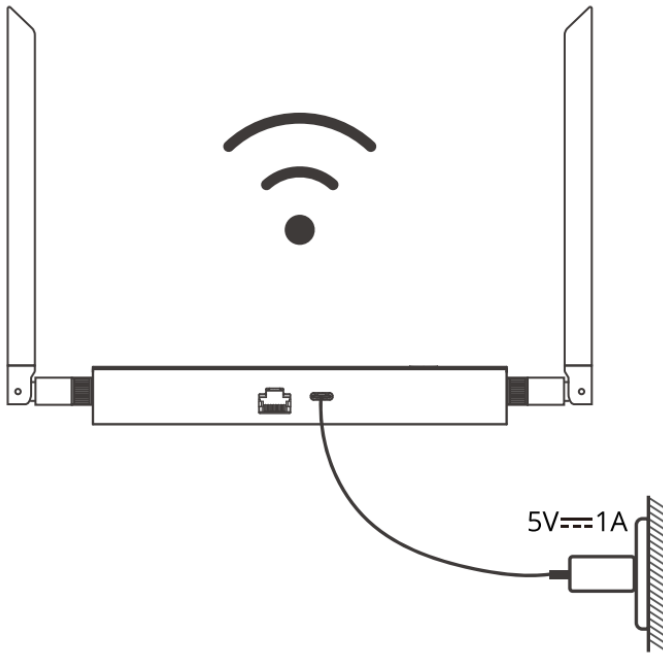
## Wi-Fi Connection

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The device connects wirelessly via Wi-Fi.

## Device Power Supply

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Use a Type-C charging cable: connect one end to the device's Type-C port, and the other end to a power adapter. Plug an RJ45 Ethernet cable into the network port and connect it to the router.

Once powered on, the device indicator will remain solid orange, indicating that the device is receiving power properly.

## Connecting to the Router

Before connecting to the router, you may choose a setup method based on your router's capabilities:

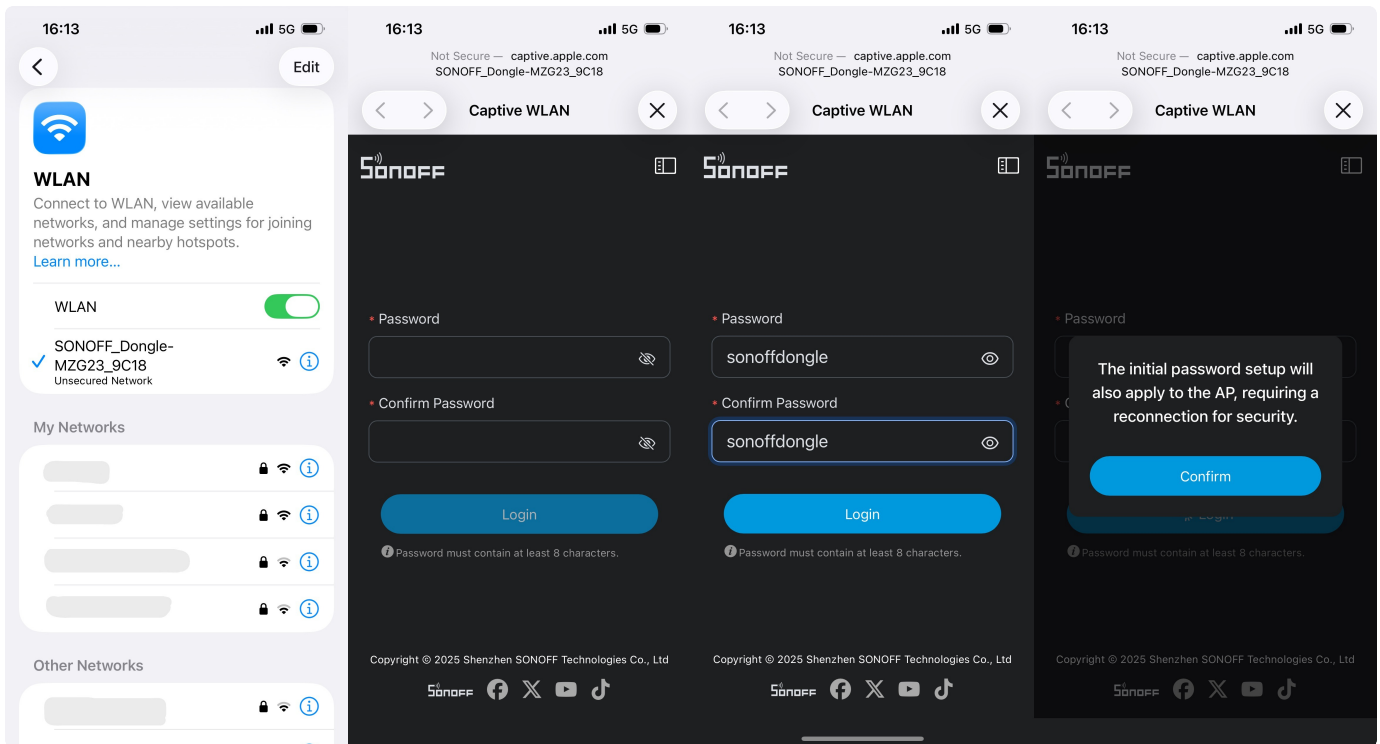
- For all router types: refer to the **AP Hotspot Configuration** section.
- If your router supports WPS: refer to the **WPS Configuration** section.

### AP Hotspot Configuration

1. The device's AP hotspot is enabled by default when powered on. On your PC or mobile device, search for the AP SSID such as `SONOFF_Dongle-MZG23_XXXX`. The first connection does not require a password.

*\*If no connection is made within 10 minutes, the AP hotspot will automatically shut down. Press the button to re-enable it.*

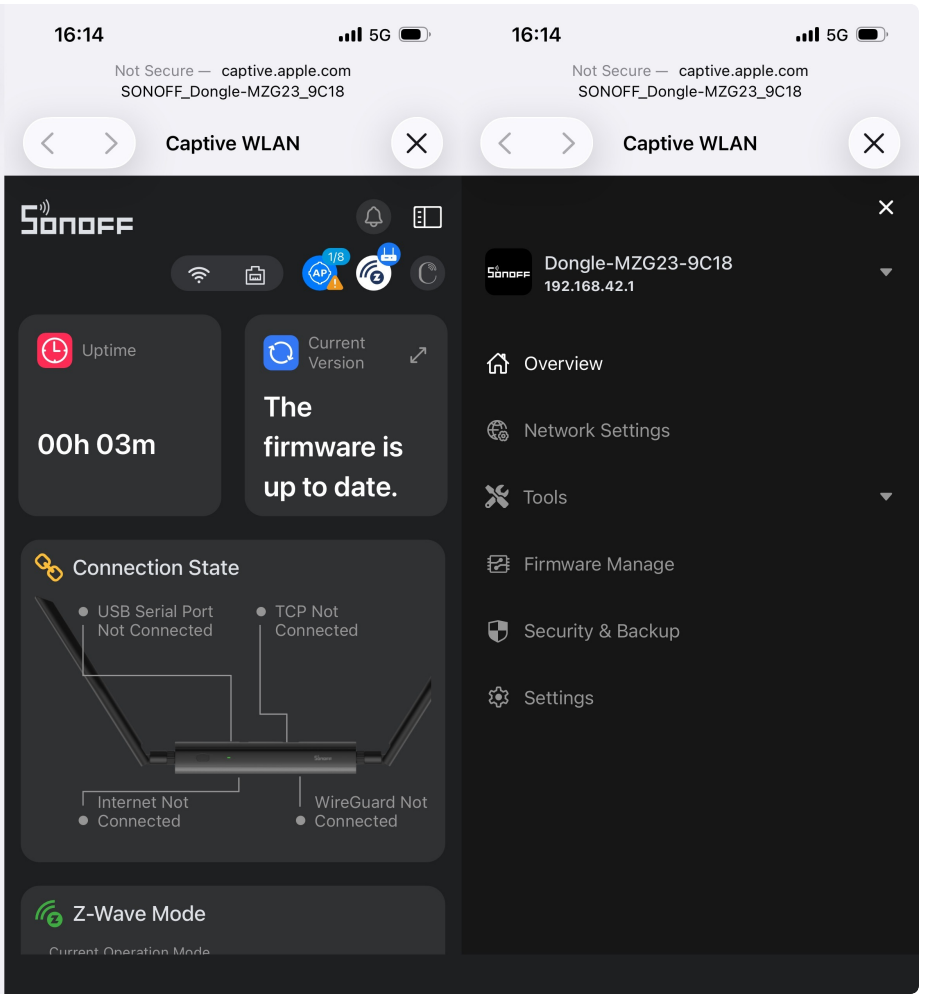
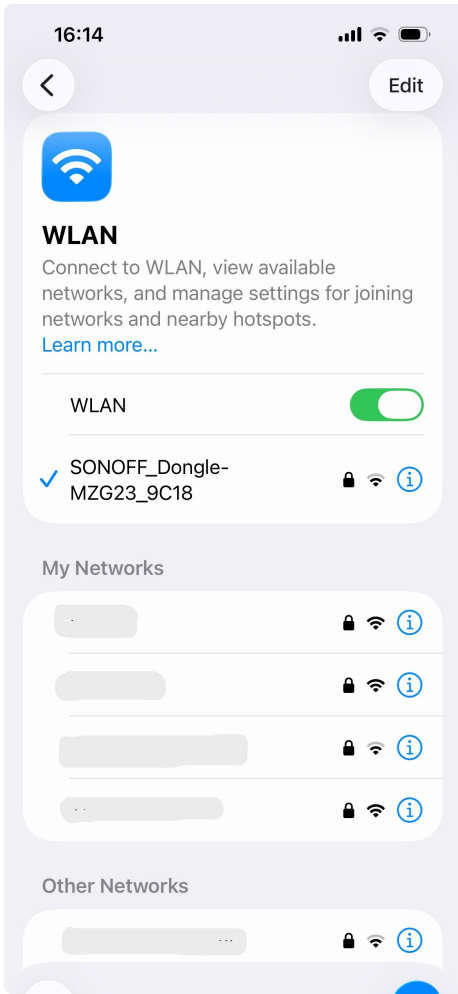
2. After connecting to the AP hotspot, the browser will automatically open the WEB interface. You will be prompted to set a password for WEB access.

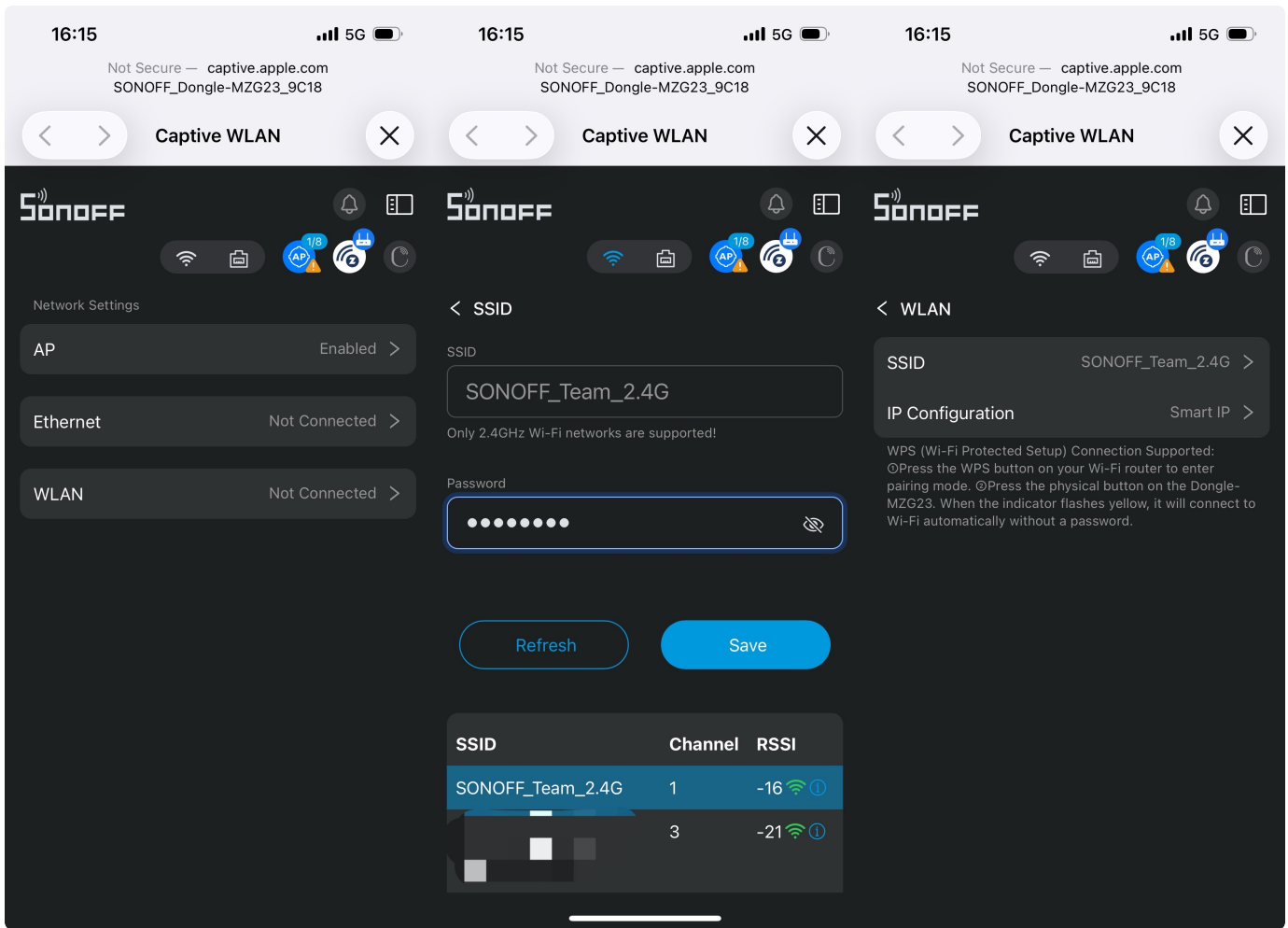


3. After configuration, the page will close and you must reconnect to the AP hotspot using the password you just set.

*\*If the browser does not open automatically, you can access the page manually via the default domain `Dongle-MZG23.local`.*

4. Re-enter the WEB interface, go to **Network Settings** on the left, select **WLAN Settings**, choose the appropriate Wi-Fi network, and connect.



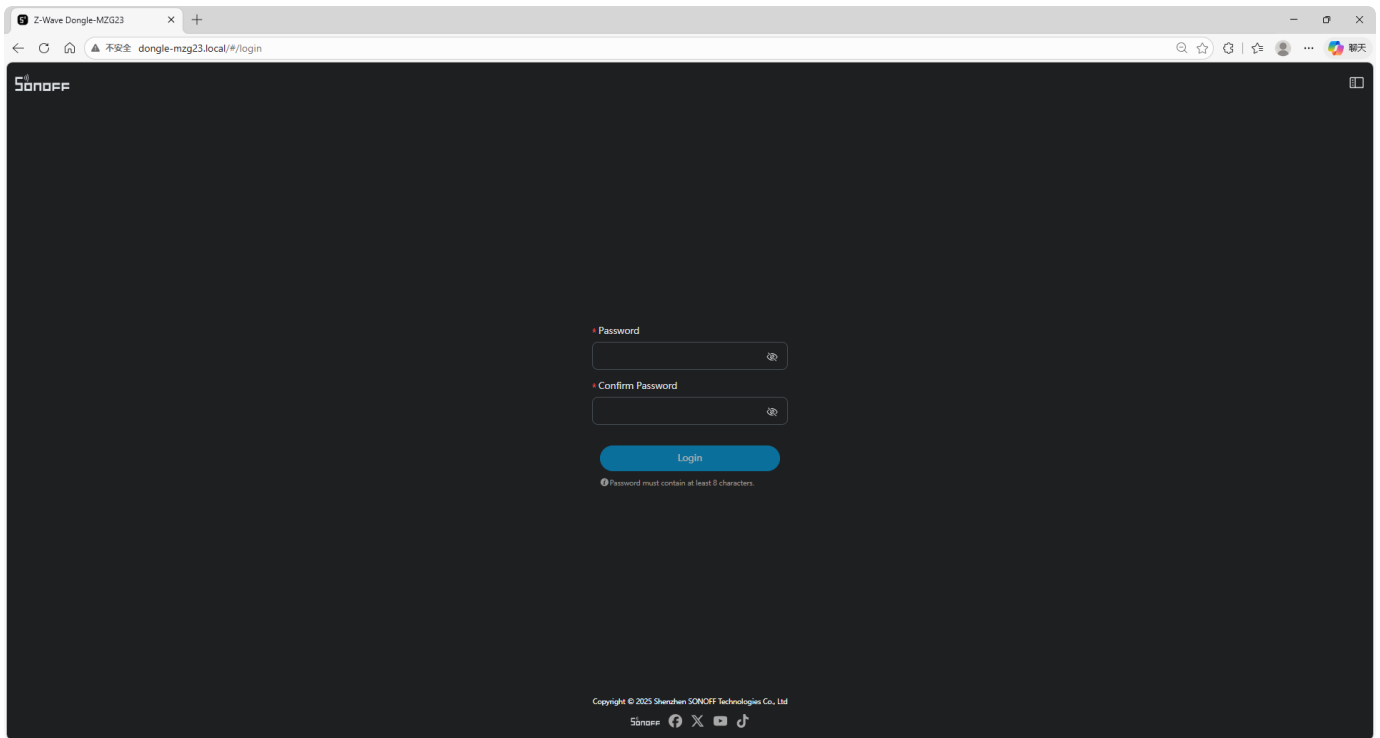


5. Wait for the device to connect to the router. When the indicator turns solid blue, the device is online.
6. Connect your phone or PC to the same LAN, and access the WEB console by visiting `Dongle-MZG23.local` in your browser. Once accessed successfully, you can use all WEB functions.

*Click to view WEB Console features.*

## WPS Configuration

1. If your router supports WPS, press the WPS button on the router to start the pairing process.
2. Press the button on the Dongle-MZG23 once to enter WPS mode. The indicator will flash orange.
3. Wait for the device to connect to the router. If the connection is successful within 30 seconds, the indicator will turn solid blue, indicating the device is online.
4. Connect your phone or PC to the same LAN, and access the WEB console by visiting `Dongle-MZG23.local` in your browser. Once accessed successfully, you can use all WEB functions.



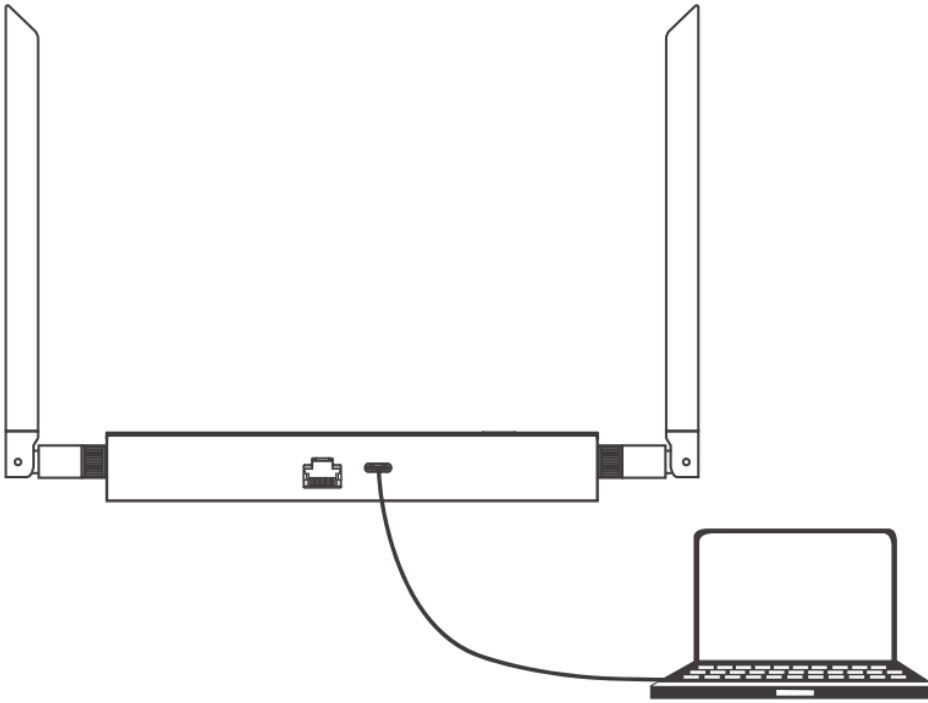
## USB Connection

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The device connects to the computer's USB port using the included Type-C USB cable, functioning as a USB dongle.

## Device Power Supply

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Use a Type-C charging cable: connect one end to the device's Type-C port, and the other end to the host device.

Once powered on, the device indicator will remain solid orange, indicating that the device is receiving power properly.

At this point, you may proceed to the **Accessing the Operating System** section for the next steps.

**\*Note:** If you intend to use the WEB Console, an additional [Ethernet](#) or [Wi-Fi](#) connection is required.

## Step 2: WEB Console First Time Setup

### Access the WEB Console

The device supports the following methods to access the WEB console:

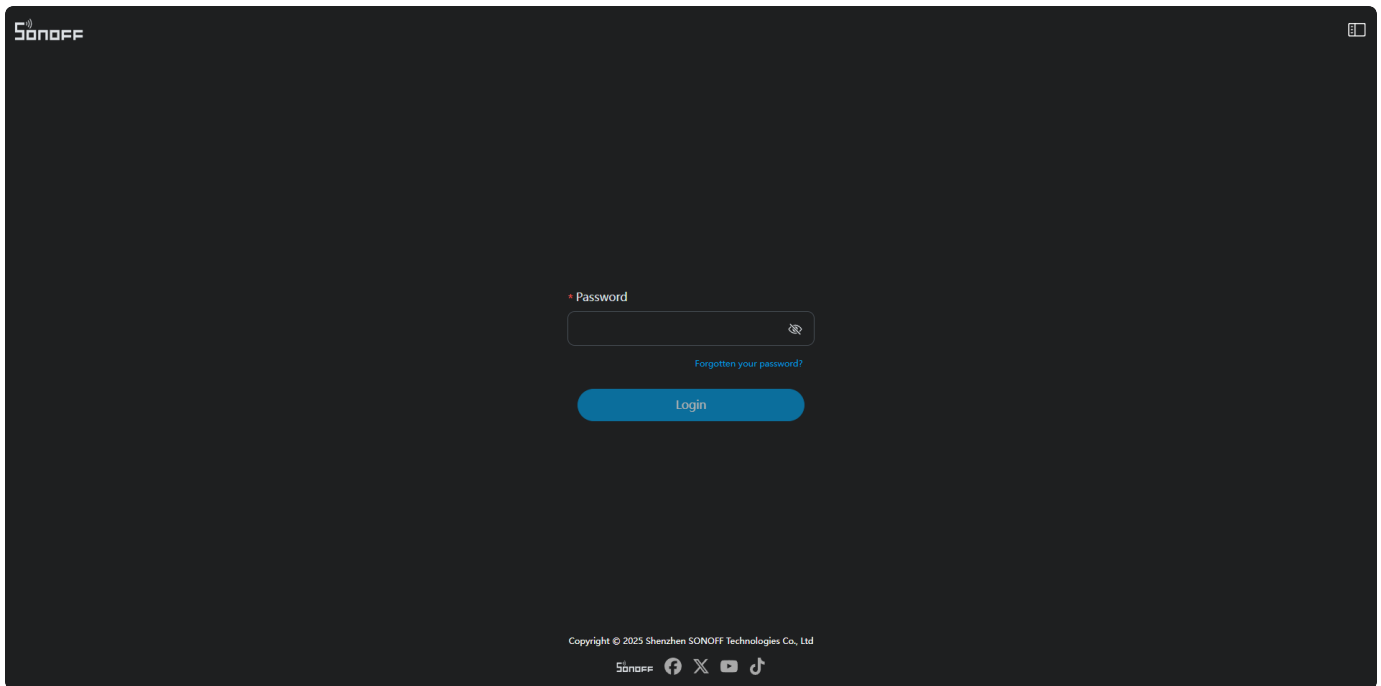
Access Method	Description
Default Domain (Recommended)	Connect to the same LAN as the device, then enter the default domain <b>Dongle-MZG23.local</b> in the browser.

IP Address Access	Check the device's IP address in your router's management page, then enter the IP address in the browser.
Custom Domain	If not your first login and you have configured an mDNS domain in the WEB console, you can access it via the custom domain.

## Set Login Password (Required)

On first use, you must set a password with at least 8 characters.

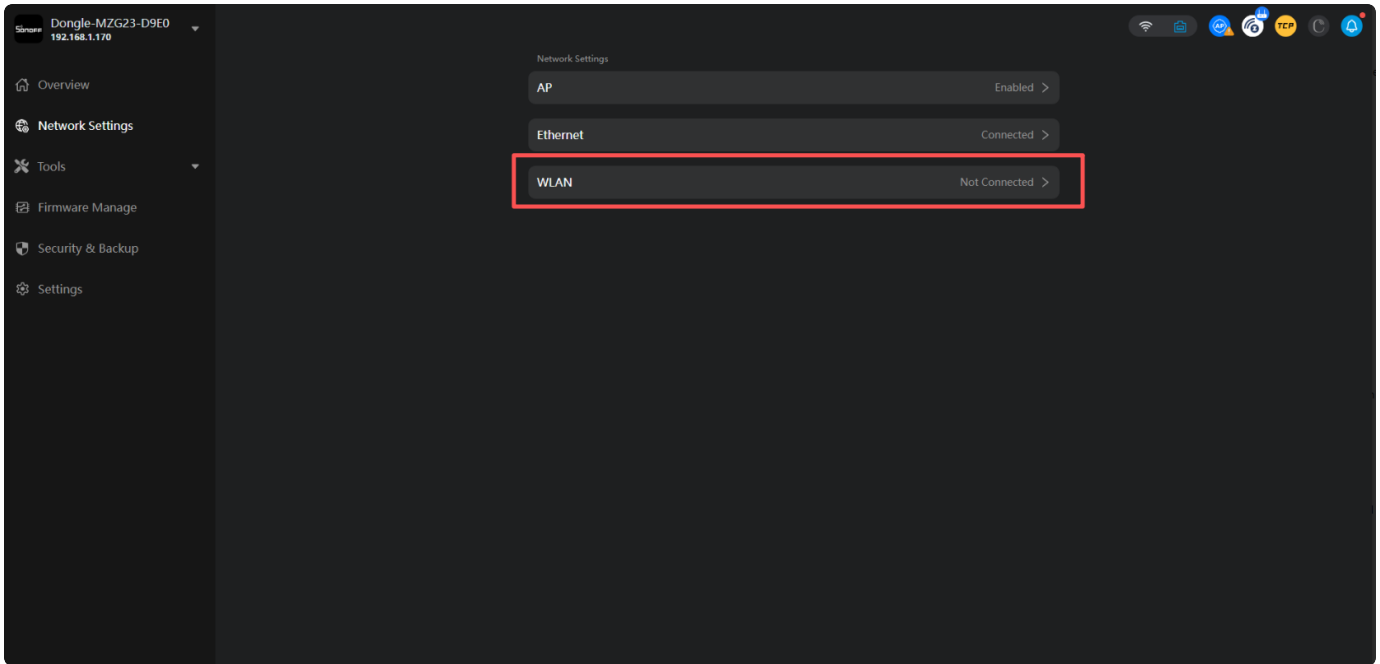
*\*If using [AP Hotspot Configuration](#), you will need to reconnect to the AP hotspot after changing the password, using the newly set password.*



## Configure Wireless Network (Optional)

You can add a 2.4GHz wireless network under **Network Settings** → **WLAN**.

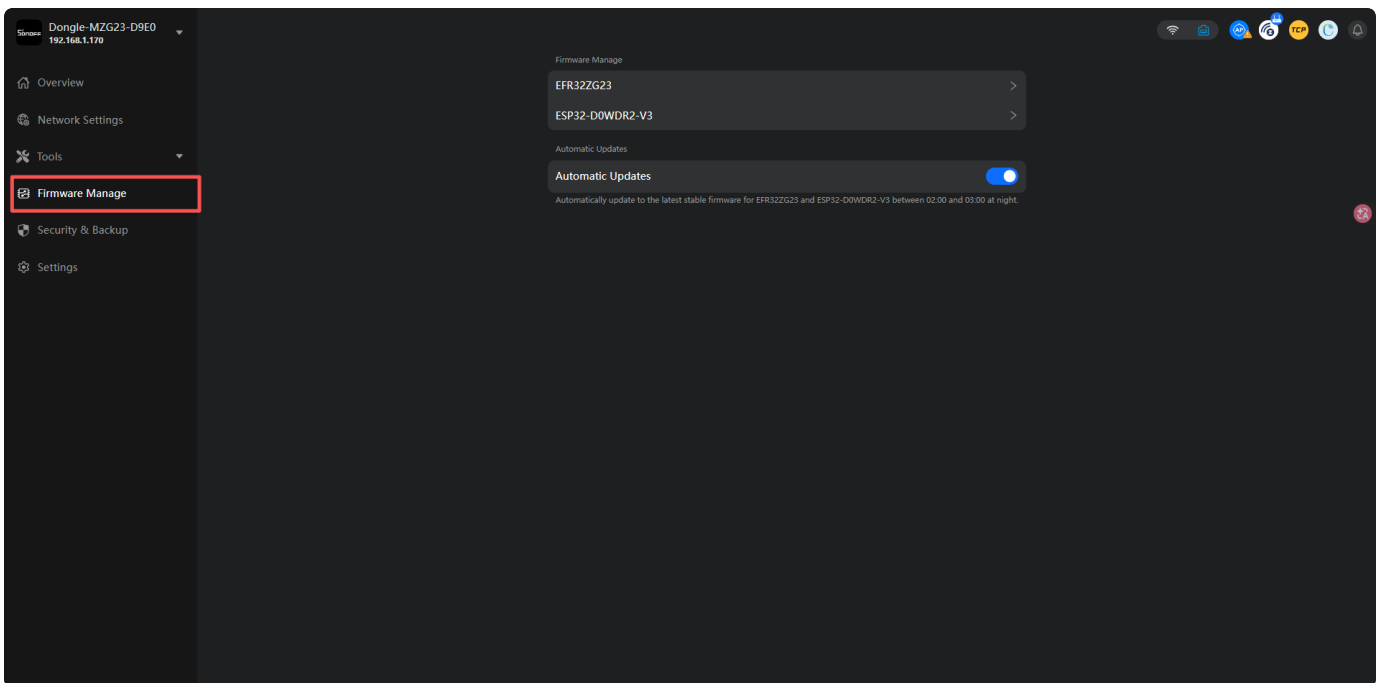
*\*If both Ethernet and Wi-Fi are connected, the Ethernet connection will take priority.*



## Firmware Upgrade (Optional)

You can perform a firmware upgrade under **Firmware Management**.

*\*It is recommended to upgrade the device to the latest stable firmware version before using Z-Wave 800 Dongle Max to ensure optimal performance.*



## Step 3: Connecting to Home Assistant

# Overview

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In Home Assistant, a Z-Wave network can be established using different combinations of **Z-Wave Integration**, **Z-Wave JS**, and **Z-Wave JS UI**, allowing you to manage and control Z-Wave devices.

Plan	Combination	Device Control Method	Notes
A	Z-Wave Integration + Z-Wave JS	Integration Control	<ul style="list-style-type: none"><li>• USB Connection</li></ul>
B	Z-Wave JS UI	Add-on Control	<ul style="list-style-type: none"><li>• USB Connection</li><li>• TCP Connection</li></ul>
C	Z-Wave Integration + Z-Wave JS UI	Integration Control	<ul style="list-style-type: none"><li>• USB Connection</li><li>• TCP Connection</li></ul>
D	Z-Wave Integration + Proxy Device	Integration Control	<ul style="list-style-type: none"><li>• USB Connection</li></ul>

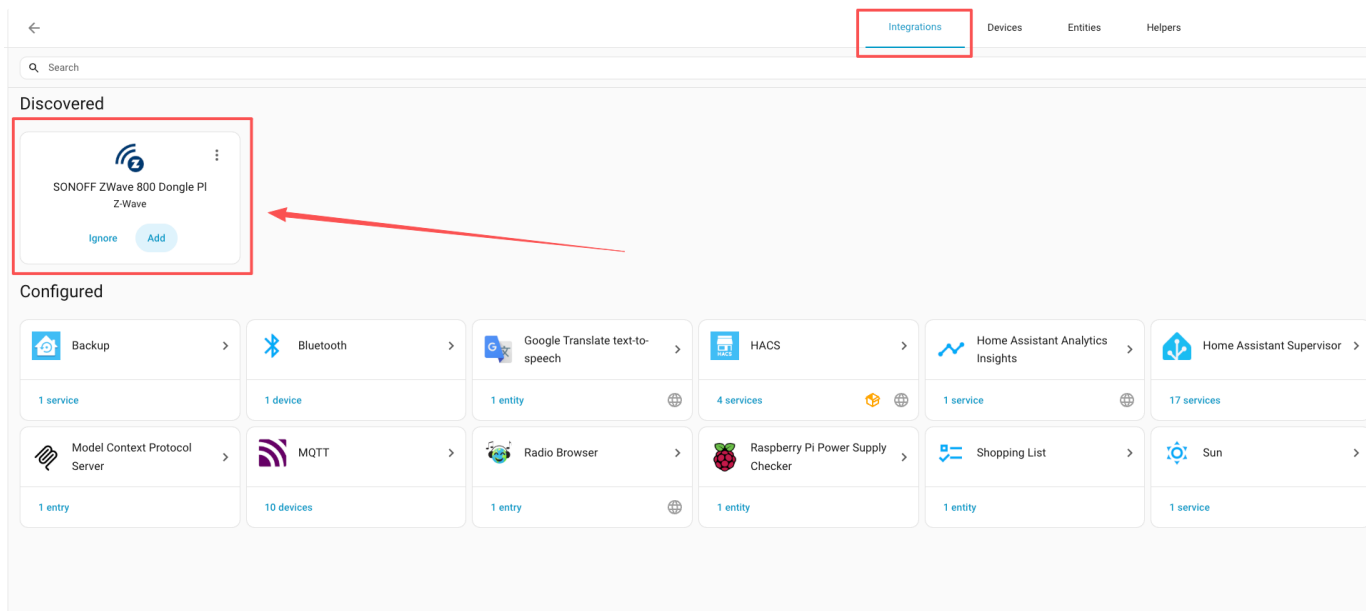
## Plan A: Z-Wave Integration + Z-Wave JS

Official Home Assistant guide: [https://www.home-assistant.io/integrations/zwave\\_js](https://www.home-assistant.io/integrations/zwave_js)

### Start the Configuration

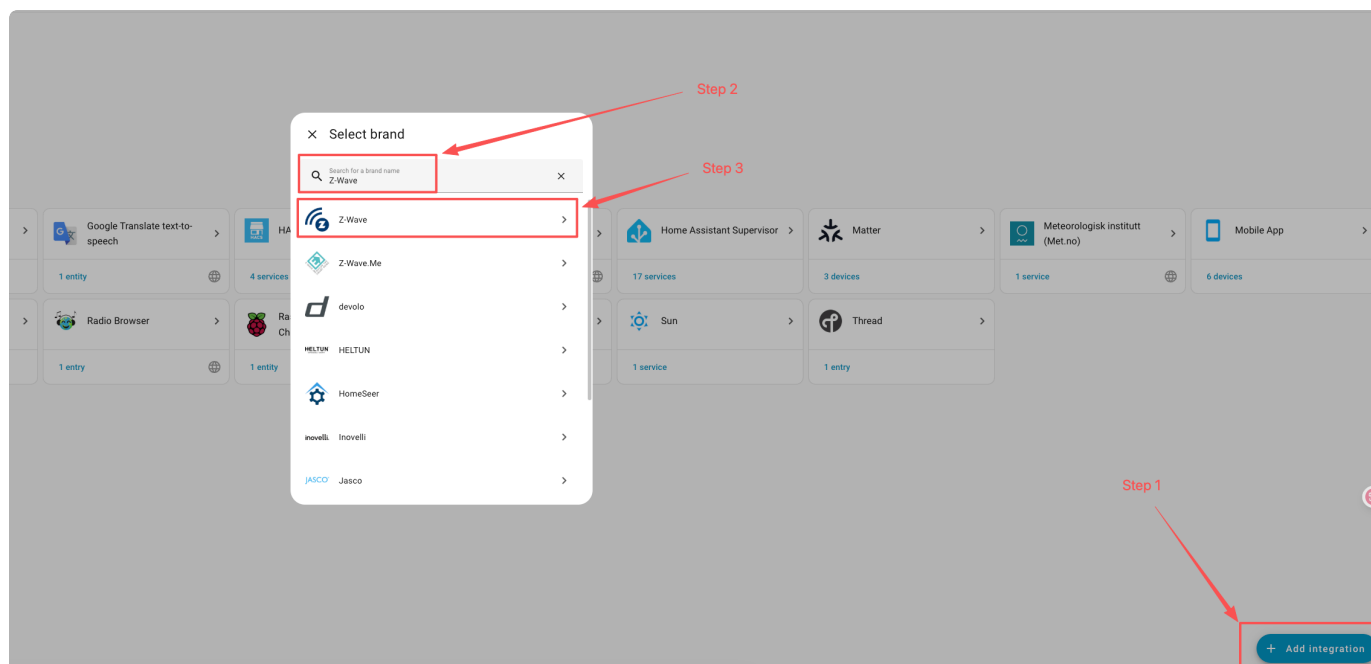
Home Assistant can **automatically discover Dongle-MZG23**. Click "Add" to start the configuration process.

\*Supports automatic discovery of Dongle-MZG23 in **Home Assistant Version 2025.12.2 or later**



If no device is automatically discovered, you can also add the device manually:

1. Click "Add integration" at the bottom right of the Integrations page.
2. Search for "Z-Wave".
3. Click the Z-Wave integration to start the configuration process.



## Configuration Process

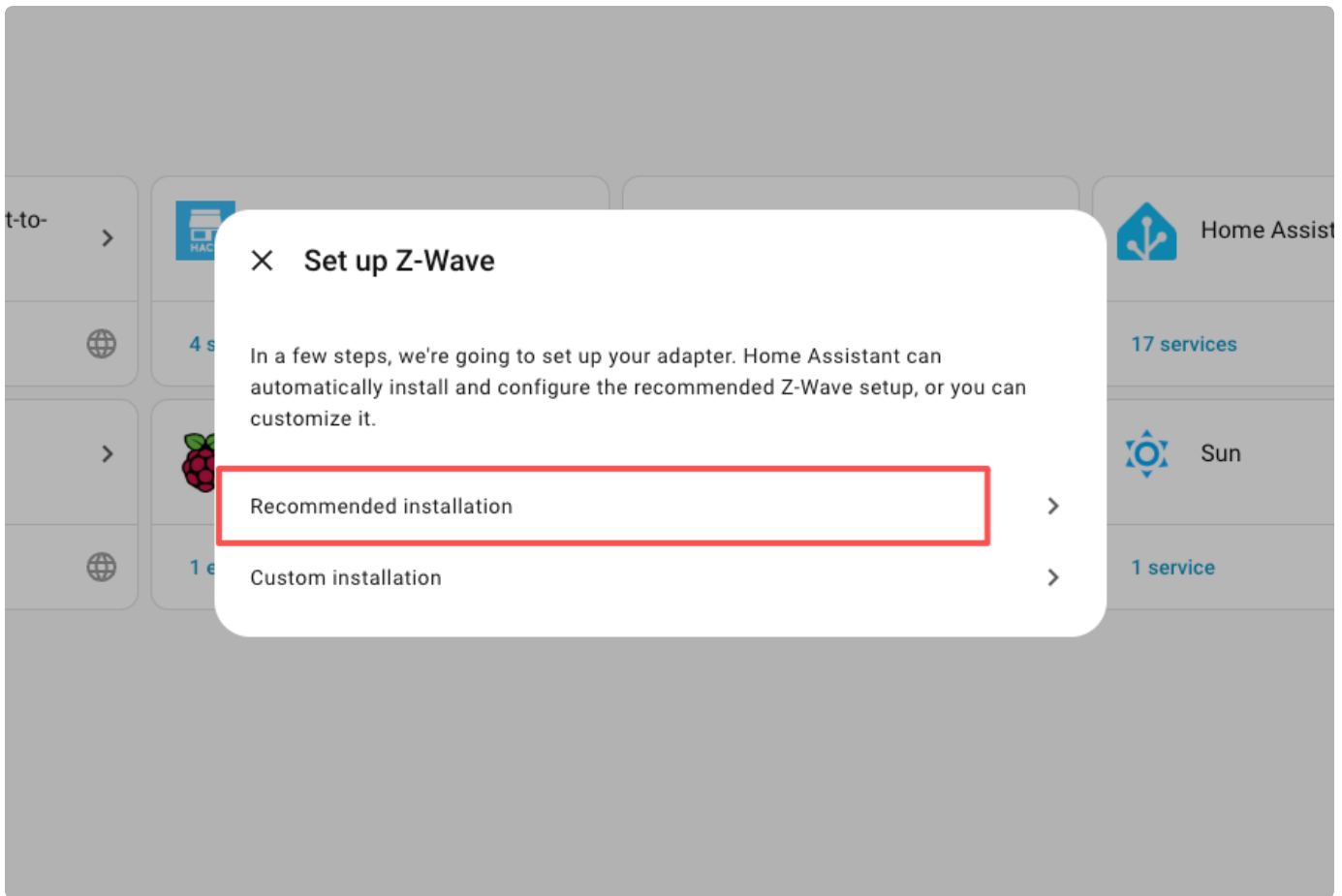
1. Select "Recommended installation".
2. Select "SONOFF\_ZWave\_800\_Dongle\_MZG23" (automatically discovered will skip this

step) and click "Submit".

3. Wait for the process to complete. You can now add new devices to your Z-Wave network. Detailed steps: [Adding a new device to the Z-Wave network](#)

**Note:**

- The Z-Wave frequency depends on your region. The Z-Wave JS Add-on will automatically adjust the radio frequency to match your country/region. You can modify this setting if needed. [Modification steps](#)



1 service

1 entry

1 device

✕ **Device created**



700/800 Series  
Silicon Labs

Device name

USB Controller

Area



Skip and finish

## Device info

700/800 Series  
by Silicon Labs

Firmware: 7.23.1

Z-Wave info ▼

 Z-Wave >

[+ Add device](#) ⋮

## Configuration

 Firmware Up-to-date

[Add to dashboard](#)

## Diagnostic

✓ Status Ready

[+17 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 +

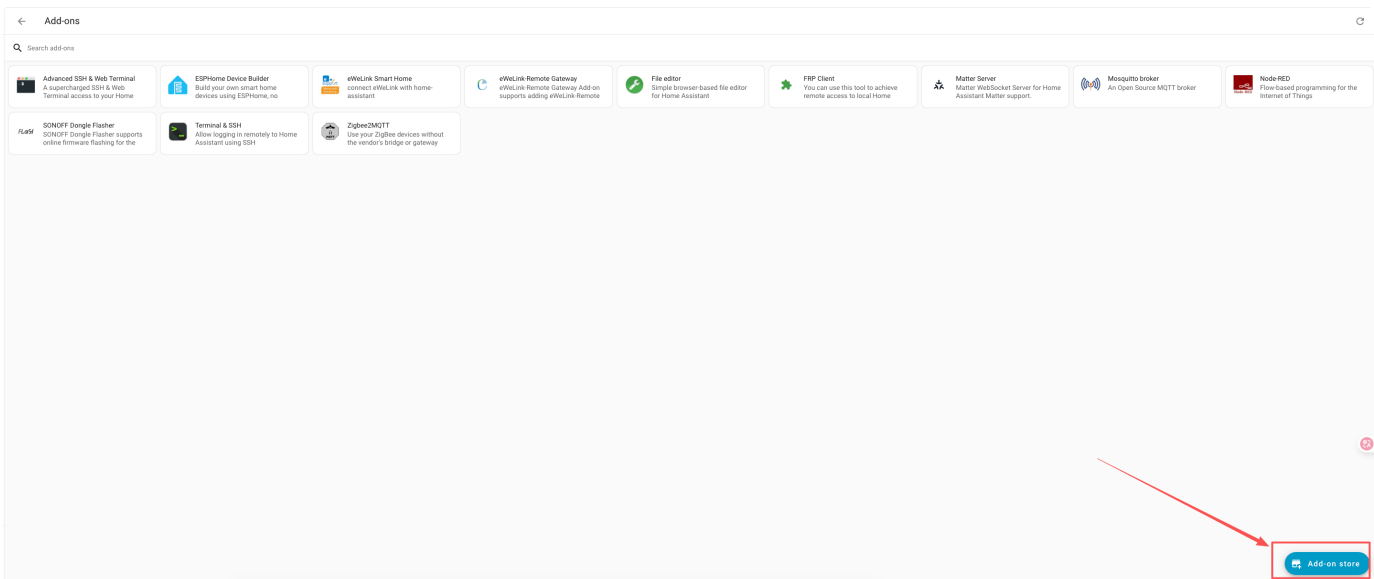
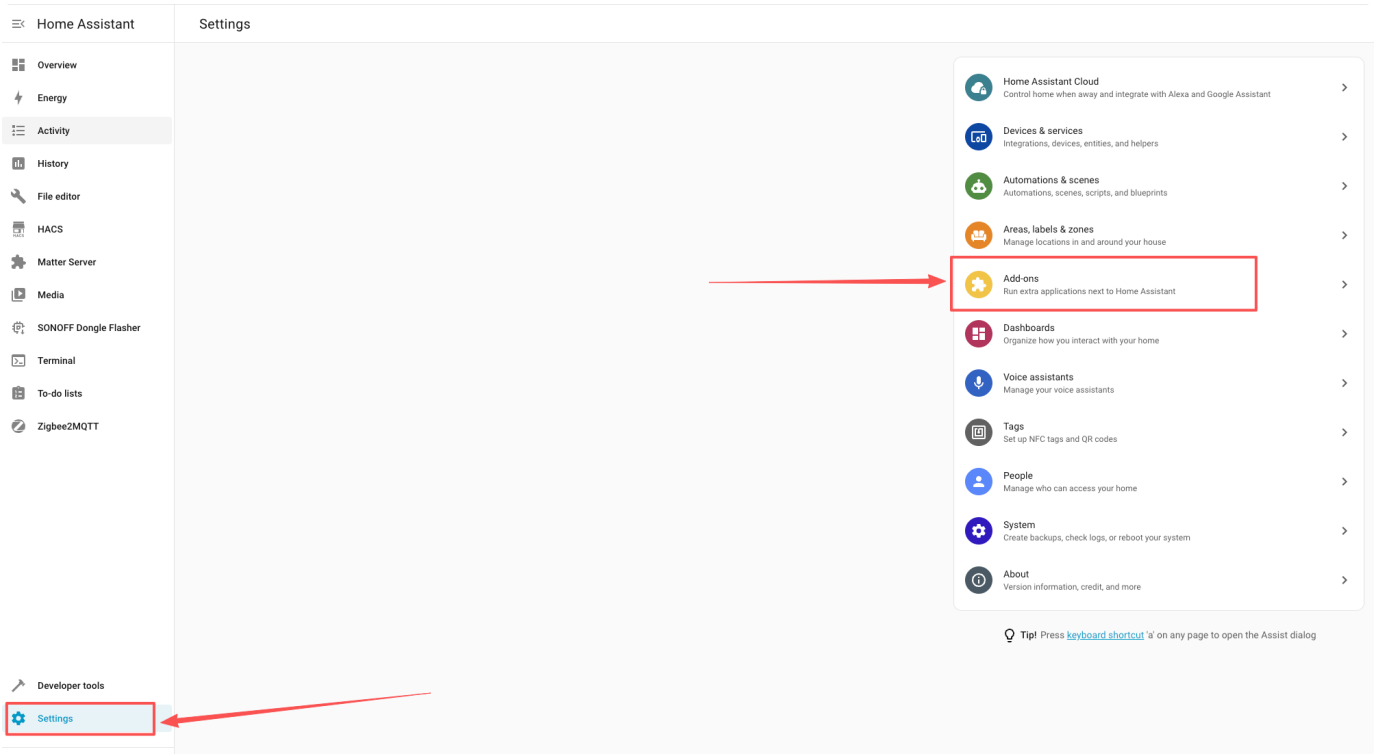
No scenes have been added using this device yet. You can add one by pressing the + button above.

## Scripts +

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

# Install Z-Wave JS UI Add-on

1. Go to the **Add-on Store** and search for "Z-Wave JS UI".
2. Click the **Z-Wave JS UI Add-on** to open its page.
3. Click **"Install"** and wait for the installation to complete. Then click **"Start"** to launch the Add-on.



Search  
Z-Wave JS UI

Step 1

No results found in Official add-ons.

No results found in ESPHome.

No results found in eWeLink add-ons.

No results found in Hassio iHost Test Add-ons.

No results found in Home Assistant Add-on: Zigbee2MQTT.

### Home Assistant Community Add-ons



Z-Wave JS UI  
Fully configurable Z-Wave JS gateway and control panel

Step 2

No results found in iHost Open Source Project.

No results found in iHost Open Source Project.

No results found in Music Assistant.

Info

Documentation

## Z-Wave JS UI

6.1.2

[Changelog](#)

7

Rating



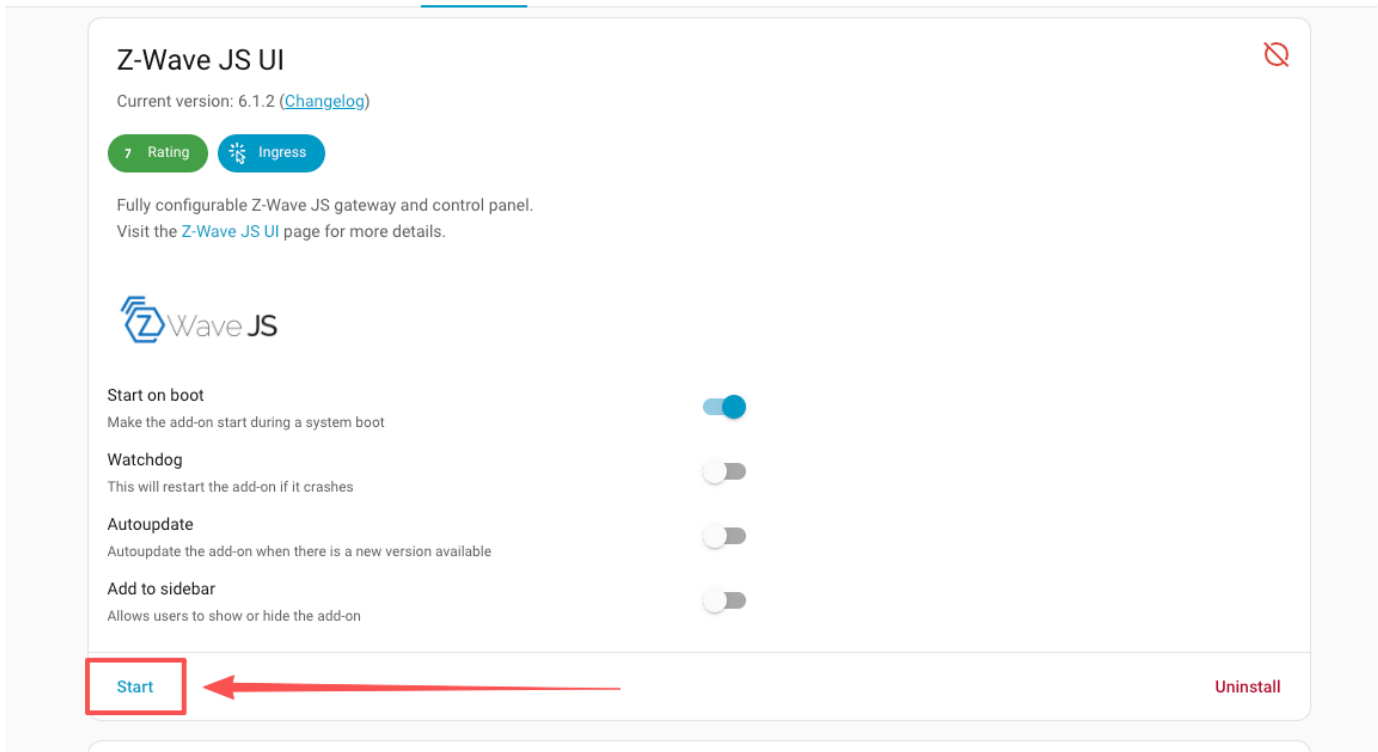
Ingress

Fully configurable Z-Wave JS gateway and control panel.  
Visit the [Z-Wave JS UI](#) page for more details.



Install






**Z-Wave JS UI** 🗑️

Current version: 6.1.2 ([Changelog](#))

7 Rating Ingress

Fully configurable Z-Wave JS gateway and control panel.  
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 Wave JS

**Start on boot**   
Make the add-on start during a system boot

**Watchdog**   
This will restart the add-on if it crashes

**Autoupdate**   
Autoupdate the add-on when there is a new version available

**Add to sidebar**   
Allows users to show or hide the add-on

Start Uninstall

## Configure Z-Wave JS UI Add-on (USB)

Click "Open web UI" to access the Web UI page, and configure the Add-on:

1. Click "**Settings**" in the sidebar.
2. Expand the "**Z-Wave**" options.
3. Select the serial device "**SONOFF\_ZWave\_800\_Dongle\_Plus\_ZG23**".
4. Click the refresh icon to generate random security keys.
5. Select the **RF Region** according to your location.
6. Click "**Save**" to save the configuration. Confirm the prompt to restart the device.
7. Click "**Control Panel**" to access the panel, wait for the device to restart and connect successfully. You can now add new devices to the Z-Wave network. Detailed steps: [Adding a new device to the Z-Wave JS UI](#)

## Z-Wave JS UI

Current version: 6.1.2 ([Changelog](#))

7 Rating

Ingress

Fully configurable Z-Wave JS gateway and control panel.  
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### Start on boot

Make the add-on start during a system boot



### Watchdog

This will restart the add-on if it crashes



### Autoupdate

Autoupdate the add-on when there is a new version available



### Add to sidebar

Allows users to show or hide the add-on



### Hostname

a0d7b954-zwavejs2mqtt

### Add-on CPU usage

0.1 %

### Add-on RAM usage

0.8 %

Stop

Restart

Uninstall

Open web UI



Control Panel

Smart Start

Settings **Step1**

Scenes

Templates

Debug

Store

Network graph

UI DOCS

General DOCS

Backup DOCS

**Z-Wave**  Enabled DOCS

Step2

Step3

Serial Port  
/dev/serial/by-id/usb-SONOFF\_SONOFF\_ZWave\_Dongle-MZ...   
Ex /dev/ttyUSB0. If your port is not listed here just write the port path here

Config priority directory

Security Keys

S2 Unauthenticated  
536A2574125F8232303065BD95B557BE

S2 Authenticated  
6D41C464FE58553EDAB12D4D6BEF254F

S2 Access Control  
6FBE8C6A13EC80750FAAD6042D48FECA

S0 Legacy  
630374FE640F4E39342295CD53043217

Security Keys (Long Range)

S2 Authenticated  
1F6A9B52590D22133FCDFC1A33557C8E

S2 Access Control  
3EAF64CE4A25BDA2B3A5714A8D25084F

Step4

Default Radio configuration

RF Region  
USA **Step5**  
Will be used to automatically configure your controller for the region you are in. Not all controllers support changing the RF region.

Automatic Power Level

When enabled, both normal and LR power levels will be automatically set to legal limits based on the RF region whenever the region is changed. Only supported for Europe and USA regions.

Measured output power at 0 dBm

Measured output power at 0 dBm in dBm. Min -10, Max +10. Will be applied on every startup if the current setting of your Z-Wave controller differs. Not all controllers support changing the powerlevel.

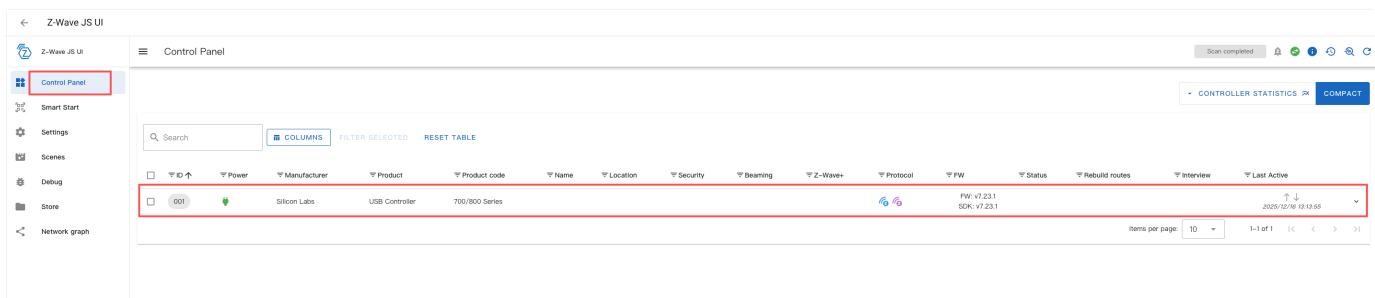
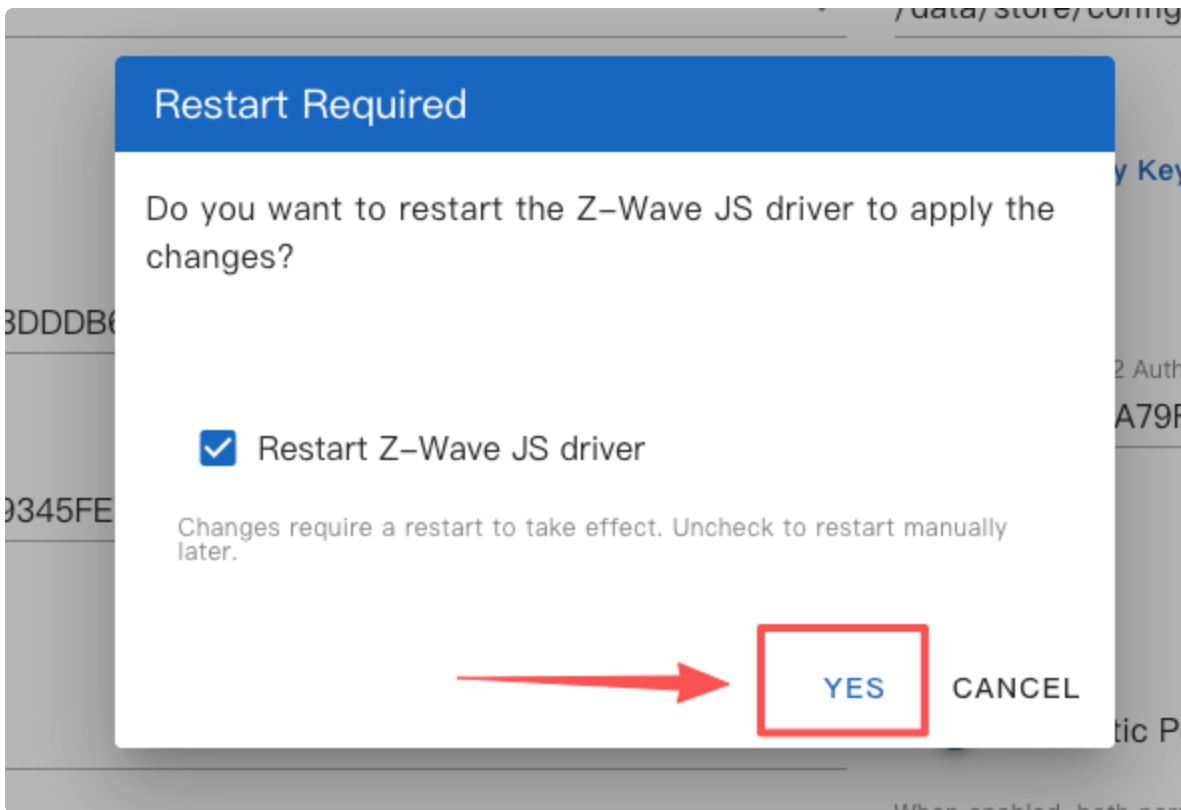
Driver logs

Enable driver logs

Log Level  
Info

Step6

RESET IMPORT EXPORT **SAVE**



## Configure Z-Wave JS UI Add-on (TCP)

Click "Open web UI" to access the Web UI page, and configure the Add-on:

1. Click "**Settings**" in the sidebar.
2. Expand the "**Z-Wave**" options.
3. Select the serial port "**tcp://IP:6638**" (This IP belongs to Dong-MZG23 and can be viewed in the Dongle-MZG23 Console web UI, as shown in the figure below) .
4. Click the refresh icon to generate random security keys.
5. Select the **RF Region** according to your location.
6. Click "**Save**" to save the configuration. Confirm the prompt to restart the device.
7. Click "**Control Panel**" to access the panel, wait for the device to restart and connect successfully.

You can now add new devices to the Z-Wave network. Detailed steps: [Adding a new device to](#)

# the Z-Wave JS UI

The screenshot displays the Z-Wave JS UI interface for a device named 'Doncle-MZG23-A09C' with IP address '192.168.31.9'. The interface is divided into several sections:

- Network Type:** WLAN + AP
- mDNS Hostname:** Dongle-MZG23.local
- Automatic Updates:** Disabled
- Z-Wave Mode:** Current Operation Mode: Z-Wave Controller Mode; Connection State: UART over TCP Connected
- Network Status:**
  - Ethernet:** Not Connected
  - WLAN:** Connected. SSID: Xiaomi\_B7E7, Encryption Type: WPA2 PSK (CCMP), Channel: 8, IP Address: 192.168.31.9, Subnet Mask: 255.255.255.0, DNS1: 192.168.31.1, DNS2: 0.0.0.0, MAC: A4:F0:0F:FB:A0:9F
  - AP:** Enabled. Encryption Type: WPA2 PSK (CCMP), Channel: 8, Connected Devices: 0/8, Gateway: 192.168.42.1
- Device Info:**
  - ESP32-D0WDR2-V3:** Wi-Fi SoC. Cores & Frequency: 2 @ 240 MHz. Flash Size: 16 MB. SRAM Size: 520KB. PSRAM Size: 2MB. Firmware Version: V1.0.7. Latest Version: (blank)
  - EFR32ZG23:** Z-Wave SoC. Cores & Frequency: 1 @ 78 MHz. Flash Size: 512 KB. RAM Size: 64 KB. Current Operation Mode: Z-Wave Controller Mode. Firmware Version: V1.0.0. Latest Version: (blank)

Control Panel

Smart Start

**Settings** step1

Scenes

Templates

Debug

Store

Network graph

UI DOCS ▾

General DOCS ▾

Backup DOCS ▾

Z-Wave  Enabled step2 DOCS ▴

Serial Port  
tcp://192.168.11.159:6638 step3  
Ex /dev/ttyUSB0. If your port is not listed here just write the port path here

Config priority directory

step4

Security Keys

S2 Unauthenticated

🔑 \_\_\_\_\_ 🔑

S2 Access Control

🔑 \_\_\_\_\_ 🔑

Security Keys (Long Range)

S2 Authenticated

🔑 \_\_\_\_\_ 🔑

S2 Authenticated

🔑 \_\_\_\_\_ 🔑

S0 Legacy

🔑 \_\_\_\_\_ 🔑

S2 Access Control

🔑 \_\_\_\_\_ 🔑

Default Radio configuration

RF Region

USA step5

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Measured output power at 0 dBm in dBm. Min -10, Max +10. Will be applied on every startup if the current setting of your Z-Wave controller differs. Not all controllers support changing the powerlevel.

Driver logs

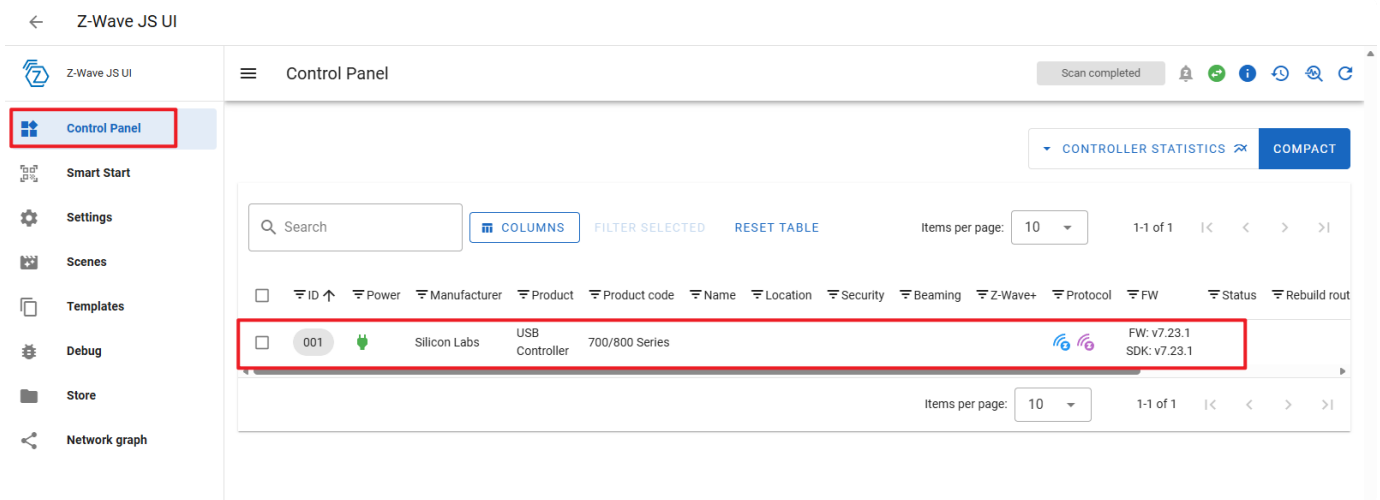
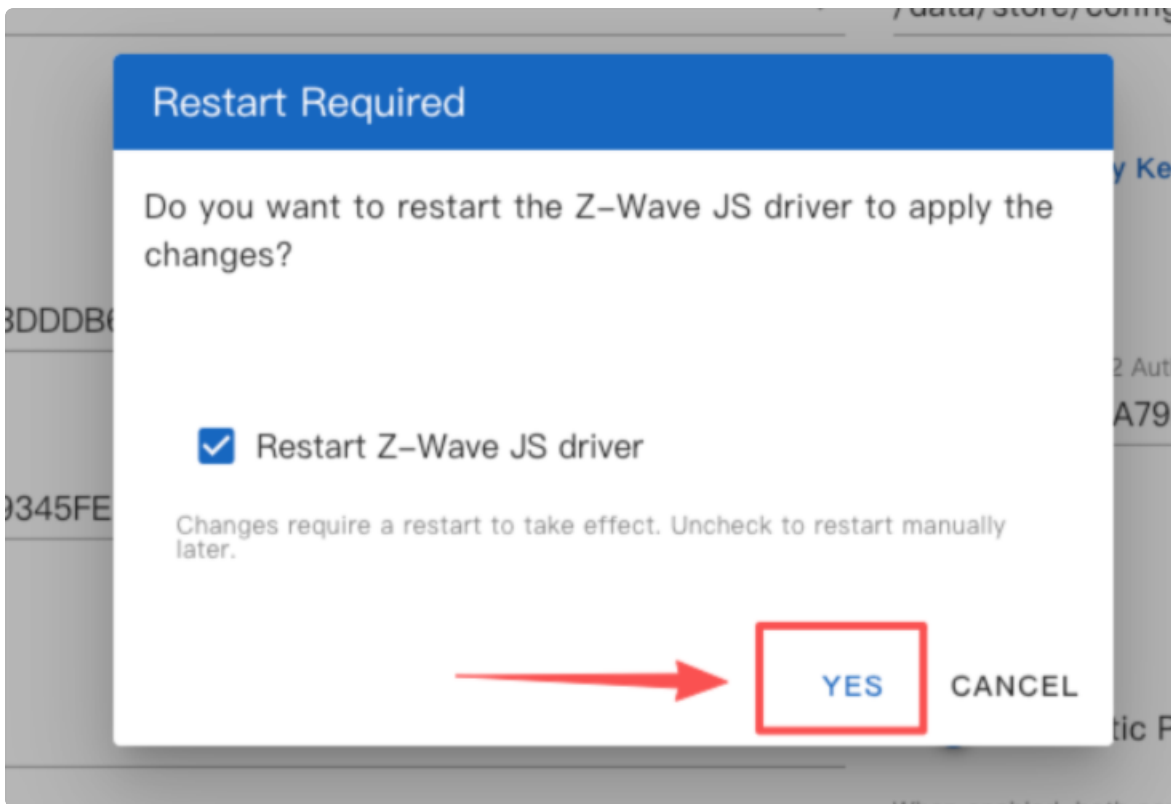
Enable driver logs

Log Level

Info

step6 ▾

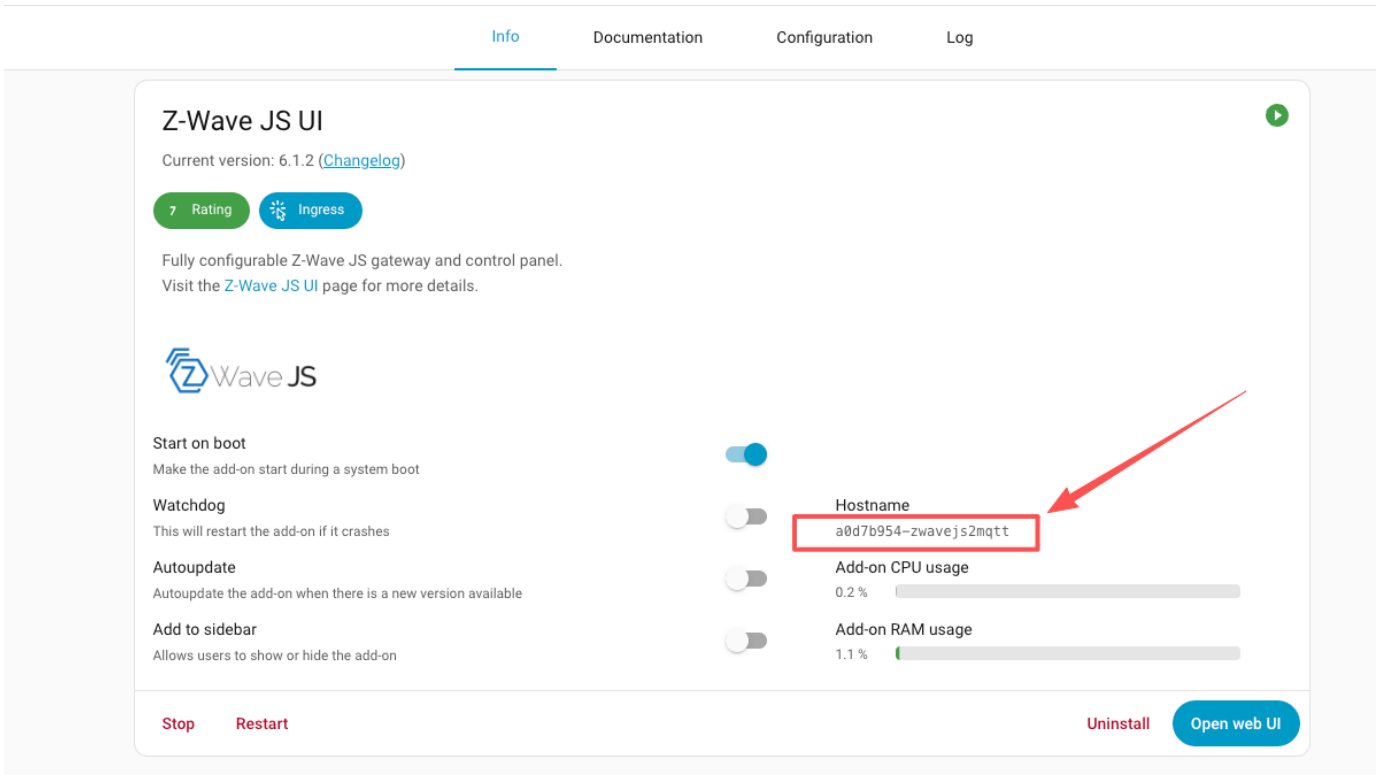
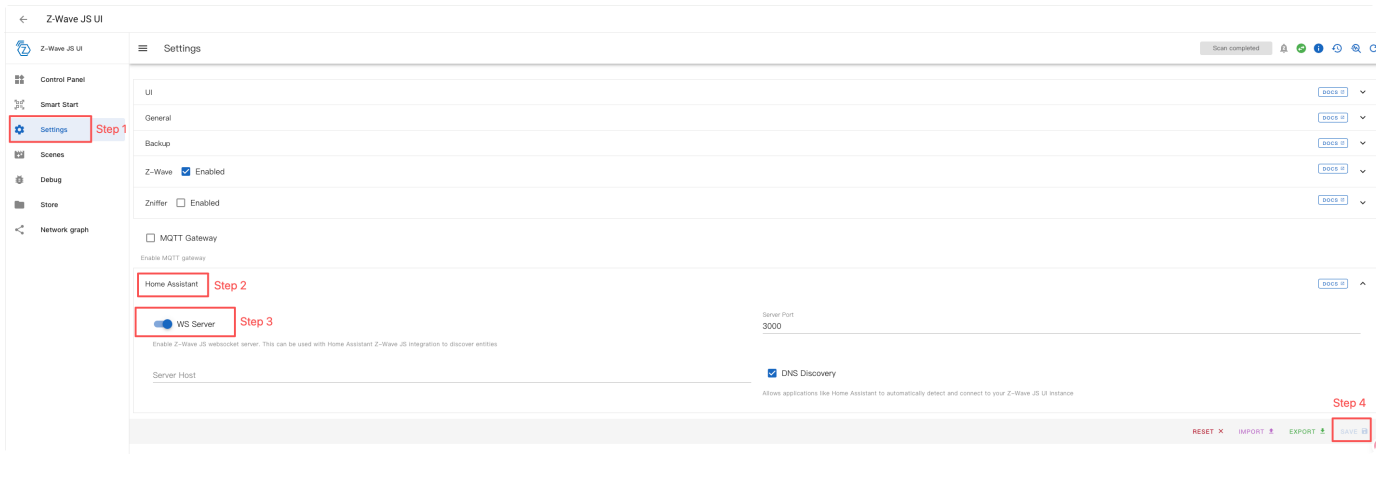
RESET ✕ IMPORT ⬆ EXPORT ⬇ **SAVE** 📄



## Plan C: Z-Wave Integration + Z-Wave JS UI

### Configure Z-Wave JS UI

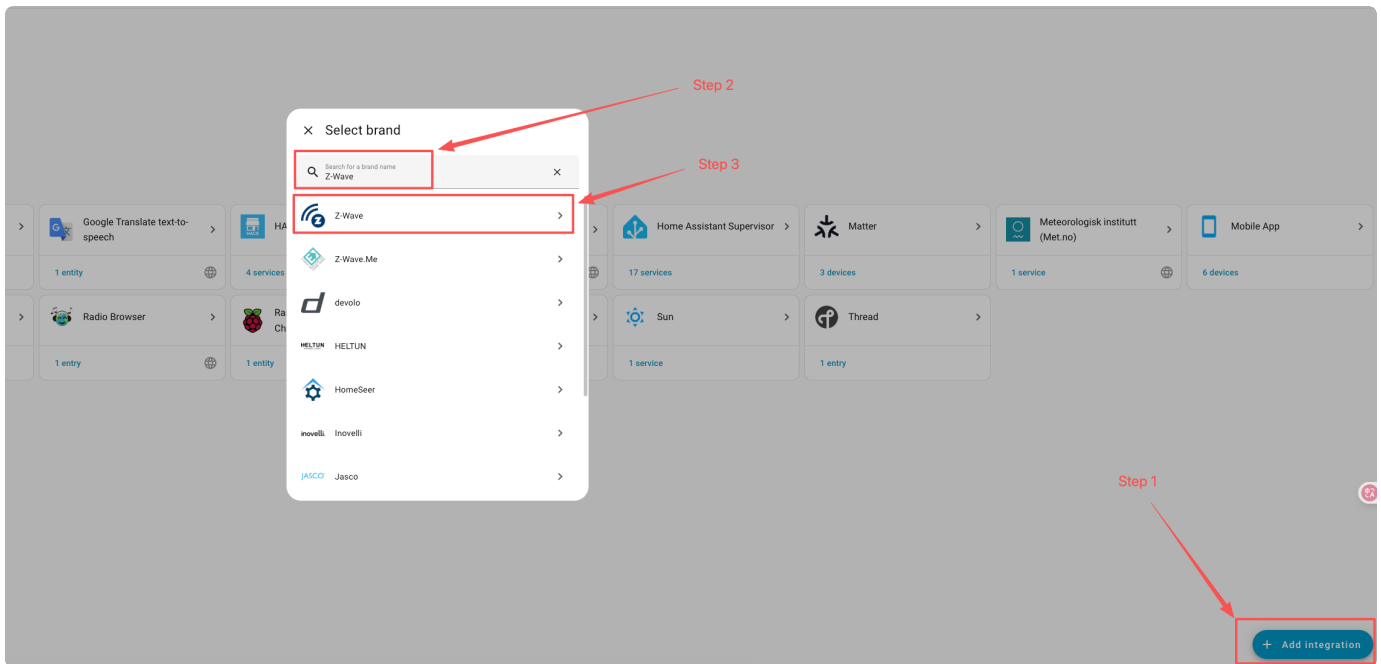
1. Follow the **Configure Z-Wave JS UI Add-on** steps above.
2. On the **Settings** page, enable the **"WS Server"** option under **Home Assistant**, then save (default is enabled).
3. Copy the **"Hostname"** field, **which will be used later**, from the Z-Wave JS UI info page.



## Configure Z-Wave Integration

### Start the Configuration

1. Click "Add integration" at the bottom right of the Integrations page.
2. Search for "Z-Wave".
3. Click the Z-Wave integration to start the configuration process.



## Configuration Process

1. Select "Custom installation".
2. Uncheck "Use the Z-Wave Supervisor add-on" and click "Submit".
3. Replace the "localhost" in the URL input box with the **Hostname** from the Z-Wave JS UI Add-on, then click "Submit". Wait for the configuration to complete. Devices added via Z-Wave JS UI will now sync to the Z-Wave integration.

## ✕ Set up Z-Wave ?

In a few steps, we're going to set up your adapter. Home Assistant can automatically install and configure the recommended Z-Wave setup, or you can customize it.

Recommended installation >

Custom installation >

## ✕ Select connection method ?

Do you want to use the Z-Wave Supervisor add-on?

Use the Z-Wave Supervisor add-on

Submit

## × Z-Wave



The Z-Wave integration requires a running Z-Wave Server. If you don't already have that set up, please read the [instructions](#) in our documentation.

When you have a Z-Wave Server running, enter its URL below to allow the integration to connect.

URL\*  
ws://a0d7b954-zwavejs2mqtt:3000

The URL of the Z-Wave Server WebSocket API, e.g. ws://localhost:3000

Submit

## × Device created



700/800 Series  
Silicon Labs

Device name  
USB Controller

Area

Skip and finish

## Plan D: Z-Wave Integration + Proxy Device

If you need to place Connect Dongle-MZG23 far away from your Home Assistant system, you can run Z-Wave JS on another system and connect that to Home Assistant.

This allows you to plug Home Assistant Connect Dongle-MZG23 in a location that is closer to your end devices.

1. Connect **Dongle-MZG23** to another host device.
2. Install **Z-Wave JS UI** on this host.
3. Configure **Z-Wave JS UI**:
  - a. Enable the **WS Server** and **mDNS** options.
  - b. Note the system's IP address and server port (default: 3000).
4. If this host and the Home Assistant host are on the **same local network**, the Z-Wave JS UI system should be **automatically discovered** by Home Assistant.
5. If it is not discovered automatically, configure it manually:
  - a. On your Home Assistant system, go to Settings > Devices & services
  - b. Add a Z-Wave hub using a Custom installation method.
  - c. Make sure to uncheck the Use the Z-Wave Supervisor add-on option.
  - d. Fill in the IP address of the Z-Wave JS UI system (for example ws://IP-ADDRESS:3000).

## Device Migration

You can refer to the following method to migrate your Z-Wave network to Dongle-MZG23.

[https://www.home-assistant.io/integrations/zwave\\_js/#removing-a-device-from-the-z-wave-network](https://www.home-assistant.io/integrations/zwave_js/#removing-a-device-from-the-z-wave-network)