SONOFF ZBDongle-E

SONOFF Zigbee 3.0 USB Dongle Plus-E Gateway

Model: ZBDongle-E
Brand: SONOFF

1. INTRODUCTION

The SONOFF Zigbee 3.0 USB Dongle Plus-E Gateway is a universal wireless Zigbee USB adapter designed to serve as a Zigbee coordinator or router in various smart home automation platforms. It provides a reliable and efficient way to integrate and control Zigbee-compatible devices within your smart home ecosystem, eliminating the need for multiple brand-specific hubs.

Image 1.1: The SONOFF Zigbee 3.0 USB Dongle Plus-E Gateway with its antenna.

2. PRODUCT OVERVIEW AND FEATURES

The ZBDongle-E is engineered for robust performance and broad compatibility, offering several key features:

- **Pre-flashed Firmware:** Comes pre-flashed with Zigbee coordinator firmware based on EZNet 6.10.3, ready for immediate use.

- **Wide Compatibility:** Supports popular smart home platforms such as Home Assistant, openHAB, and Zigbee2MQTT.

- **High Performance Chip:** Based on the EFR32MG21 chip for stable and efficient operation.

- **Enhanced Output Gain:** Features +20dBm output gain for extended signal reach.

- **Durable Construction:** Equipped with an aluminum housing that effectively reduces signal interference from peripherals.

- **Rotatable Antenna:** Includes an SMA interface external rotatable antenna for optimized signal reception.
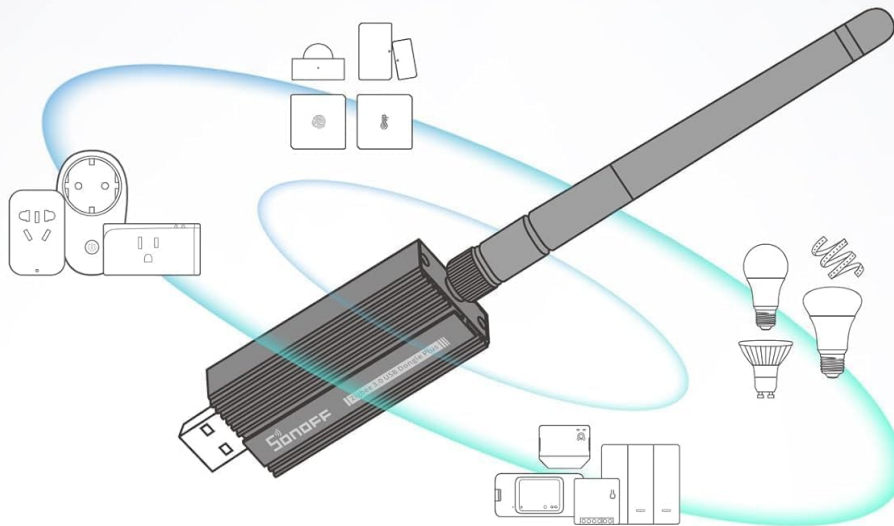
Image 2.1: The Dongle Plus-E connected to a Raspberry Pi and a laptop, illustrating its use as a universal Zigbee USB stick.

Wide Range of Supported Devices

Dongle Plus can be used as a Zigbee 3.0 gateway in open-source automation platforms to manage various sub-devices from various brands. The supported devices depend on the platforms.

* Max direct children: 32.
Max children: no limit on firmware, depends on platforms.

Image 2.2: Illustration of the wide range of supported open-source automation platforms, including Home Assistant, openHAB, and Zigbee2MQTT.

3. SETUP

Follow these steps to set up your SONOFF Zigbee 3.0 USB Dongle Plus-E Gateway:

1. **Physical Connection:** Insert the USB dongle into an available USB port on your computer or Raspberry Pi. For optimal performance and to minimize potential interference, it is recommended to use a USB 2.0 port and an extension cable to position the dongle away from the host device.

2. **Driver Installation (Windows/macOS):** If you are using Windows or macOS, you may need to install the corresponding drivers. These are typically available on the SONOFF official website or through your operating system's automatic driver detection. Linux-based systems often recognize the device automatically.

3. **Platform Integration:**
   - **Home Assistant (ZHA/Zigbee2MQTT):** Configure the dongle within your Home Assistant instance using either the ZHA (Zigbee Home Automation) integration or Zigbee2MQTT. Refer to the specific documentation for your chosen integration for detailed setup instructions.
   - **openHAB:** Integrate the dongle with openHAB by adding the Zigbee binding and configuring the serial port.
   - **Other Platforms:** For other open-source platforms, consult their respective documentation for
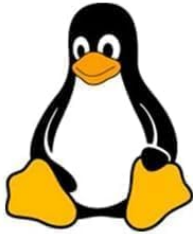
Zigbee coordinator setup.

4. **Firmware Management:** The dongle comes pre-flashed as a Zigbee coordinator. If you wish to use it as a Zigbee router to extend your network range, you can flash the router firmware. SONOFF provides an official Dongle Flasher tool for quick and easy firmware updates directly in your browser.

Image 3.1: Screenshot of the SONOFF Dongle Flasher interface, showing supported firmware types including Zigbee Coordinator, Zigbee Router, OpenThread RCP, and MultiPAN RCP.
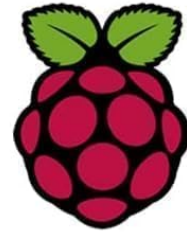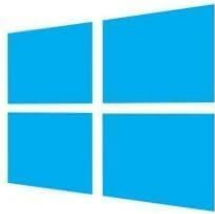
Compatible

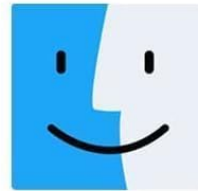## Support a variety of common systems.

Linux   **Ubuntu**   **Raspbian**

Windows   **macOS**

* Windows and macOS require corresponding driver installation.

Image 3.2: Supported operating systems: Linux, Ubuntu, Raspbian, Windows, and macOS. Note that Windows and macOS may require driver installation.

4. OPERATING INSTRUCTIONS

Once the dongle is set up and recognized by your chosen smart home platform, you can begin operating your Zigbee network:

- **Pairing Devices:** Initiate the pairing mode on your smart home platform and then activate the pairing mode on your Zigbee devices. The dongle will act as the central coordinator to connect these devices to your network.
- **Network Management:** Use your smart home platform's interface to manage your Zigbee devices, including adding, removing, and organizing them.
- **Using as a Router:** If you have flashed the router firmware, the dongle will extend the range of your existing Zigbee network, allowing devices further away from your main coordinator to connect reliably.
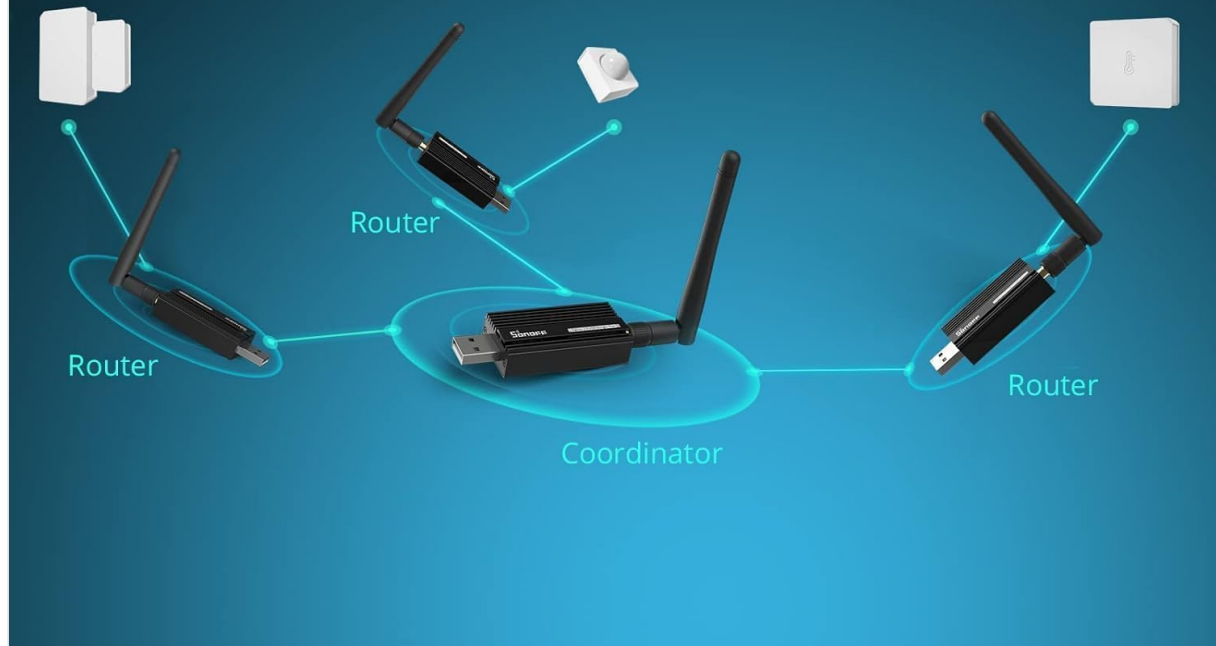
Image 4.1: Diagram illustrating how the Dongle Plus can function as a Zigbee Coordinator or be flashed as a Zigbee Router to extend the network range.

5. MAINTENANCE

To ensure the longevity and optimal performance of your SONOFF Zigbee 3.0 USB Dongle Plus-E Gateway, consider the following maintenance guidelines:

- **Environmental Conditions:** Operate the dongle within its specified working temperature range (-10°C to 40°C). Avoid exposing it to extreme temperatures, high humidity, or direct sunlight.
- **Cleaning:** Use a soft, dry cloth to clean the exterior of the dongle. Do not use liquid cleaners or aerosols.
- **Firmware Updates:** Periodically check for firmware updates from SONOFF. Keeping the firmware updated can improve performance, add new features, and address potential issues.
- **Physical Protection:** Handle the dongle and its antenna with care to prevent physical damage.

6. TROUBLESHOOTING

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

- **Device Not Recognized:**
  - Ensure the dongle is fully inserted into the USB port.
  - Try a different USB port.
  - Verify that necessary drivers are installed for Windows/macOS.
  - Restart your host device (computer/Raspberry Pi).

- **Poor Signal or Dropped Connections:**
  - Use a USB extension cable to move the dongle away from the host device, especially if it's connected to a USB 3.0 port, as USB 3.0 can cause 2.4GHz interference.
  - Ensure the antenna is securely attached and oriented correctly.
  - Consider adding Zigbee router devices (e.g., smart plugs, light bulbs) to strengthen your mesh network, especially in larger homes or areas with many obstacles.
  - Check for other 2.4GHz wireless interference sources (Wi-Fi routers, microwaves) and try to minimize their proximity to the dongle.

- **Devices Not Pairing:**
  - Ensure both the dongle (via your platform) and the Zigbee device are in pairing mode.
  - Bring the device closer to the dongle during the initial pairing process.
  - Check if the device is already paired to another Zigbee network. If so, reset the device according to its manufacturer's instructions.

- **Software-Specific Issues:** For issues related to Home Assistant, openHAB, Zigbee2MQTT, or other software, consult their respective community forums and documentation.

7. SPECIFICATIONS

Attribute	Value
Model	ZBDongle-E
Input	DC 5V (100mA Max)
Working Temperature	-10°C ~ 40°C
Wireless Connection	Zigbee 3.0 (IEEE 802.15.4)
Shell Material	Aluminum alloy
Product Dimensions (L x W x H)	75 x 25.5 x 13.5 mm (2.95 x 1 x 0.53 inches)
Item Weight	20 Grams (0.705 ounces)
Hardware Interface	USB
Data Transfer Rate	5 Gigabits Per Second (Note: This refers to the USB interface speed, not Zigbee data rate)

Specifications

25.5mm

13.5mm

75mm

108mm

Model

ZBDongle–E

Working temperature

–10℃~40℃

Shell material

Aluminum alloy

Input

DC 5V (100mA Max)

Wireless

Zigbee 3.0

Dimension

75x25.5x13.5mm

Image 7.1: Detailed dimensions and key specifications of the ZBDongle-E.
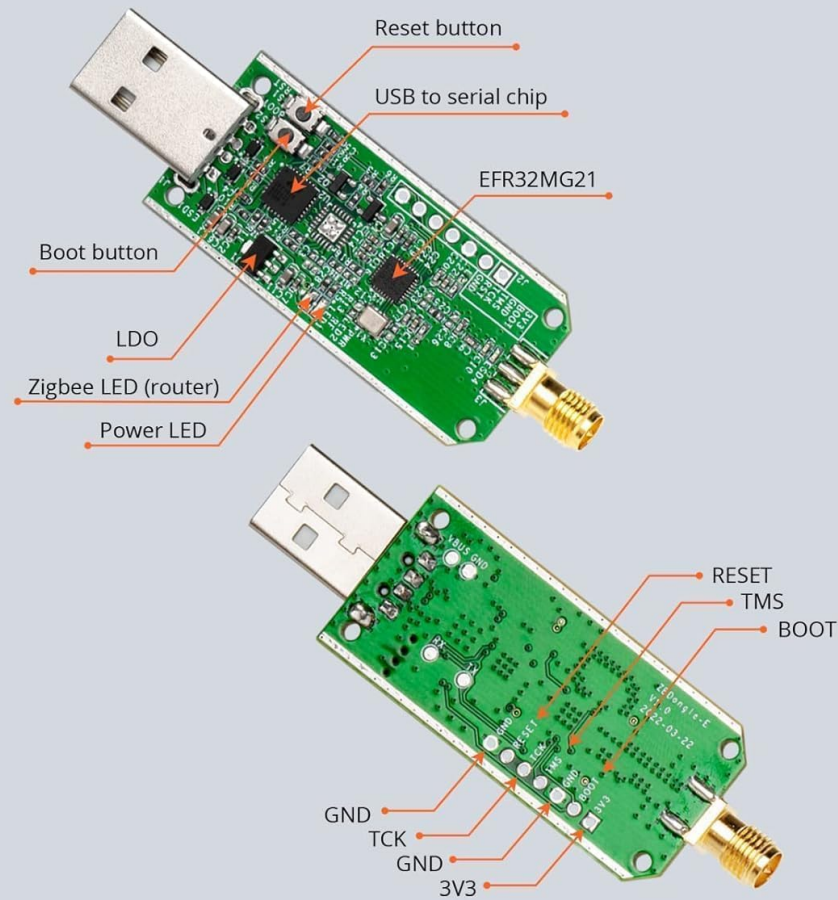
Hardware Description

Image 7.2: Internal hardware description showing components like the EFR32MG21 chip, USB to serial chip, and various buttons/LEDs.

8. WARRANTY AND SUPPORT

This product is covered by a standard return policy, typically 30 days from the date of purchase. For specific warranty details, please refer to the terms and conditions provided by your retailer at the time of purchase.

For technical support, firmware updates, and additional resources, please visit the official SONOFF website or contact their support team:

- **Manufacturer:** SONOFF
- **Service Email:** itead.cc
- **Official Website:** www.sonoff.tech

For information regarding Proposition 65 warnings, please visit www.P65Warnings.ca.gov.

Image 8.1: Back of the product packaging, showing manufacturing details, UPC (6920075777659), and service email.

Related Documents - ZBDongle-E

[SONOFF ZBDongle-E Zigbee 3.0 USB Dongle - Instrukcja Obsługi](#)
Szczegółowe instrukcje i specyfikacje techniczne dla SONOFF ZBDongle-E Zigbee 3.0 USB Dongle, wszechstronnego klucza sprzętowego dla platform automatyki domowej.

[SONOFF Zigbee 3.0 USB Dongle Plus User Manual and Specifications](#)
Comprehensive user manual and technical specifications for the SONOFF Zigbee 3.0 USB Dongle Plus, detailing its features, installation, compliance, and support information.

[SONOFF ZBDongle-E Zigbee 3.0 USB Dongle Plus - Uživatelská příručka a Specifikace](#)
Kompletní uživatelská příručka pro SONOFF ZBDongle-E Zigbee 3.0 USB Dongle Plus. Zjistěte informace o instalaci, kompatibilitě, technických specifikacích a ochraně životního prostředí.

CHYTROBOT Sonoff ZBDongle-E www.chytrobot.cz	[Sonoff ZBDongle-E Zigbee USB Dongle - User Guide and Product Information](#) Comprehensive guide for the Sonoff ZBDongle-E Zigbee USB dongle. Learn about its features, installation, compatibility with Home Assistant (ZHA, ZigBee2MQTT), and supported devices. Includes product information and online resources.
	[SONOFF Zigbee 3.0 USB Dongle Plus User Manual - Smart Home Automation](#) 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.
SONOFF® SonoFF Dongle-M Zigbee / Thread PoE hardwarový klíč	[SONOFF Dongle-M Zigbee/Thread PoE Gateway User Manual](#) This manual provides comprehensive information on the SONOFF Dongle-M Zigbee/Thread PoE Gateway, covering its features, installation, connectivity options, web console access, usage limitations, FCC compliance, and EU declarations. Learn how to integrate your smart home devices with open-source platforms like Home Assistant and Zigbee2MQTT.