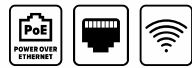


Alarm Panel Pro

12-Zone Smart Alarm Panel for Wired Alarm System Takeovers and Integration



Quick Start Guide • AP Pro v1.9

STEP 4: Wiring & Hookup

How to Use This Guide

This Quick Start Guide is a quick overview of the most common use cases for your Alarm Panel Pro. Scan the QR codes or visit support.konnected.io for detailed documentation and many more uses!

Mounting and Positioning

Most likely you will be mounting your Konnected Alarm Panel Pro in place of or co-located with an existing alarm panel, or in a location where your home's pre-wired sensors are terminated. When mounting, consider the location of your sensor wires, power outlet, Ethernet access, and WiFi signal strength (if you plan to use Wi-Fi). If you're retrofitting an old alarm system panel, you may want to mount the Alarm Panel Pro inside the existing enclosure.

Tips for Successful & Secure Installation:

1. Do not permanently mount until after you have finished connecting the wires and have verified functionality.
2. Position with at least 20cm distance from other transmitting devices or the human body.
3. Use *standoffs* to secure the board to the enclosure or mounting surface and prevent accidental contact. Magnetic backed standoffs are sold separately.
4. Do not allow loose wires to make contact with the board surface during or after installation.
5. Use bands or zip-ties to secure wires to prevent movement or strain.



Welcome to your **Alarm Panel Pro!**

This guide will help you transform your traditional wired alarm system into a modern smart home system with Ethernet, Power-over-Ethernet (PoE), and Wi-Fi capability.

The Alarm Panel Pro may be sold alone or in a kit:

Conversion Kit

For takeover or conversion of an existing wired alarm system, or for brand new installs. Includes:

- 12-Zone Alarm Panel Pro
- 12V Power Adapter
- Piezo Buzzer
- Jumper Wires
- Adhesive-backed Mounting Standoffs
- Mini Screwdriver-pen
- Wire Labels
- Konnected Window Decal and Brand Sticker

Interface Kit

For connecting *in-parallel* to a traditional wired alarm system for smart home control (more complicated). Kit includes all of the above plus:

- Two 6-zone Interface Modules
- Additional Jumper Wires
- Additional Mounting Standoffs

NOT A FIRE OR LIFE SAFETY DEVICE



The Alarm Panel Pro is for home automation and smart-home monitoring of security sensors. It's not approved for fire or life safety critical applications.

IMPORTANT SAFETY INSTRUCTIONS

- Read, follow and save these instructions.
- Unplug all power sources (including PoE) during installation to reduce the risk of electric shock and damage to sensitive components.
- Do not place the Alarm Panel Pro on a metal or conductive surface.
- Do not touch or allow anything to touch the electrical components on the front and back of the Alarm Panel Pro.
- Do not install in a wet or damp location or allow to be exposed to moisture or weather or extreme cold or heat.
- Secure all wires to prevent them from becoming loose or damaged.
- Mount securely using standoffs to avoid movement and contact.
- When using a ladder, follow all warnings to avoid injury.

ACCEPTABLE USAGE

No Life-Safety or Critical Uses of the Products or Services. The Konnected Alarm Panel and related products, applications, and services (the "Products and Services"), whether alone or in combination with third-party products and services, are not certified for emergency response.

Not Approved for Use with Smoke, Fire, Heat or Carbon Monoxide detectors. The Konnected Alarm Panel and related products are not approved for use with fire or life safety devices and cannot be used to comply with fire protection safety regulations. Connecting an approved fire or life safety device to the Konnected Alarm Panel product may invalidate its regulatory approval. Konnected Products and Services can NOT be used to notify you in a life threatening emergency.

USE OF KONNECTED PRODUCTS AND SERVICES WITH SMOKE, FIRE, HEAT, OR CO DETECTORS MUST BE FOR INFORMATIONAL/ANCILLARY USE ONLY AND NOT IN PLACE OF COMPLIANT FIRE & LIFE SAFETY EQUIPMENT IN YOUR LOCAL JURISDICTION.

PROP 65 WARNING: This product can expose you to chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

STEP 1: Network & Power

Connect with Ethernet

Ethernet is enabled by default on your new Alarm Panel Pro. Just plug it in and you're ready to go! The device will automatically connect to your network and request an IP address from your router.

Power It Up

Use the 12V power adapter (included with the kit) or connect to a PoE+ (802.3at) compatible switch.

Konnected is powered by DC only! (6V-24V DC)

DO NOT use the power brick that came with your traditional alarm panel -- this is AC and will cause damage!

12V AUX outputs supply power to connected powered devices (like motion sensors). Total power available varies depending on power source:

- PoE only: 1A @ 12VDC
- DC Power Adapter: Up to 2.5A @ 12VDC

You can connect both PoE and the 12V power adapter at the same time for extra power!

Check Your Power Needs!

The Alarm Panel Pro consumes only about 200mA of current. The remainder is available to AUX powered devices and siren(s). Always test at full load (activate all sirens) to ensure that enough current is available!

Connect with Wi-Fi

To enable Wi-Fi, a **firmware update is necessary!** There are a couple of ways you can do this:

Option 1: Use the Konnected app

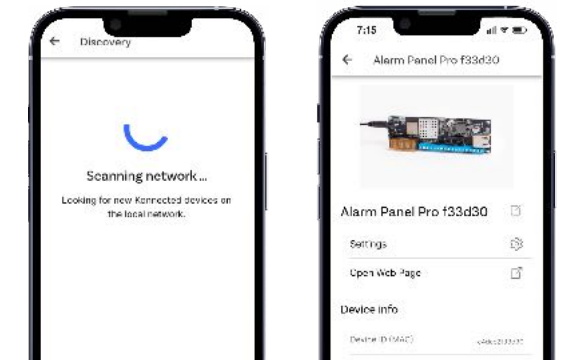
Download the Konnected app from your app store.

1. Connect the Alarm Panel Pro to the network via Ethernet first, launch the Konnected app, then tap *Add New Device* then *Discover Devices*.

2. Then tap *Settings* and update *Network Settings* to enable Wi-Fi.

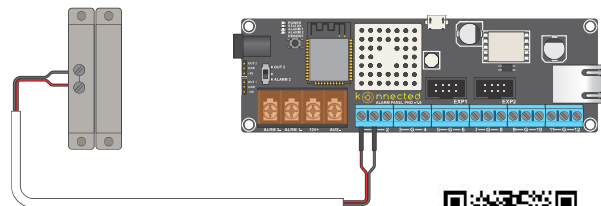
Option 2: Re-flash the Firmware

Go to <https://install.konnected.io> to install a Wi-Fi enabled firmware build via a computer and USB cable.



Next step: Flip over to set up your device and connect to a smart home platform before continuing with installation

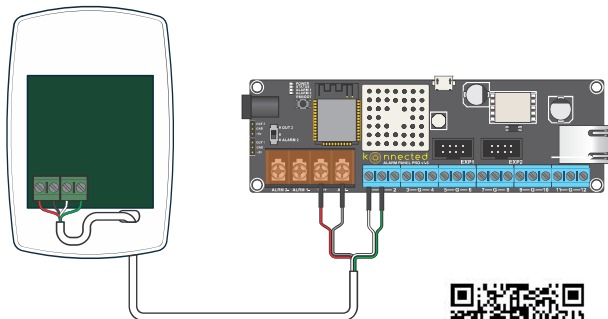
Connect Door & Window Sensors



Door and window sensors have two wires and simply connect to any input zone and G, the polarity doesn't matter.



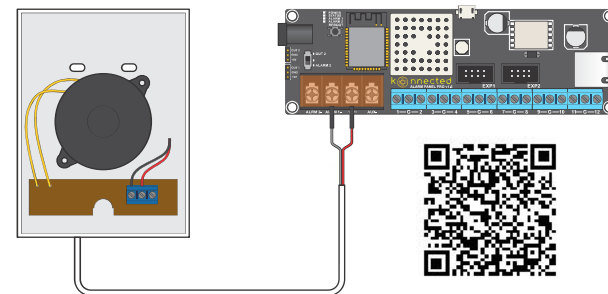
Connect Motion Sensors



Motion sensors have 4 wires: A red and black wire for 12V power is connected to AUX+ and AUX-. The other pair (may be any color) connect to any input zone and G.



Connect a Siren or Strobe

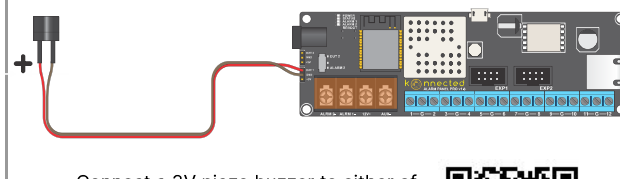


The Alarm Panel Pro has two dedicated 12V siren outputs. Connect the red wire from the siren to 12V+ and black wire(s) to ALRM1- and/or ALRM2-.

If using ALRM2, set the output toggle switch to ALARM 2.



Connect a Piezo Buzzer



Connect a 3V piezo buzzer to either of the OUT pins or any zone 1-8 to make a warning beep or door chime. One side is marked + and is connected to the OUT or zone, and the other side to any G or GND.



If using OUT2, set the output toggle switch to OUT 2.

Connect Smoke & CO Detectors



USE WITH SMOKE, FIRE AND CO DETECTORS IS FOR HOME AUTOMATION & ANCILLARY USE ONLY

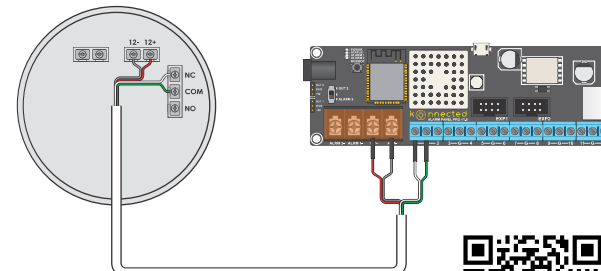
With a Hardwired Interconnected Smoke Alarm Relay

Most modern homes in North America

have hardwired smoke alarms powered by household electrical. Use a **smoke alarm relay** to connect it safely to Konnected.



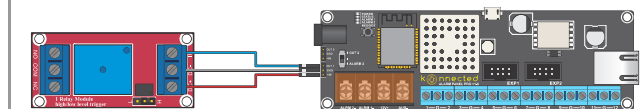
Low Voltage Smoke Detectors



Low voltage smoke detectors may be found in some homes and powered by a traditional alarm panel. When used *in addition* to hardwired or battery-powered, code-compliant smoke alarms, they can be wired to the Alarm Panel Pro for home automation and monitoring.



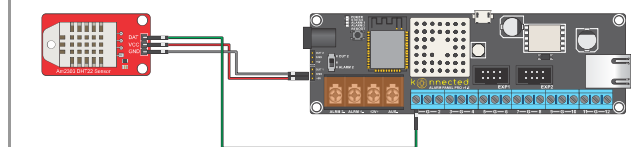
Connect a Relay



Relays can be used with the Alarm Panel Pro to switch on/off isolated loads of different voltages. Use a **5V relay** and power it from 5V+ and GND pins. Use either of the OUT1 or OUT2 pins or any zone 1-8 to trigger the relay via the IN terminal(s).



Connect a Temperature Sensor



Temperature & Humidity sensors can be connected to any zone 1-8 on the Alarm Panel Pro. The zone is wired to the DAT terminal on the sensor, and the sensor is powered by the Alarm Panel Pro's 5V+ pin to VCC and GND to GND.



STEP 2: Zones & Settings

There are **two ways** to configure your Alarm Panel Pro zones and settings. Use the **Connected App** for the easy option, or manage your own firmware configuration using **ESPHome dashboard** (advanced).

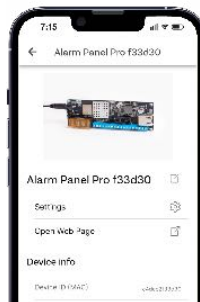
Connected App

EASY

Get the App



Discover & Edit Zones and Settings



Tap **Add New Device** then **Discover Devices** to find your Alarm Panel Pro on the network



Then tap **Settings** to customize your Alarm Panel Pro zones and settings.

Update the Firmware



Changes don't take effect until your customized firmware is installed on the device. Tap **Save and Continue** then **Build Now** when you're done making changes.

Finally, tap **Update Now** to push the firmware update to the Pro.

ESPHome Dashboard

ADVANCED

Install ESPHome as a Home Assistant add-on or see **esphome.io** for more methods. This is recommended for Home Assistant users and advanced users only.

The device should be automatically discovered. Click **Adopt** then **Install** to take ownership of the firmware config.



Click **Edit** to open the configuration YAML for your device. Here you can add and customize Connected's open-source firmware configuration. Scan here for tips:

Connected's Pro firmware is open-source!



[connected-io /](https://connected-io/) connected-esphome

STEP 3: Connect to a Smart Home App or Hub

Home Assistant

LOCAL

Home Assistant should automatically discover the Alarm Panel Pro as soon as it connects to the network.

1. Check the Notifications pane for *New Devices Discovered*, or go to *Settings > Devices & Services*.
2. The Connected device will appear as a discovered ESPHome device.
3. Click *Configure*.
4. Add the device to an *Area* (optional) and click *Finish* to add the device and all zones/entities to Home Assistant.

Using Home Assistant's built-in **Alarm Control Panel** component, or with the easy-to-use Alarmo integration, you can create a smart home alarm system with virtually unlimited capabilities.

Alarmo is an alarm system integration for Home Assistant that provides a user interface for setting up your own alarm system completely from the browser. More about Alarmo: <https://github.com/nielsfaber/alarmo>

Habitat

LOCAL

Install the driver for the Connected Alarm Panel using **Habitat Package Manager**. Or, download and import the *AlarmPanel.zip* file from our open-source drivers on GitHub: <https://github.com/connected-io/connected-habitat/releases>

Next, in Habitat got to *Devices > Add a device*. Then choose *Virtual*. Fill in a Device Name. The Device Network Id should be auto-populated for you. Select **Connected Alarm Panel** from the Type drop-down. It will appear at the bottom of the drop-down under the *User* heading.

Finally, enter the **IP Address** of the device (on your local network) in the preferences section and click *Save Preferences*. Habitat will connect to the Alarm Panel and create child devices.

matter EXPERIMENTAL LOCAL

Matter is an emerging cross-platform smart home standard that promises local integration with a variety of smart home controllers, including Apple HomePod or Apple TV (Homekit), Samsung SmartThings hub, Google Nest Hub, Amazon Alexa devices, Homey Pro, Home Assistant, and more.

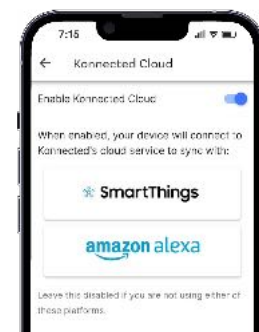
Connected now offers an **experimental Matter firmware** for the Alarm Panel Pro. The Matter firmware is separate from the Alarm Panel Pro's default firmware (build with ESPHome) and must be flashed to the device using a computer and USB cable.

Go to **install.connected.io** in Chrome or Edge browser to learn more about the current features and limitations of the Matter firmware and to get started.

Connected Cloud

via Connected App

Integration with SmartThings and Alexa is provided by the free Connected Cloud service. First, use the Connected app to **Enable Connected Cloud**:



Tap **Settings** then **Connected Cloud**. Tap **Enable Connected Cloud** to opt-in to the service.

Then follow the steps in the app to **update the device firmware**.

SmartThings

To connect with SmartThings, switch to the SmartThings app. Tap the **+ icon** and **Add device > Partner device > By brand > Connected**

Follow the steps to link your Connected Cloud account to SmartThings



amazon alexa

To connect with Alexa, install the **Connected skill for Alexa** from the Alexa Skills store.

Follow the steps to link your Connected Cloud account to Alexa.

More good stuff to come!

This space is reserved for future integration capabilities.

Statement Regarding FCC / IC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) L'appareil ne doit pas produire de brouillage; (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this product not authorized by Connected could void the electromagnetic compatibility (EMC) and wireless compliance and negate your authority to operate the product.

Exposure to radio frequency energy. The radiated output power of this device meets the limits of FCC/IC radio frequency exposure limits. This device should be operated with a minimum separation distance of 20 cm (8 inches) between the equipment and a person's body.

Contains FCC ID: 2AC7Z-ESPWROOM32D
Contains IC: 21098-ESPWROOM32D
Connected MODEL: Alarm Panel Pro v1.8, v1.9

Limited Warranty

Connected warrants this product against defects in material or workmanship for a period of 1 year following the initial purchase and delivery of the product. However, Connected does not warrant that this product, when used together with software and/or services provided by Connected (collectively, "Products and Services") are defect- or error-free, or that the operation of the Products and Services will be uninterrupted or 100% available. The Products and Services rely in part on factors outside Connected's control, including the transmission of data through your Wi-Fi network, third-party cloud services, third-party open source software packages, self-hosted smart home controllers, mobile devices, and internet access. These factors may result in the Products and Services being unreliable or unavailable. Connected does not warrant that the products and services will meet all of your requirements or be compatible with your equipment. Except as expressly stated in this section, to the maximum extent permitted under applicable law, Connected is providing and licensing the Products and Services as is without warranty of any kind, either express or implied, including, but not limited to, the implied warranties of merchantability, title, non-infringement, and fitness for a particular purpose.

Limitation of Liability

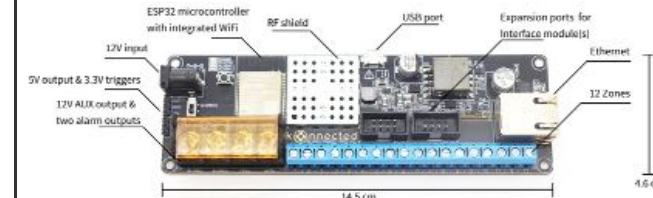
This device enables an end-user to connect a multitude of traditional wired sensors and/or signaling devices to monitor them over an IP network and/or the internet via a mobile app provided by Connected and/or 3rd party smart home platform or app and/or a device API. You accept that risks are associated with this technology and that you and/or the end-user will bear all the risks related to using Connected Products & Services. Connected, its directors, officers, agents, partners, and licensors shall not be liable to you or the end-user for any loss or damage of any kind, including but not limited to personal or bodily injury (including death or disability) or property damage resulting from the use of these Products and Services. To the maximum extent permitted by applicable law, in no event will Connected, its directors, officers, agents, suppliers, and licensors be liable to the user (whether in contract, tort (including negligence) or otherwise) for any indirect, incidental, consequential, special, punitive, or exemplary damages, including without limitation lost profits, lost business opportunities, loss of use of the service offering, loss of goodwill, business interruption, loss of data, lost savings, or other economic damage, arising out of this agreement or the use or inability to use the device, software or documentation, even if Connected or a dealer authorized by Connected had been advised of the possibility of such damages.

Privacy

Connected values your privacy and we give you options to use our products without providing any personal information. Connected Cloud is an optional cloud service that connects your device to third-party smart home platforms. To use Connected cloud you must provide basic personal information so that we can identify your account. You can use this product without providing any personal information by opting to use local platform integrations that do not require a Connected Cloud account.

Terms of Use and Privacy Policy

Your use of the Products and Services is governed by Connected's Terms of Use and Privacy Policy, located at connected.io/terms and connected.io/privacy.



Input voltage	6-24 VDC (12V recommended)
AUX output voltage	Same as input (pass-through)
Power-over-Ethernet (PoE)	Compatible with PoE+ 802.3at equipment
PoE max current provided	1A
Power Adapter (included with kit)	12VDC 2.5A
Wireless microcontroller	ESP32-WROOM-32D (Espressif)
USB port	Micro-USB connector

Sensor Inputs (Zones 1-12)

- Detects an open/closed loop
- Works with: Magnetic door contacts, mechanical door contact sensors, limit switch sensors, PIR motion sensors (with dry-contact signal), any dry-contact or open collector circuit.
- Resistant to EMI and transient electrical surges caused by nearby lightning
- Programmable as binary (high/low) outputs: Zones 1-8 only
- Output voltage: 3.3V

Alarm Outputs

ALRM1 & ALRM2

- Output voltage: Same as input voltage or 12V when using PoE
- Output current maximum: 2A
- Negative switched

Trigger Outputs

OUT 1 & OUT 2

- Switchable output
- Output voltage: 3.3V DC
- Output current maximum: 12mA (each)

Output Toggle Switch

- Toggle to enable ALARM2 or OUT2

5V AUX Output

Pins +5V and GND

- Continuous output
- Output voltage: 5V DC
- Output current maximum: 300mA (combined)

USB

- USB port is provided for firmware servicing
- Micro-USB Type B
- Not intended for supplying power during prolonged operation

📞 <https://support.connected.io>

✉️ help@connected.io

🗣️ <https://community.connected.io>



Proudly designed, assembled and tested in the USA from components sourced globally.



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