

SONOFF ZBDongle-P

SONOFF Zigbee 3.0 USB Dongle Plus Gateway User Manual

Model: ZBDongle-P

1. INTRODUCTION

The SONOFF Zigbee 3.0 USB Dongle Plus Gateway is a universal Zigbee USB stick designed to act as a gateway for your smart home devices. It is pre-flashed with Z-Stack 3.x.0 coordinator firmware, enabling seamless integration with popular open-source home automation platforms such as Home Assistant (using ZHA) and Zigbee2MQTT. This dongle eliminates the need for multiple brand-specific Zigbee hubs, providing a unified solution for controlling your Zigbee sub-devices.



Image: The SONOFF Zigbee 3.0 USB Dongle Plus Gateway, featuring its sleek black design, external antenna, and the product packaging.

2. PACKAGE CONTENTS

Upon opening the package, please verify that all the following items are included:

- 1 x Zigbee 3.0 USB Dongle Plus
- 1 x Antenna
- 1 x User Manual

Packages



Image: A flat lay showing the SONOFF Zigbee 3.0 USB Dongle Plus, its detachable antenna, the user manual, and the product box.

3. HARDWARE DESCRIPTION

The ZBDongle-P is built on the TI CC2652P chip and features a CP2102N USB to serial chip. It includes a +20dBm output gain for extended range and an SMA interface for the external antenna. The aluminum housing is designed to effectively reduce signal interference from surrounding peripherals, ensuring stable performance.

SONOFF

ZigBee 3.0 USB Dongle Plus

SONOFF Zigbee 3.0 USB Dongle is a universal Zigbee USB stick. It can be used as a universal Zigbee gateway in Home Assistant or other open-source platforms via ZHA or Zigbee2MQTT to locally control all your Zigbee sub-devices, so you don't need to invest on the Zigbee hubs for different brands, all you need is a universal gateway – Dongle Plus!



Image: Detailed view of the dongle's circuit board, highlighting key components such as the CC2652P chip, CP2102N, DIP switch for hardware flow control, reset button, boot button, power indicator, and reserved LED I/O.

4. SETUP

To set up your SONOFF Zigbee 3.0 USB Dongle Plus, follow these general steps:

1. **Attach the Antenna:** Carefully screw the provided antenna onto the SMA connector on the dongle.
2. **Connect to Host Device:** Insert the USB dongle into an available USB port on your host device (e.g., PC, Mac, Raspberry Pi). For optimal performance and to avoid potential power issues, especially with devices like Raspberry Pi, it is recommended to use a USB extension cable.
3. **Software Configuration:** Depending on your chosen platform (Home Assistant with ZHA or Zigbee2MQTT), you will need to configure the software to recognize and utilize the dongle as your Zigbee coordinator. Detailed installation steps and connection tutorials are available by scanning the QR code on the included User Manual.

Hardware Description

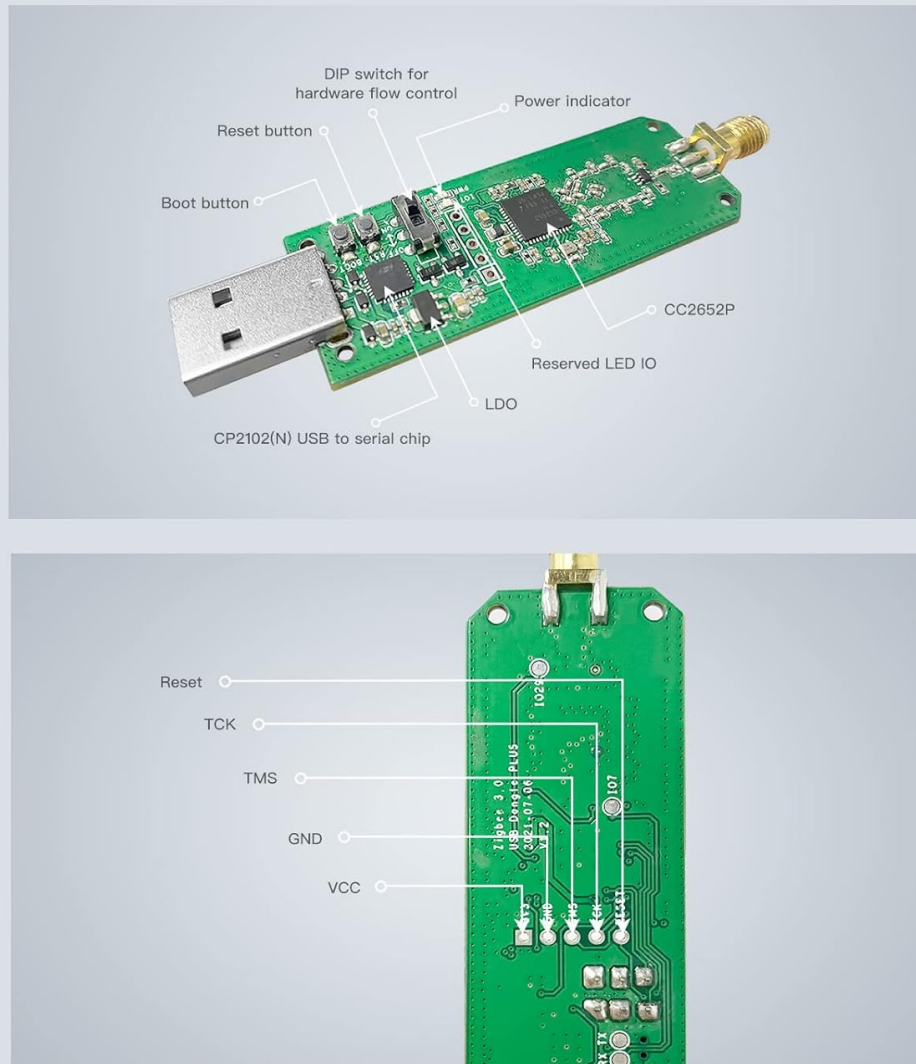


Image: The dongle connected directly to a Raspberry Pi and also shown connected via a USB hub, illustrating flexible integration options.

5. OPERATING INSTRUCTIONS

Once properly set up and configured with your chosen home automation software, the SONOFF Zigbee 3.0 USB Dongle Plus will function as the central coordinator for your Zigbee network. It allows you to:

- **Pair Zigbee Devices:** Add various Zigbee-compatible devices (sensors, lights, switches, etc.) to your network.
- **Control Devices:** Send commands to and receive data from your paired Zigbee devices.
- **Build a Mesh Network:** Benefit from the self-healing mesh capabilities of Zigbee, where devices can relay signals to extend network range and reliability.

The dongle supports both Zigbee Coordinator and Zigbee Router firmware, offering flexibility in how it integrates into your smart home ecosystem.

6. FIRMWARE FLASHING

The SONOFF Zigbee 3.0 USB Dongle Plus supports easy firmware updates. You can flash new firmware in approximately one minute using the official SONOFF Dongle Flasher directly in your web browser. This process is designed to be simple and beginner-friendly, requiring no complex setup or extra tools.

- **Supported Firmware:** Zigbee Coordinator, Zigbee Router.



Image: A laptop screen displaying the SONOFF Dongle Flasher web interface, indicating the ease of updating the dongle's firmware.

7. SPECIFICATIONS

Model	ZBDongle-P
Wireless Type	Zigbee 3.0 (IEEE 802.15.4)
Hardware Platform	TI CC2652P + CP2102N
Output Gain	+20dBm
Antenna Interface	SMA

Shell Material	Aluminum alloy
Input Voltage	DC 5V (100mA Max)
Operating Temperature	-10°C to 40°C
Product Dimensions (L x W x H)	87 x 25.5 x 13.5 mm (Dongle)
Item Weight	1.3 ounces
Compatible Operating Systems	Windows, Raspbian, Ubuntu, macOS (Linux, MacOS, Windows family)



Image: Technical drawing showing the precise dimensions of the SONOFF Zigbee 3.0 USB Dongle Plus and its antenna.

8. TROUBLESHOOTING

If you encounter issues with your SONOFF Zigbee 3.0 USB Dongle Plus, consider the following troubleshooting steps:

- **Power Issues:** If the dongle is not recognized or behaves erratically, especially when connected to a Raspberry Pi or other low-power USB hosts, ensure adequate power supply. Using a powered USB hub

or a USB extension cable can often resolve 'unable to probe' errors or instability.

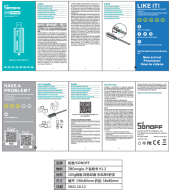
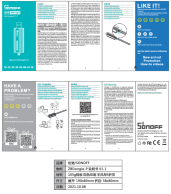
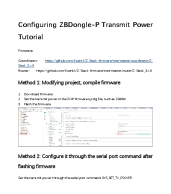
- **USB Interference:** Due to its size, the dongle might obstruct adjacent USB ports. If experiencing connectivity issues, try using a USB extension cable to position the dongle away from other USB devices or sources of electromagnetic interference.
- **Firmware Check:** Verify that the dongle has the correct and latest firmware for your intended use (Coordinator or Router). Refer to Section 6 for firmware flashing instructions.
- **Software Configuration:** Double-check your Home Assistant (ZHA) or Zigbee2MQTT configuration settings. Ensure the correct serial port is selected and that the software is properly installed and updated.
- **Network Congestion:** In environments with many wireless devices, consider potential Wi-Fi interference. Zigbee operates on the 2.4GHz band, which can overlap with Wi-Fi channels. Adjusting Zigbee or Wi-Fi channels might improve performance.
- **Community Support:** For specific software-related issues (Home Assistant, Zigbee2MQTT), consult their respective online communities and documentation. These platforms have extensive user bases and resources.

9. WARRANTY AND SUPPORT

SONOFF products are designed for reliability and performance. For information regarding warranty coverage, technical support, or service, please refer to the official SONOFF website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

Official SONOFF Website: www.sonoff.com

Related Documents - ZBDongle-P

	<p>SONOFF Zigbee 3.0 USB Dongle Plus User Manual - Smart Home Automation</p> <p>User manual for the SONOFF Zigbee 3.0 USB Dongle Plus (ZBDongle-P), a versatile Zigbee coordinator and router for Home Assistant and other open-source platforms. Learn about setup, supported devices, and FCC compliance.</p>
	<p>SONOFF Zigbee 3.0 USB Dongle Plus User Manual and Specifications</p> <p>Comprehensive user manual and technical specifications for the SONOFF Zigbee 3.0 USB Dongle Plus, detailing its features, installation, compliance, and support information.</p>
	<p>Configure ZBDongle-P Transmit Power: A Tutorial for SONOFF Zigbee Dongle</p> <p>Learn how to configure the transmit power of your SONOFF ZBDongle-P Zigbee device. This tutorial covers firmware modification and serial port commands for setting optimal power levels.</p>

<div data-bbox="124 98 287 313"><p>SONOFF ZBDongle-E</p><p>Funkcjonalny klucz sprzętowy Sonoff ZigBee 3.0 USB Dongle-E</p><p>Instrukcja obsługi</p></div>	<p>SONOFF ZBDongle-E Zigbee 3.0 USB Dongle - Instrukcja Obsługi</p> <p>Szczegółowe instrukcje i specyfikacje techniczne dla SONOFF ZBDongle-E Zigbee 3.0 USB Dongle, wszechstronnego klucza sprzętowego dla platform automatyki domowej.</p>
<div data-bbox="124 412 287 627"><p>SONOFF ZBDongle-E</p><p>Funkční klíč Sonoff ZigBee 3.0 USB Dongle-E</p><p>Uživatelská příručka</p></div>	<p>SONOFF ZBDongle-E Zigbee 3.0 USB Dongle Plus - Uživatelská příručka a Specifikace</p> <p>Kompletní uživatelská příručka pro SONOFF ZBDongle-E Zigbee 3.0 USB Dongle Plus. Zjistěte informace o instalaci, kompatibilitě, technických specifikacích a ochraně životního prostředí.</p>
<div data-bbox="124 725 287 815"></div>	<p>SONOFF Dongle Plus P MG24 Quick Start Guide Zigbee Smart Home Hub</p> <p>Get started with the SONOFF Dongle Plus P MG24, a powerful Zigbee 3.0 USB gateway for your smart home. This guide covers setup, specifications, and troubleshooting.</p>