

AI-01817 Sonoff NSPanel Pro 120

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Explain the Sonoff NSPanel Pro 120. What is the hardware used, OS? Does it need duckdns to configure access outside the home network? What are the power requirements and network connections needed?

The Sonoff NSPanel Pro 120 is an all-in-one smart home control panel designed for wall-mounting. It serves as a central hub for managing and automating various smart devices within a home.

Here's a breakdown of its key features and specifications:

Hardware and OS

- **Processor:** Quad-core ARM Cortex-A35 CPU with a Mali-G31 GPU.
- **Memory and Storage:** It comes with 2GB of DDR3 RAM and 8GB of eMMC 5.1 ROM.
- **Display:** A 4.7-inch capacitive multi-touch screen with a resolution of 750×1334 pixels.
- **Connectivity:** It includes a built-in Zigbee 3.0 hub, Wi-Fi (2.4GHz), and Bluetooth. It also supports the Matter protocol, allowing it to act as a Matter controller for devices from various brands.
- **Audio:** The panel features a built-in microphone and speaker, enabling two-way audio communication and intercom features.

- **Sensors:** It has a light sensor for automatic brightness adjustment and a temperature sensor.
- **OS:** The device runs a custom, optimized version of a mobile operating system, likely Android-based, with a user interface tailored for smart home control. You can install the Home Assistant companion app via ADB, which suggests an Android OS.
Remote Access and Network
- **Cloud-based Control:** The NSPanel Pro is primarily designed to work with the eWeLink app and cloud service. Remote access and control of your devices outside of your home network are handled through the eWeLink platform, so you don't need to set up a service like DuckDNS or port forwarding yourself.
- **Local Control:** It also supports LAN mode, allowing for local control of devices, especially for automations, even if the internet connection is down. However, app-based control of Zigbee sub-devices may still require a cloud connection.

Power Requirements and Connections

- **Power Input:** The device is rated for a standard household AC power supply of 100-240V~ 50/60Hz.
- **Wiring:** The NSPanel Pro needs both a live (L) and neutral (N) wire for installation. It is designed to be installed in a standard wall socket or can be used with a desktop stand and a DC 5V/2A adapter.
- **Network Connections:** It connects to your home network via 2.4GHz Wi-Fi. As a hub, it also connects to Zigbee and Bluetooth devices wirelessly. Some reports indicate an RJ45 port for wired ethernet connectivity, which may be available on specific models, but Wi-Fi is the primary and required method.

Is Zigbee coordinator needed if I have NSPanel Pro 120?

No, a separate Zigbee coordinator is not needed if you have the Sonoff NSPanel Pro 120.

The NSPanel Pro has a built-in Zigbee 3.0 hub, which acts as the Zigbee coordinator for your network. This means it can:

- Pair Zigbee devices directly to itself.

- Create and manage a Zigbee mesh network.
- Control and automate Zigbee devices (like lights, sensors, and switches) that are paired to it.

The primary function of the NSPanel Pro is to be a central control point for your smart home, and its built-in Zigbee hub is a core part of that functionality. You don't need a separate dongle or hub like a Sonoff Zigbee 3.0 USB Dongle Plus or another brand's Zigbee hub.

It's important to note that while it acts as a coordinator, its primary allegiance is to the eWeLink ecosystem. For advanced users who want to integrate the NSPanel Pro with other platforms like Home Assistant, it can sometimes be configured to act as a Zigbee router (a signal repeater) instead of the coordinator, but for standard use within the eWeLink app, it serves as the central hub.

I already purchased a zigbee 3.0 coordinator in my initial project, can it be used with NSPanel Pro? When is the zigbee coordinator applicable to be with NSPanel Pro?

That's an excellent question, and it gets into a more advanced aspect of Zigbee networking.

You cannot use your existing Zigbee coordinator with the NSPanel Pro as if it were a single, combined system in the traditional sense. A Zigbee network can only have one coordinator at a time. The coordinator is the brain of the network, and it's what all devices pair to.

However, you have two main options for how to proceed, depending on your goal:

Option 1: Use the NSPanel Pro as your Coordinator

- This is the simplest and most common use case.
- You would put your existing Zigbee coordinator (the dongle or hub you bought) aside.
- The NSPanel Pro will now be the sole coordinator for your Zigbee network.
- You will pair all your Zigbee devices (like sensors, lights, and switches) directly to the NSPanel Pro.
- All your automations and scenes will be managed through the eWeLink app or on the NSPanel Pro itself.

- When this is applicable: This is the ideal solution if you want a clean, simple setup where the NSPanel Pro is the central brain of your smart home and you primarily use the eWeLink ecosystem for control.

Option 2: Use the NSPanel Pro as a Zigbee Router

- This is a more technical but very powerful option.
- With a firmware update (version 2.2.0 or later), Sonoff added the ability to switch the NSPanel Pro from "Zigbee gateway mode" (coordinator) to "Zigbee router mode."
- In this configuration, your existing Zigbee coordinator remains the primary brain of the network.
- You then pair the NSPanel Pro to your existing network, where it will act as a Zigbee router or signal repeater.
- This is incredibly useful because the NSPanel Pro is powered by mains electricity, making it a great device to extend the range of your Zigbee mesh network. You can place it in a strategic location to improve connectivity for far-flung devices.
- When this is applicable: This is the best option if you have a Home Assistant or other open-source smart home system and you want to use your existing coordinator (e.g., a Zigbee dongle connected to a Raspberry Pi) as the central hub. This allows you to have the control and display functionality of the NSPanel Pro on your wall, while the backend logic and device management are handled by your external system. This also ensures all your devices, regardless of brand, are under one unified system.

In summary, you cannot use two coordinators simultaneously. Your Zigbee coordinator is only applicable with the NSPanel Pro if you re-purpose the NSPanel Pro as a router to extend the range of your existing Zigbee network. Otherwise, the NSPanel Pro's built-in coordinator makes your separate dongle redundant.

So basically, I don't really need to buy an NSPanel Pro if I already have a Zigbee bridge, I can manage all my devices in eWeLink app?

That's a very good way to think about it. You've hit on the key difference between the devices.

You are correct: You don't need an NSPanel Pro to manage your Zigbee devices in the eWeLink app if you already have a Sonoff Zigbee bridge (like the ZBBridge or ZBBridge Pro).

Key Differences and Value Proposition

The NSPanel Pro is not just a Zigbee bridge. Its value comes from being a centralized control panel and hub for your entire smart home.

Here's a breakdown of what the NSPanel Pro provides that a simple Zigbee bridge doesn't:

Feature	Sonoff Zigbee Bridge (e.g., ZBBridge Pro)	Sonoff NSPanel Pro
Primary Function	A gateway that allows Zigbee devices to communicate with your Wi-Fi network and the eWeLink app.	A centralized, wall-mounted touch screen to control your home, with a built-in Zigbee hub.
Control Method	Your smartphone via the eWeLink app, or voice assistants like Alexa/Google Home.	All the above, plus a dedicated, always-on touch screen display. You can control devices with a single tap on the wall.
Visual Feedback	None. You check the status of devices on your phone.	A live display of device status, temperature, weather, camera feeds, and more.
Intercom	No.	Built-in speaker and microphone for two-way audio communication with other NSPanel Pros or the eWeLink app.
Matter Support	The new Zigbee Bridge Ultra supports acting as a Matter Bridge.	Acts as a Matter Controller, allowing you to add Matter-compatible devices from different brands and control them from the panel.

Feature	Sonoff Zigbee Bridge (e.g., ZBBridge Pro)	Sonoff NSPanel Pro
Local Control	Some models (like the ZBBridge Pro) have local scene functionality that works without internet.	Supports local control via LAN, offering faster response times and continued functionality even without an internet connection.
Customization	Very limited, mainly device management and scene creation within the app.	Allows for custom wallpapers, web page shortcuts, and even running a Home Assistant dashboard.
So, while a Zigbee bridge handles the essential function of connecting your Zigbee devices to eWeLink, the NSPanel Pro is a premium upgrade that provides a physical control point and an enhanced user interface.		
Conclusion:		

- If your only goal is to use Zigbee devices with the eWeLink app and control them from your phone or voice assistant, then your existing Zigbee bridge is all you need. You're not missing any core functionality.
- If you want a dedicated, always-on smart home control panel that provides a rich visual experience, quick access to scenes, device status, and extra features like intercom and camera feeds, then the NSPanel Pro is a worthwhile purchase. It's a "nice-to-have" device that significantly improves the user experience of a smart home.

I already bought a Zigbee 3.0 bridge and wanting to buy an NSPanel Pro, can I have both in the network?

This is an excellent and common question in the world of smart home networking. The short answer is yes, you can have both devices on your network, but they will serve different purposes, and you'll have to choose how you want to configure them.

The Fundamental Rule of Zigbee

A Zigbee network can have only one coordinator. The coordinator is the central brain of the network—it's the device that creates the network and to which all other devices (routers and end devices) must pair.

Therefore, you cannot have your existing Zigbee bridge and the NSPanel Pro both acting as coordinators at the same time and controlling a single, unified Zigbee mesh network.

How to Use Both Devices in Your Network

You have two practical options for how to integrate both your existing Zigbee bridge and the NSPanel Pro.

Option 1: Use the NSPanel Pro as a Zigbee Router

This is the most common and recommended configuration if you already have a functional Zigbee network.

- **Your Existing Bridge:** It remains the Zigbee Coordinator, the primary hub that all your Zigbee devices (sensors, lights, etc.) are paired to. This is where the core network logic resides.
- **The NSPanel Pro:** You would configure it to function as a Zigbee Router. A router's job is to act as a signal repeater, extending the range and improving the stability of your existing Zigbee mesh network. Since the NSPanel Pro is a mains-powered device, it is a perfect candidate for a router, as it's always on and can forward signals to other devices.

To do this, you would need to:

- **Update the NSPanel Pro's Firmware:** Ensure your NSPanel Pro is running firmware version 2.2.0 or newer. This firmware introduced the ability to switch between coordinator and router modes.
- **Change the Mode in the eWeLink App:** In the eWeLink app, go to the NSPanel Pro's settings. Look for "Pilot Features" or "Zigbee Mode" and switch it to "Router Mode."
- **Pair it to Your Existing Network:** After it reboots, you will pair the NSPanel Pro to your existing Zigbee bridge's network. It will join as a router, not as a new coordinator.

When to choose this option: This is ideal if you are using an external smart home system like Home Assistant and you want the NSPanel Pro to act as a beautiful, dedicated control panel that also strengthens your Zigbee network.

Option 2: Run Two Separate Zigbee Networks

While you can't have two coordinators on one network, you can run two separate, independent Zigbee networks in your home.

- Your Existing Bridge: It runs its own Zigbee network (e.g., using Zigbee2MQTT with Home Assistant or in a separate room).
- The NSPanel Pro: It runs its own, completely separate Zigbee network as the Zigbee Coordinator. All devices you pair to the NSPanel Pro will only be controllable via the panel and the eWeLink app.

When to choose this option: This is less common but can be useful in very large homes or buildings where the networks are physically isolated. It's a good choice if you have a set of devices you only want to control from the NSPanel Pro and a separate set of devices you manage with your other bridge.

Conclusion

Your new NSPanel Pro does not make your existing Zigbee bridge obsolete. Instead, it provides a valuable opportunity to improve your smart home by turning the NSPanel Pro into a Zigbee router. This extends your network's reach, improves reliability, and gives you the benefit of the NSPanel Pro's interactive touch screen and other features, all while your existing bridge continues to be the coordinator for your network.