

BP42 Ten-Zone Alarm Panel



Document Details

Version

V1.2 20260922

(V1.0 published 20260915)

Firmware

Firmware version can be verified on Verkada
Command command.verkada.com.

Product Models

This install guide pertains to models:

- BP42-HW

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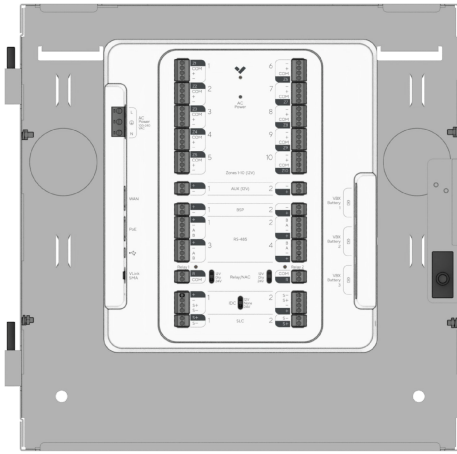
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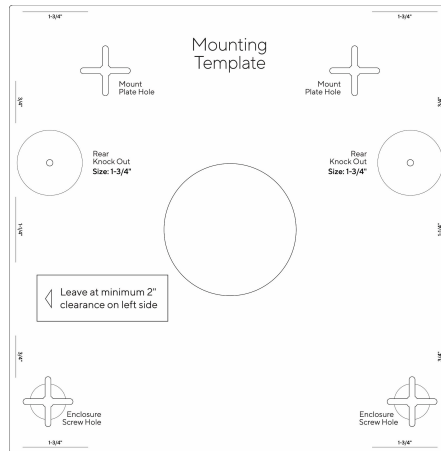


Install Guide

What's in the box



BP42 Alarm Panel

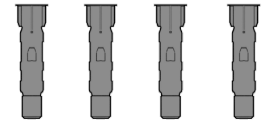


Mounting Template

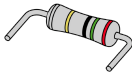


Plywood Screws (4 pcs)

For materials other than plywood, ensure proper load-bearing fasteners are used.



Wall Anchors (4 pcs)



1kΩ EOL resistors (10 pcs)

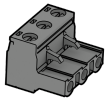
Not for use with UL2610 or UL864 compliant installs.
Please refer to the [Relay Wiring Diagram](#) for information regarding compliant installations..



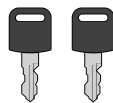
Wall Mount



Flathead Screwdriver



**AC Power
Terminal Block**



Keys (2 pcs)



AC Cable



VLink Antenna (1 pc)

What you'll need

- A working internet connection
- A smartphone or laptop
- A #2 Phillips head and power drill
- A level
- 1/4 inch (6.5mm) drill bit for wall anchors
- 1/8 inch (3mm) drill bit for pilot holes
- A Cat5 or Cat6 Ethernet cable

Connect

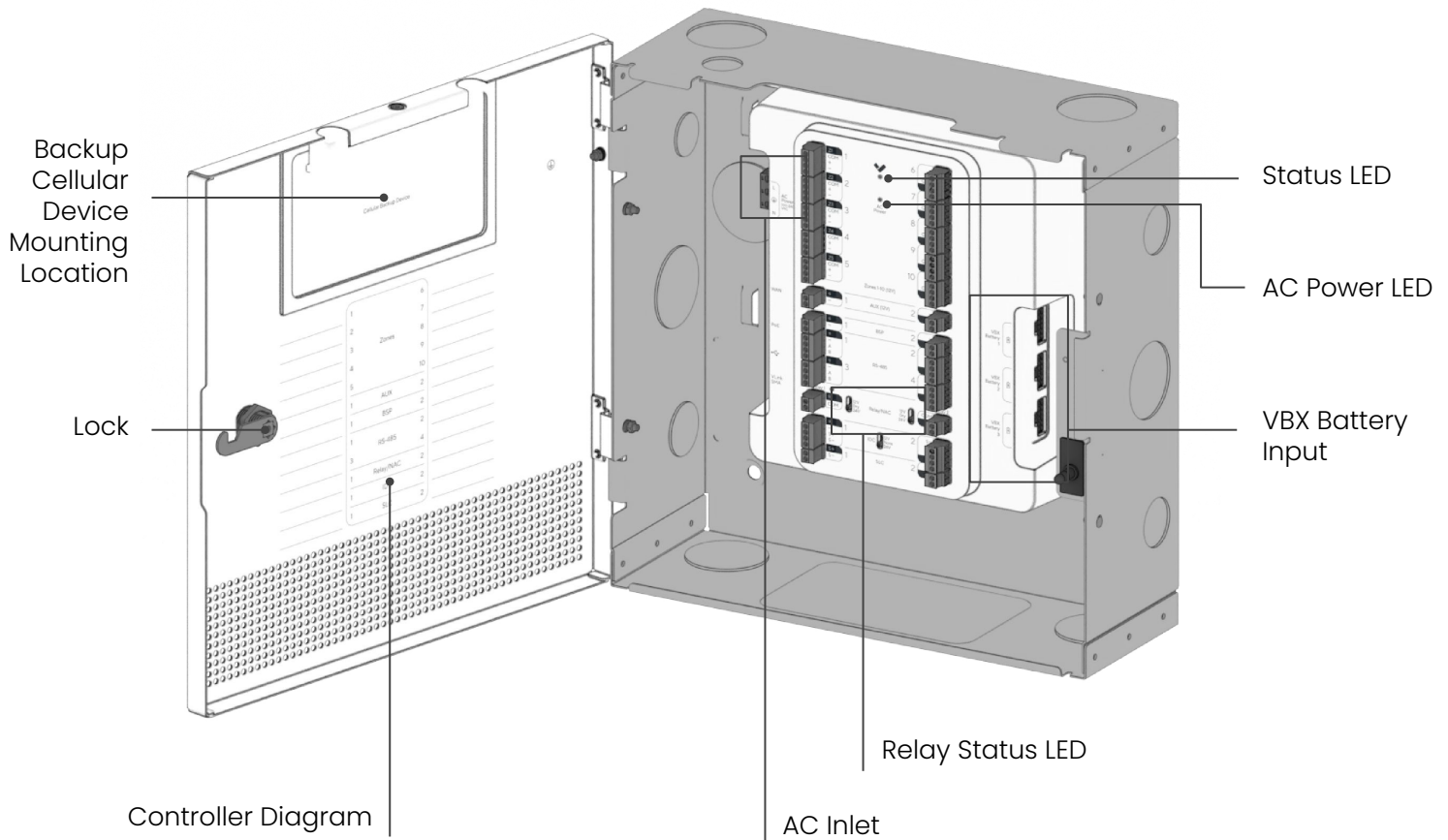
Connect the BP42 to your network using the ethernet port (WAN) located on the panel to enable communication features and updates.

Connect the BP42 to AC power using either of the methods described in the wiring diagram guide.

For easy registration and setup, scan the QR code on the product.

If you prefer to manually register your product, please proceed to: verkada.com/start





COMMERCIAL FIRE AND BURGLAR ALARM PROTECTED PREMISES CONTROL UNIT

Note: This equipment is for use in a dry indoor and a restricted access environment.

Status LED Behavior

-  **Solid Orange**
Panel is on and booting up
-  **Flashing Orange**
Panel is updating firmware
-  **Flashing Blue**
Panel is managing sensors, but cannot reach the server
-  **Solid Blue**
Panel is managing sensors and connected to the server

NAC / Relay LEDs Behavior

-  **Solid White**
Relay in triggered state

AC LED Behavior

-  **Solid White**
System On AC Power
-  **Blinking White**
System On Battery Backup Power
-  **LED Off**
No System Power

Overview 2/3

1 Alarm Zones 1-10

All zones have the same utility and can be configured in Command.

2 AUX 1-2, BSP 1-2

3 RS-485 Zones 1-4

NAC (Relay) Outputs 1-2

All devices on a single relay output must be identical

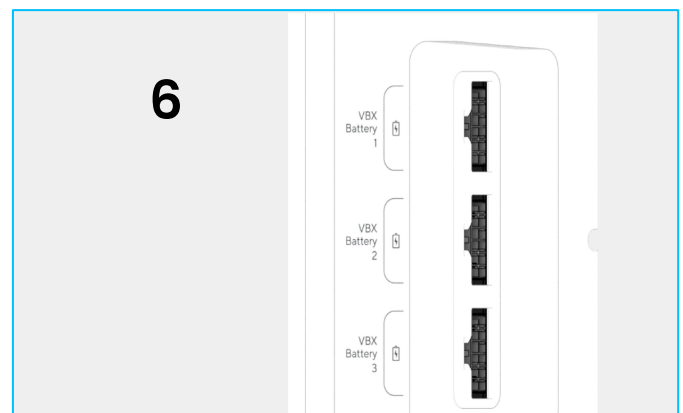
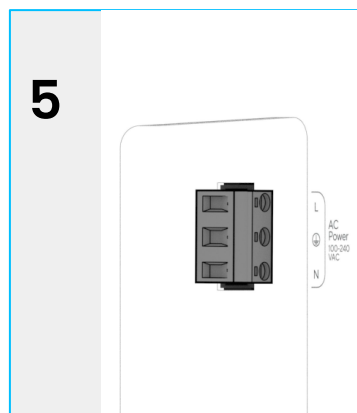
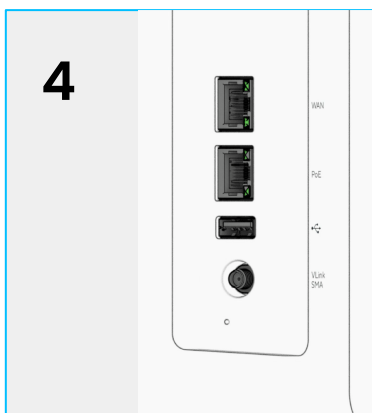
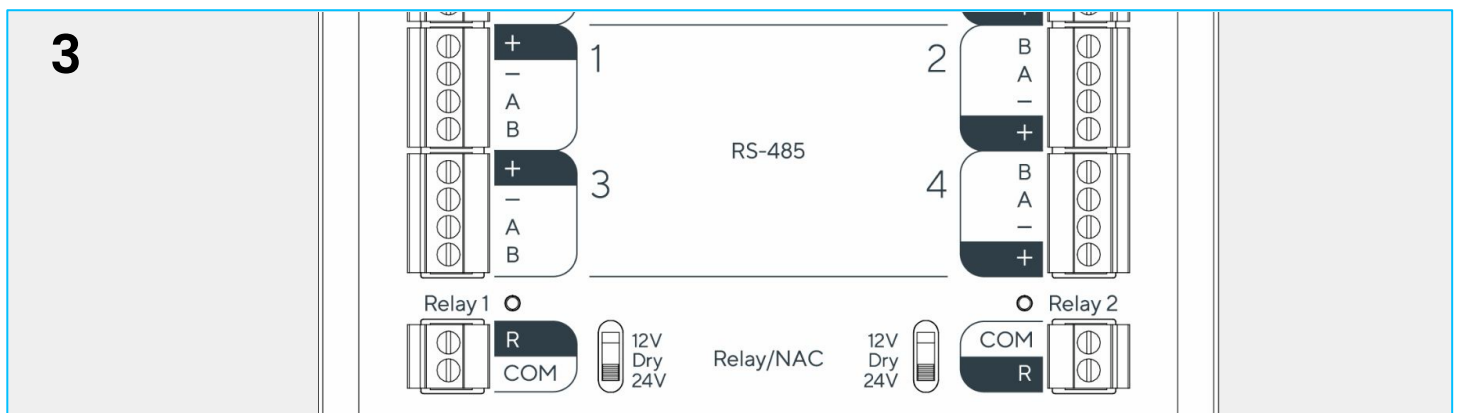
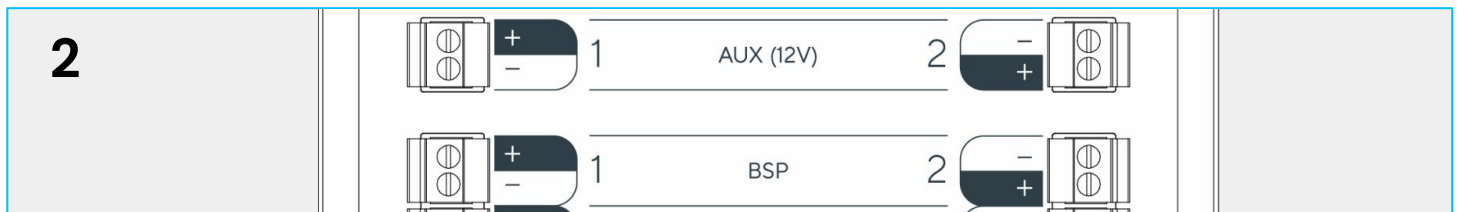
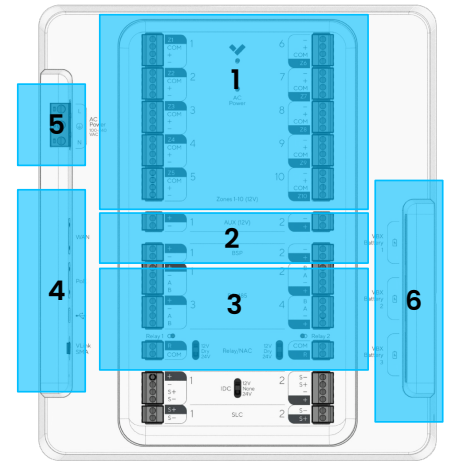
4 USB-A, WAN Port, Ethernet Port,

VLink SMA antenna connection

5 AC Power Input

6 Inputs 1-3

Note: Ports labeled SLC and IDC are disabled on BP42 product number XXX



Overview 3/3

7 IDC (Initiating Device Circuits) Channels 1-2

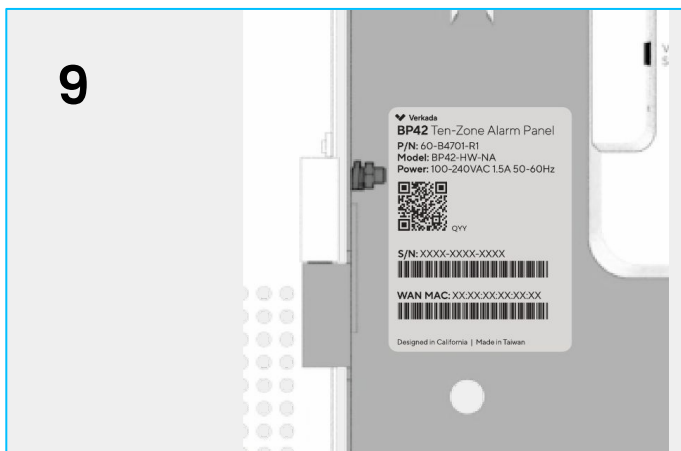
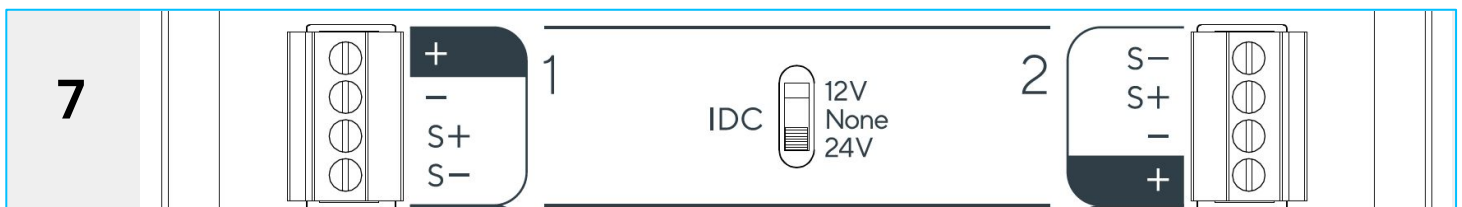
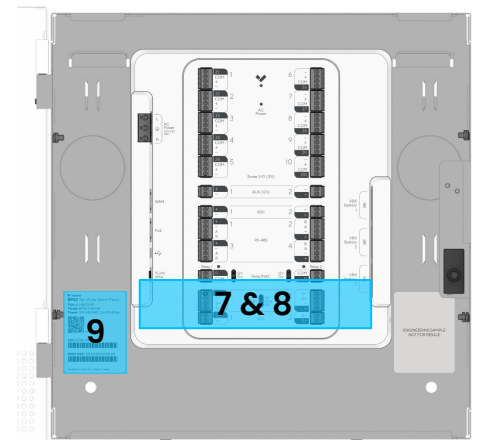
Smoke Detector Connections - **Do not connect to this output**

All sensor devices on a single IDC channel must be identical

8 SLC (Signaling Line Circuits) Channels 1-2

Addressable Smoke Detector Connections are not currently supported by the panel - **Do not connect to this output**

9 Model Number and Serial Number



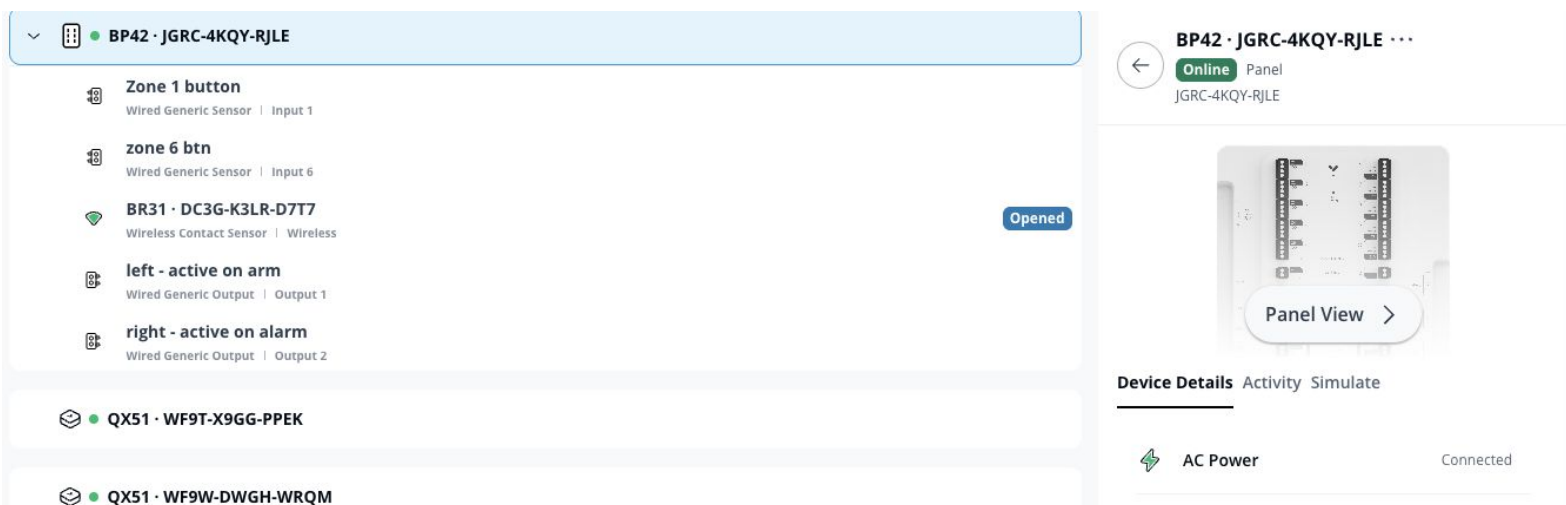
Introduction

Verkada Command

Verkada's web based software interface is called Command. Command is the platform used to interact with and monitor all of your Verkada devices.

For a full description of getting started, creating an account, adding devices, adding users, and licensing, please visit the following:

<https://help.verkada.com/en/articles/1143779-get-started-with-verkada-command>



Types of Fire signaling service:

Automatic fire alarm, digital alarm communicator, and Radio Frequency (RF).

UL Listed central station.

Technical Specifications

Power	100-240VAC, 0.03A - 0.9A, 50 -60Hz 90W maximum AC input 75W maximum DC output; Note: See Output Specifications Table for load limits.
Alarm Inputs & Aux Power	10x alarm inputs with 10x 12VDC power connections. Compatible with variable EOL resistors (1k Ω - 4.7k Ω), 2x switchable 12V Aux power outputs
BSP Interfaces	2x Polling Loop Interfaces for wired sensors, 36VDC
Notification Appliance Circuit (Relay Output)	2x relays for siren/strobe with switch-selectable voltage & optional dry config: • 12VDC operation (wet operation) • 25VDC operation (wet operation) • Dry operation, max pass-through current 1A @ 12VDC / 25VDC
RS485 Output	4x RS485 outputs with 4x 36VDC connection.
USB-A Output	1x USB-A 2.0 High Speed connection.
PoE Output	1x PoE ports with 30W total power budget.
Connectivity	Ethernet: 100/1000Mbps RJ45 for network connection. VLink sub-GHz transceiver with SMA-connected Antenna: FCC: 915~915.7MHz, ISM: 915~915.7MHz, CE: 865.5~867.5MHz, AU: 916.8~918.2MHz
Tamper Detection	Yes
Dimensions	321mm x 321mm x 120mm
Weight	4.8 kg
Operating Temp. & Humidity	0°C-50°C / 32°F-122°, 0-90% RH non-condensing
Included Accessories	Mounting hardware kit
Mounting Option	Wall Mount Bracket
Compliance	For hardware certification information, please visit verkada.com/compliance

Power Rail Load Specifications

Output / Voltage Rail	5V	12V	24V	36V	54V
Zones 1-10 and Aux 12V 1 / 2	-	✓ 1.95A max total across Zones 1-10 and Aux 12V 1 / 2	-	-	-
BSP1 / BSP2		✓ 0.4A max each			
NAC Outputs 1-2	-	✓ Switch selectable, 1.7A max each	✓ Switch selectable, 1A max each	-	-
IDC Power 1-2	-	No connect	No connect	-	-
SLC Inputs 1-2	-	-	-	No connect	-
RS485 Interfaces 1-4	-	-	-	✓ 1.0A max each 1.66A max total	-
USB-A Interface	✓ ACC-CEL-LTE-2 only, 0.1A nominal	-	-	-	-
PoE Interface	-	-	-	-	✓ 802.3at 0.55A max

All of the above circuits are power limited.
Maximum total loading may not exceed 75W
Please refer to the relevant sections for full connection and power details.

Power Rail Load Specifications – by device

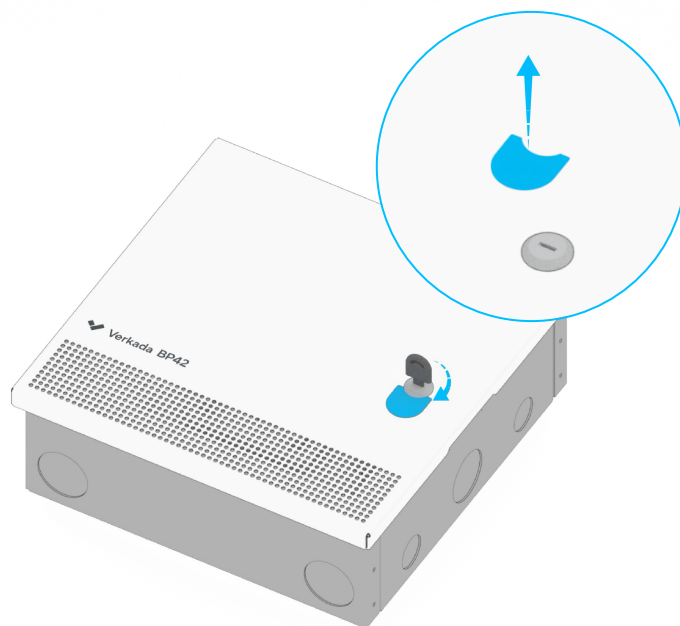
Output / Voltage Rail	5V	12V	24V	36V	54V
Zones 1-10 and Aux 12V 1 / 2	-	One wired sensor only (e.g.BR11) per zone. 0.9A max each Aux output	-	-	-
BSP1 / BSP2		Up to 100 QX51 devices per channel			
NAC Outputs 1-2	-	NAC devices listed on p.25 up to the maximum stated quantity per channel	NAC devices listed on p.25 up to the maximum stated quantity per channel	-	-
IDC 1-2	-	No connect	No connect	-	-
SLC 1-2	-	-	-	No connect	-
RS485 Interfaces 1-4	-	-	-	One BK22 keypad or 1 to 4 BE32 expanders per channel (see p.21)	-
USB-A Interface	ACC-CEL-LTE-2 only	-	-	-	-
PoE Interface	-	-	-	-	Any compatible PoE+/802.3at device
All of the above circuits are power limited. Maximum total loading may not exceed 75W Please refer to the relevant sections for full connection and power details.					

Unboxing

Lift the Panel from the bottom and remove BP42 from the box.



Lay BP42 on a flat surface, unlock and open the door using the supplied key and remove the sticker.

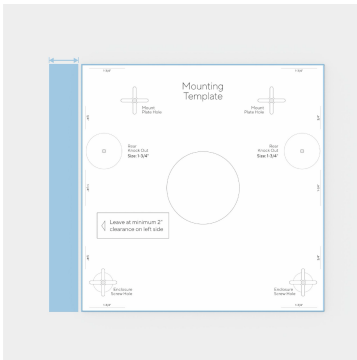


Installation

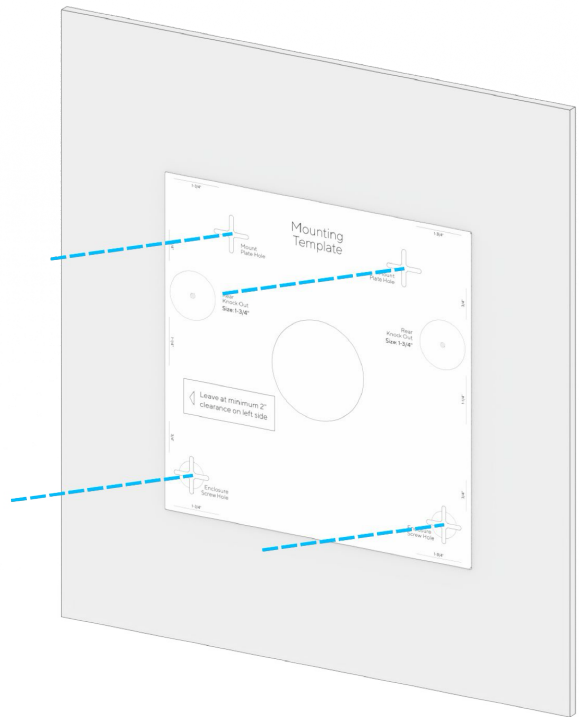
Mounting 1/4

Use cardboard mounting template from the previous step to get a sense of the wall space BP42 will occupy.

Use mounting template to drill pilot holes for the mount plate and mounting screw holes.

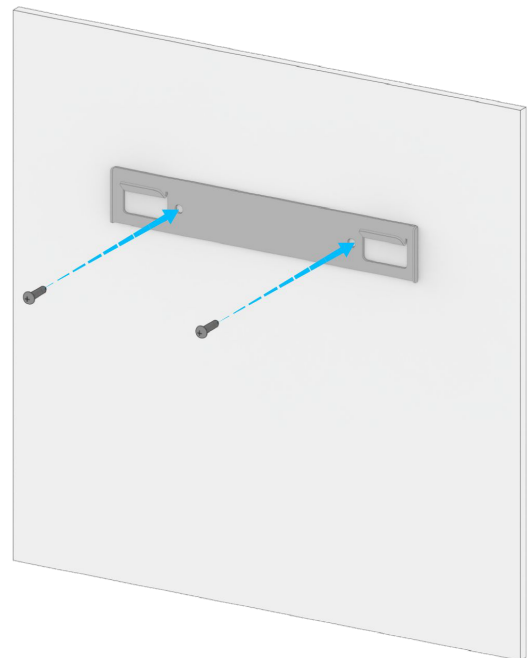


Please note: Leave at minimum 2" clearance on the left side of the enclosure in order for the door to open and close without hindrance. Leave 8" clearance on the top side for the antennas.

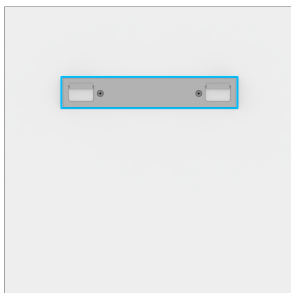


Use the supplied screws to install the mount plate onto the wall. Ensure that the hook features are pointing upward when mounting on the wall.

The enclosure will extend down roughly 22" (~56cm), from the top of the mount plate.



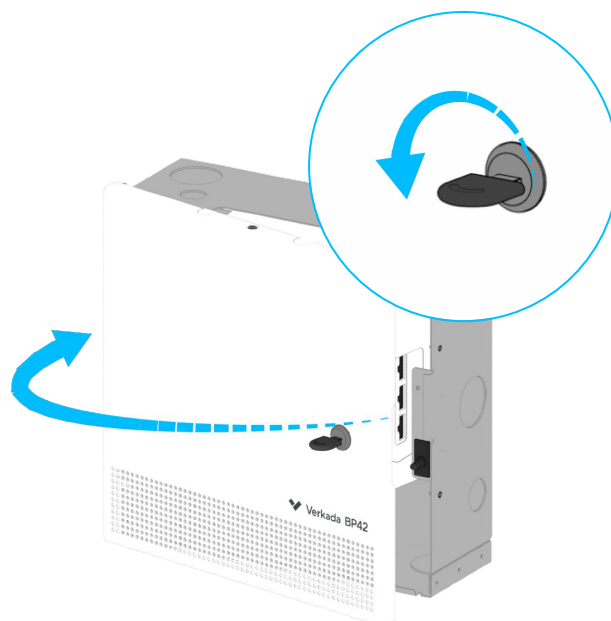
Please note The supplied screws are intended for plywood installations. For other wall materials, ensure proper load-bearing fasteners are used.



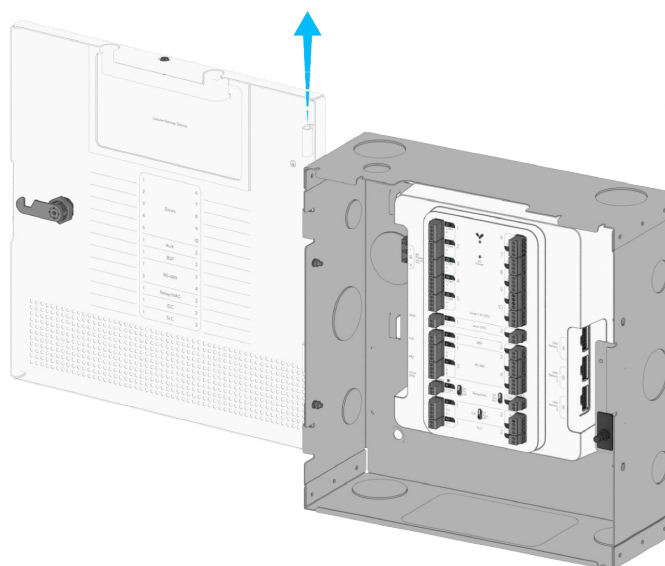
The size of the enclosure is:
22" x 13" (56 x 33 cm)

Mounting 2/4

Unlock and open the enclosure door with the supplied key.



Remove the door by sliding it upwards.



Installation

Mounting 3/4

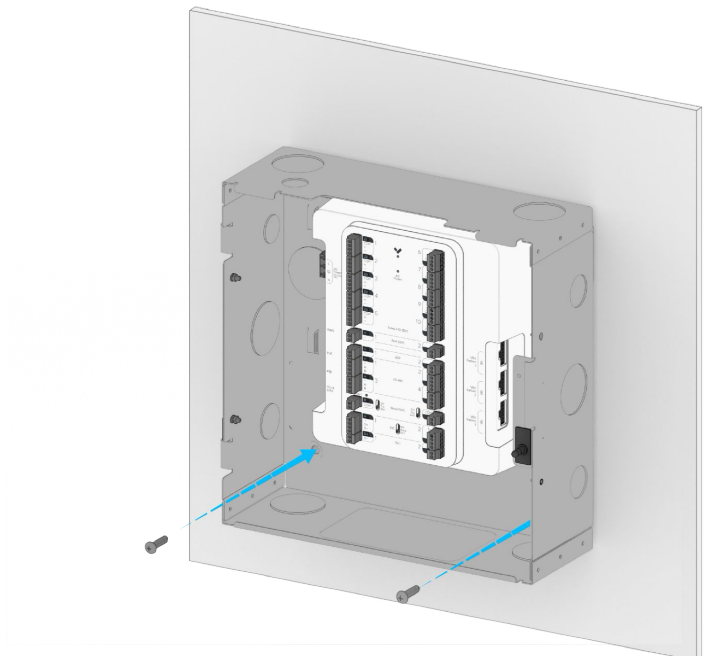
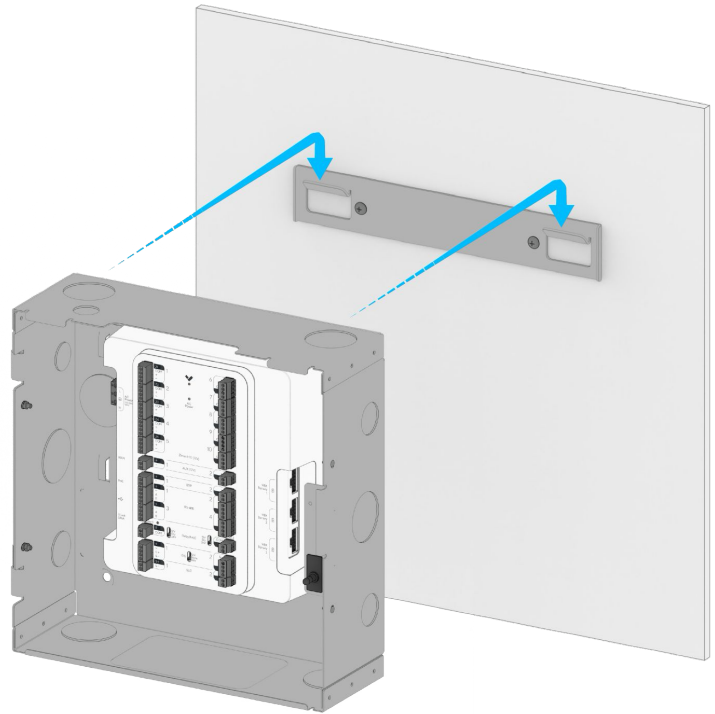
Use the enclosed template, or the mount plate itself to mark mounting holes, keeping at least 2" (5cm) for the power cable to exit on the left side.

For wood or metal, drill 1/8 inch (3mm) pilot holes. Drive mounting screws directly into the pilot holes.

For drywall or masonry, drill 1/4 inch (6.5mm) holes. Insert plastic anchors into holes and drive mounting screws into anchors.

Carefully slot the enclosure onto the mount plate.

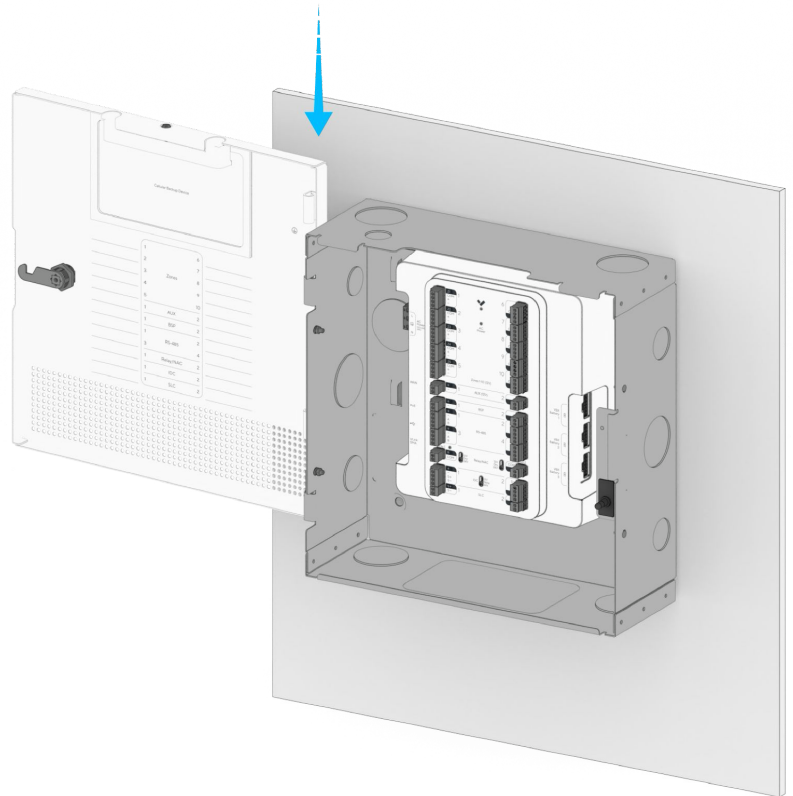
Secure the enclosure onto the wall using the screw holes on the enclosure.



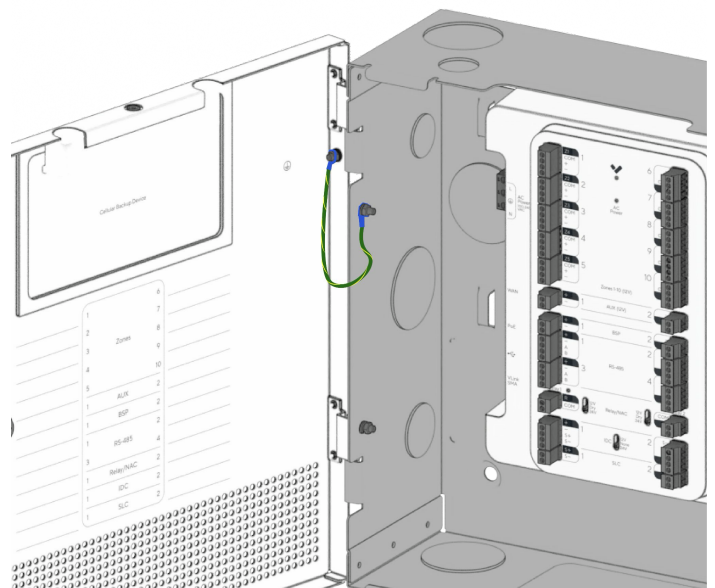
Installation

Mounting 4/4

Reattach the door to the enclosure.



Connect the grounding cable from the enclosure to the door.



Installation

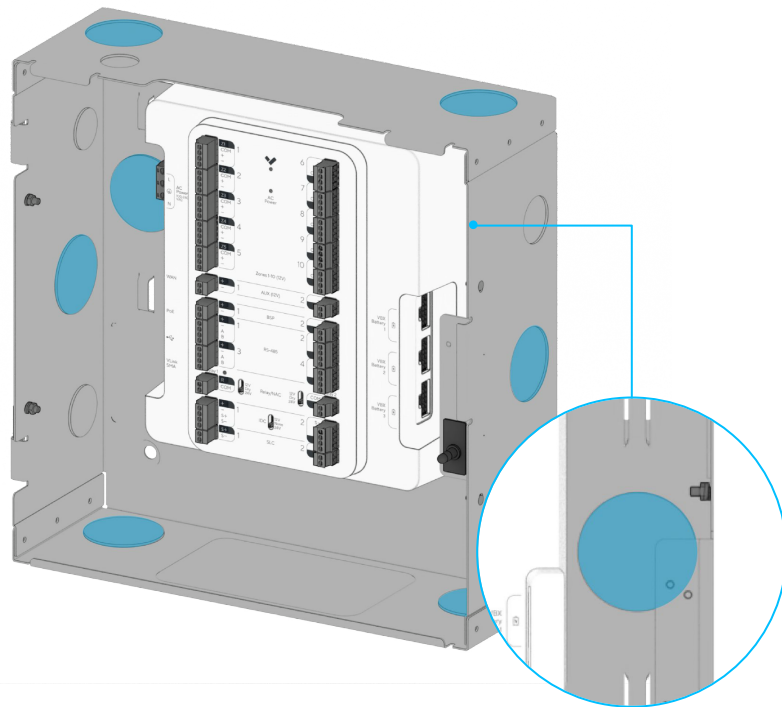
Conduit Connections

Knockout Sizing

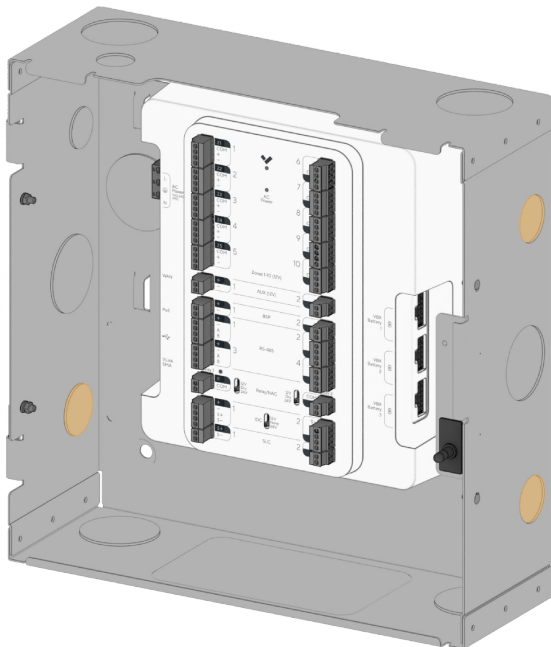
BP42 conduit connection points have different sizes for different purposes.

Reference diagrams below for knockout sizing and usage information.

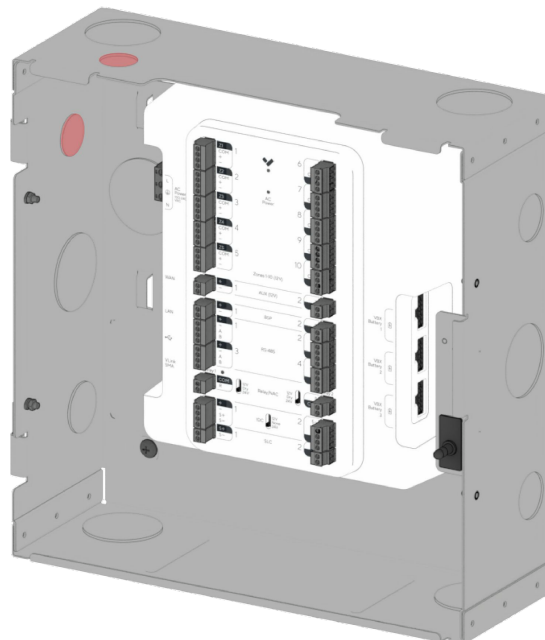
Use one of the 1-¼" knockouts for the AC power cable entry.



Ø44.4mm = 1-¼" trade size



Ø28.5mm = ¾" trade size



For use with provided panel
mount Antenna:
Ø22.5mm = ½" trade size

Wiring diagram

Warning

Wiring shall be in accordance with NFPA 70, NFPA 72, and the National Electrical Code.

With the AC cable disconnected, plug the terminal plug end into the mating AC Power terminal block on the Panel. Once the product is closed and secured, connect the AC plug into a power outlet. Do not connect to a receptacle controlled by a switch.

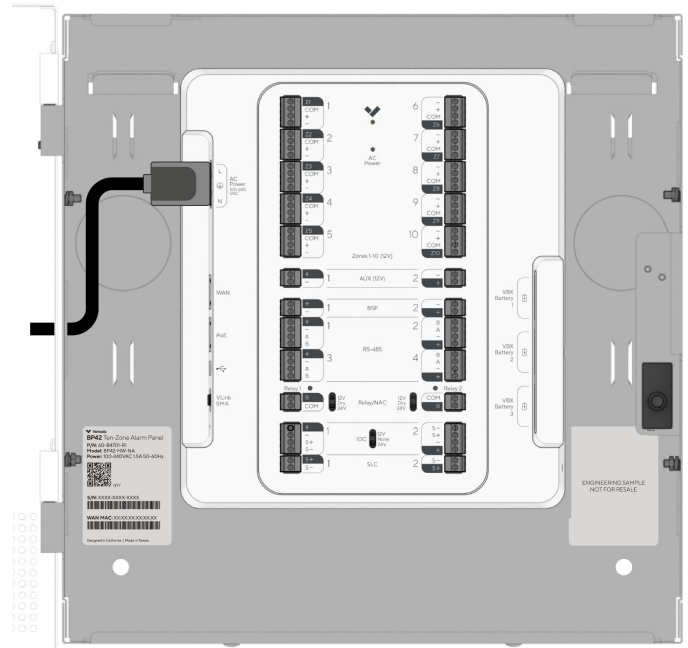
Maintain a minimum ¼ inch (6.4mm) clearance between the AC power wires and other internal field wiring connections.

Wiring to Earth Ground

The earth ground connection is critical for providing immunity from high voltage surge events as well as detection of earth ground faults between the alarm panel wiring and external wiring. Ensure the mains receptacle powering the alarm panel has a robust connection with building earth

Do not connect earth ground to any other system signal ground.

For Supplied Power Cord
AC cable could only enter the
panel through the 1-¼" knockout
hole due to the limitation of the
overmold size limitation.

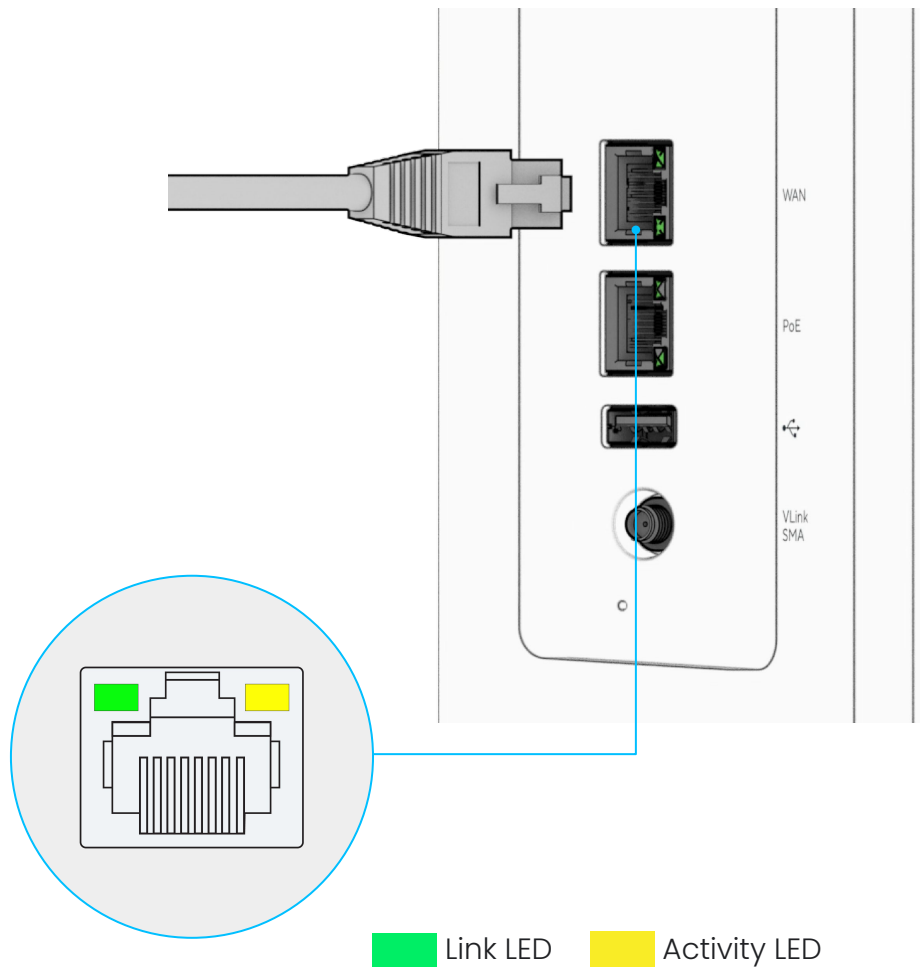
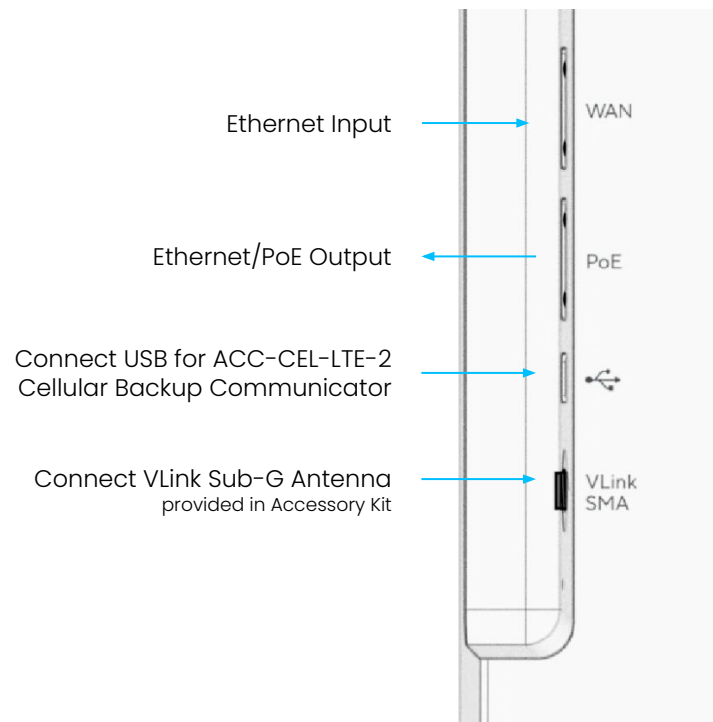


Wiring diagram

Connecting Ethernet

An ethernet connection is required for both initial and regular Firmware updates as well as connection to Verkada Command and other notification and setup functions. Please connect AC Power as well as Ethernet with a bare minimum of 1 Mbps data rate to enable these functions.

NOTE: Upon initial connection the panel will update automatically. Rebooting and changes to the LED status is normal during this process.



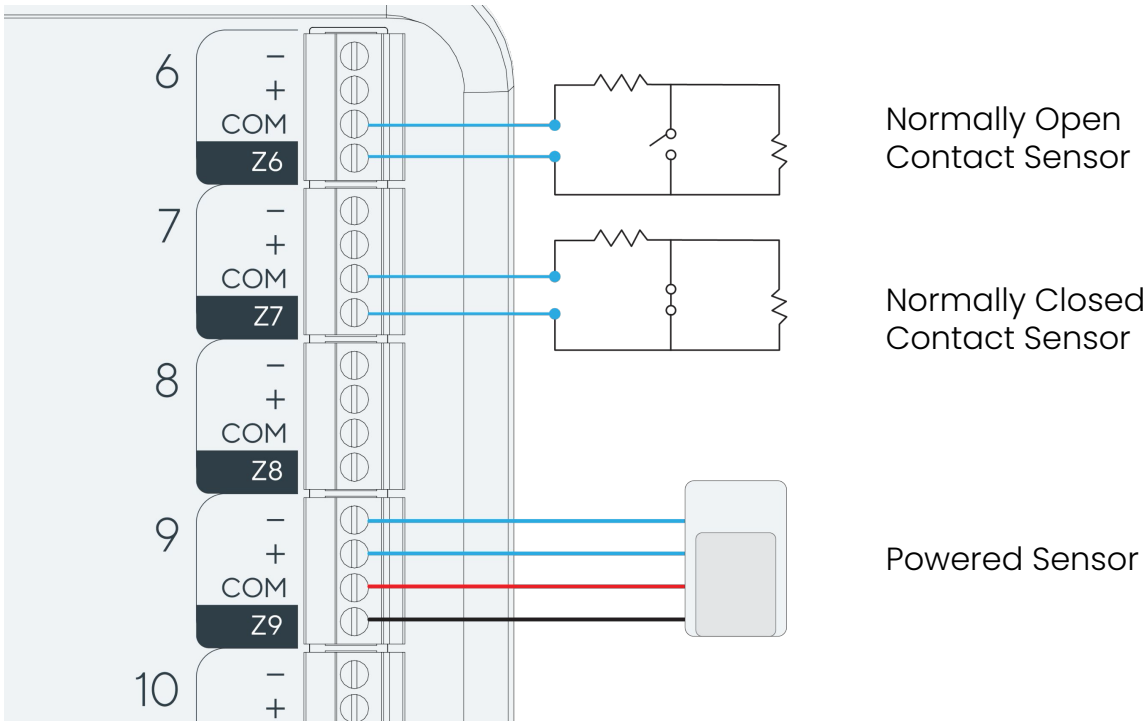
Wiring diagram

Alarm Inputs (Zones 1-10)

Alarm inputs connect to detection devices such as door / window contact sensors, motion detectors, etc.

- Wire Gauge Range: 16 – 22 AWG
- Maximum Wire Loop Impedance: 100Ω (excluding EOL resistance)
- Supervision: Configurable via 1kΩ – 4.7kΩ EOL resistors (single EOL) or 1kΩ – 2.2kΩ EOL resistors (double EOL)
- Max Current Draw:
 - 1.95A for total of Zones 1-10, Aux 12V 1-2
- Notes:
 - All Inputs can be configured as Normally Open or Normally Closed in Command
 - Zones 1-10 and Aux 12V 1-2 are power limited to 1.95A total
 - Zone inputs shall not be used for fire circuits

Conditions	Resistance on zone (2.2K double EOL configuration)	Voltage on position terminal
Cut Detected	Over 9.6 Kohms	Over 4.26 VDC
Open	3.0 – 9.0 Kohms	3.52 to 4.24 VDC
Normal	0.6 – 2.8 Kohms	1.75 to 3.46 VDC
Short	Under 550 ohms	Under 1.65 VDC

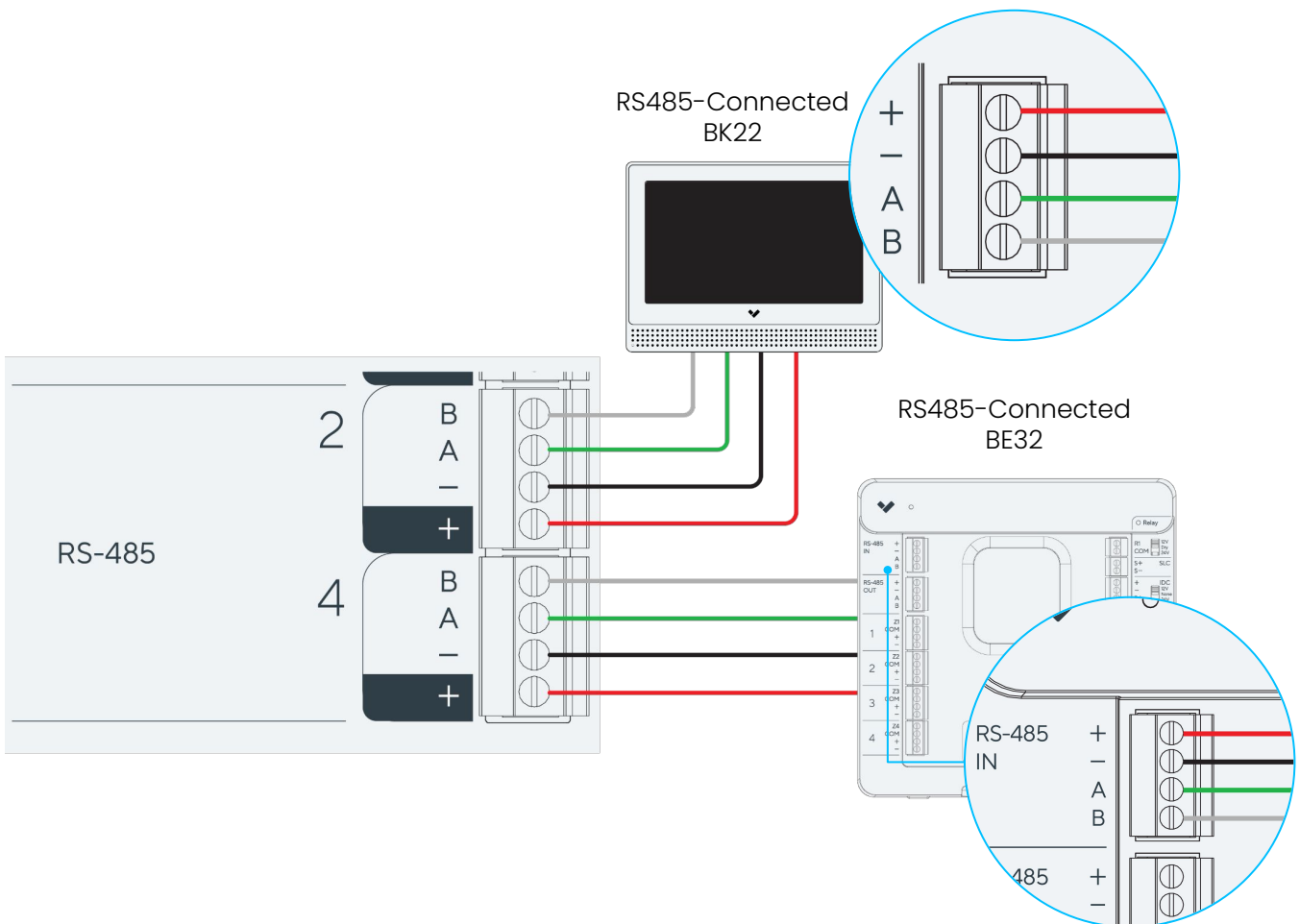


Wiring diagram

RS485 Interfaces (RS485 1-4)

The RS485 ports connect to Input / Output devices such as the primary keypad, or a wired expander. RS485 interfaces are intended for Class B operation where operation stops at a single open and a redundant path is not included.

- Wire Gauge Range: 16 – 22 AWG
- Max Current Draw:
 - No more than 1.66A for all four ports combined
- Notes:
 - BP42 RS485 terminal blocks provide 36VDC power; please check device compatibility for allowable input voltage range.
 - RS485 outputs are individually power limited to 2A.



Wiring diagram

RS485 Interfaces

BE32 expander modules may be connected to the BP42 RS485 ports in a direct point to point configuration, or connected sequentially in daisy chain configuration. The below chart shows the acceptable wire run length for different wire gauges and the number of BE32s connected sequentially. The lengths below assume a that load up to 5W is connected to the final BE32 in the sequence and 1W loading on each BE32 in between (if any). If greater loading is required, the wire run length must be reduced accordingly.

Wire Length between panel and expander(s)	18AWG				22AWG			
# of BE32s	1	2	3	4	1	2	3	4
50m								
100m								
150m								
200m								
250m								
300m								
350m								
400m								
450m								
500m								



Installation

Wiring diagram

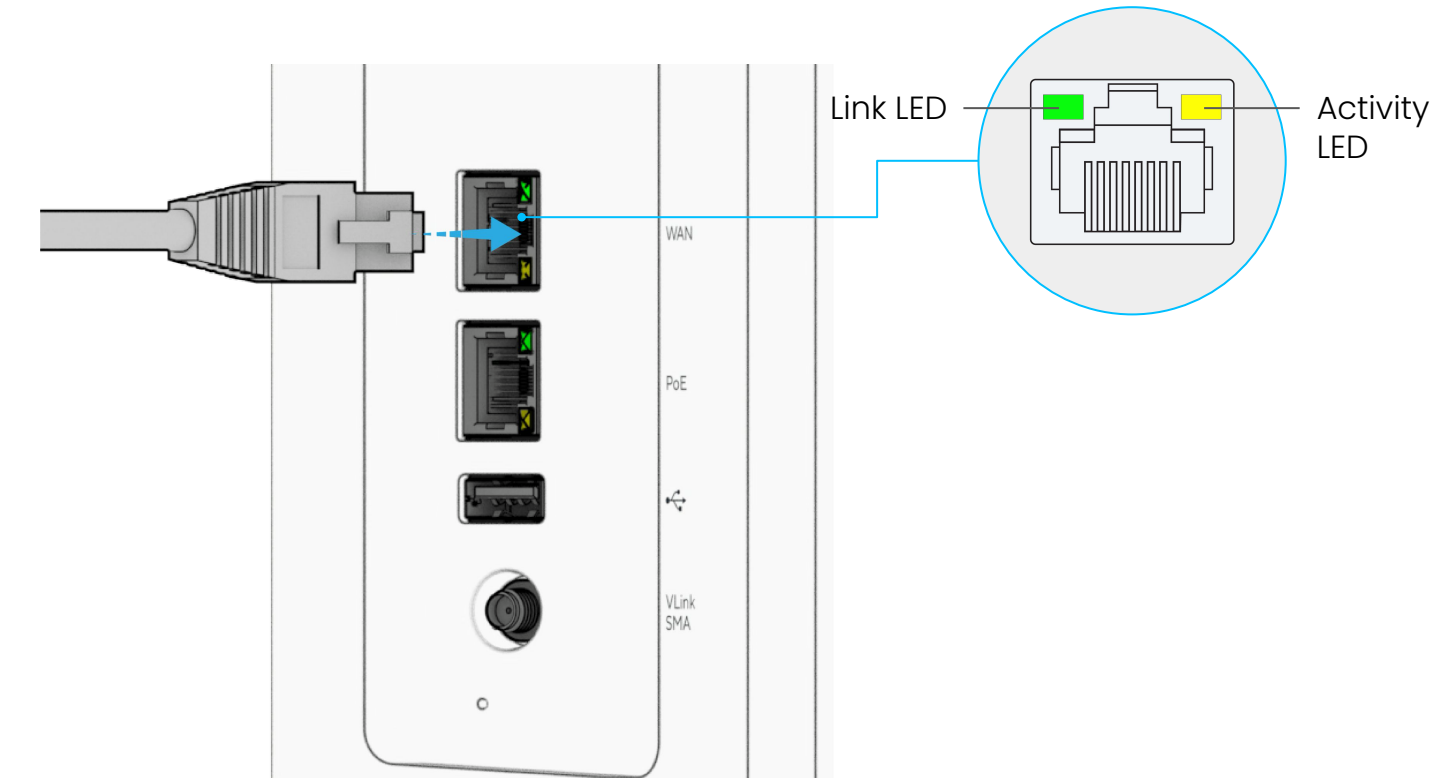
Ethernet Connection (WAN)

A permanent Ethernet connection is required for the BP42 panel to operate normally. Connection to the Verkada Command interface, system status, and device updates are all performed over the Ethernet link. The Ethernet connection shall be routed through the switch / router before exiting the building.

Ethernet LED Behavior

Each Ethernet port has a green LED and an orange LED. LED activity is described by the table below

Symbol	10MHz Link	10MHz active	100MHz Link	100MHz active	1000MHz Link	1000MHz active
Green LED	On	Blink	On	Blink	Off	Off
Orange LED	Off	Off	Off	Off	On	Blink
1. On = Active, Off = inactive						



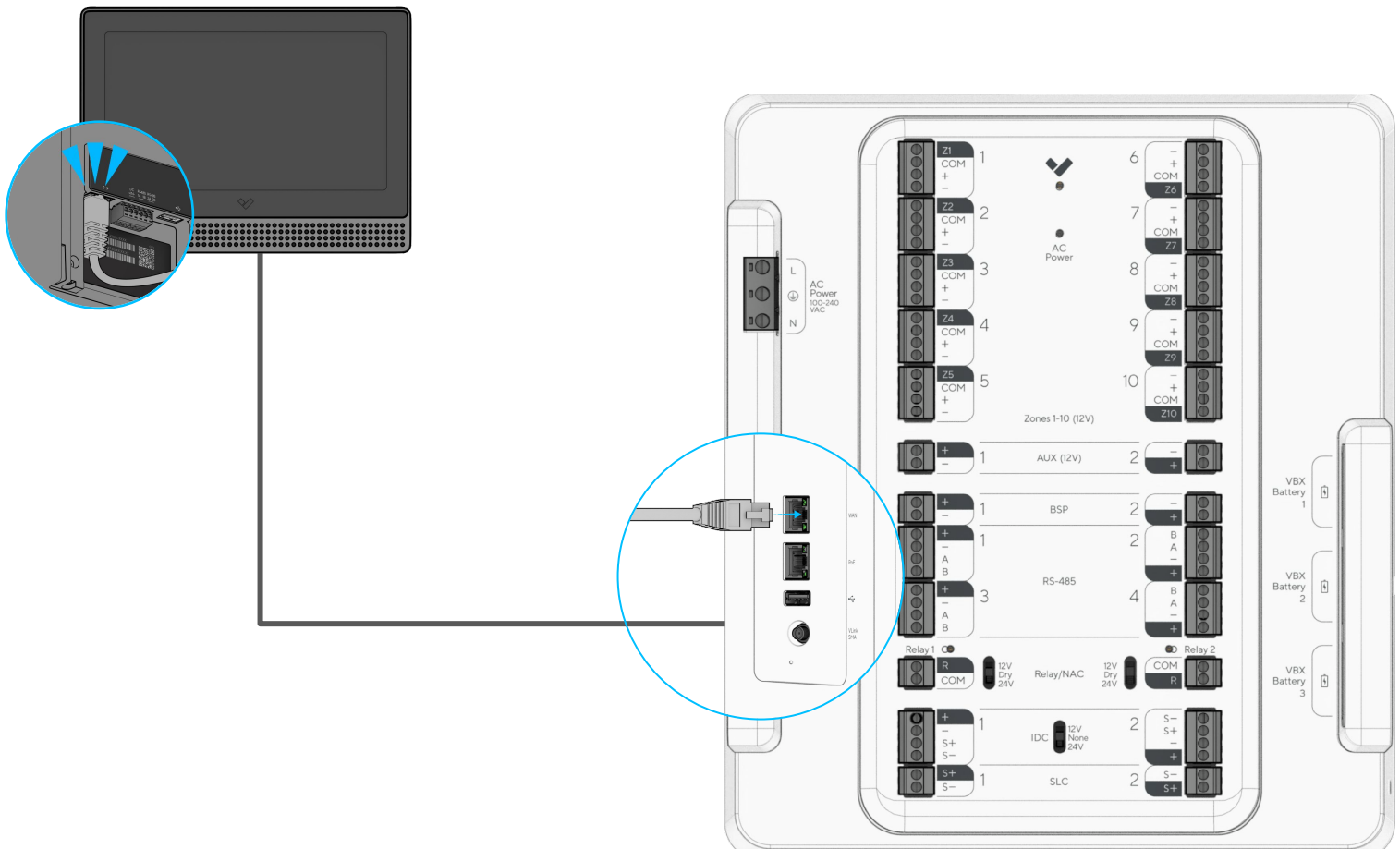
Wiring diagram

PoE Interface

A supplementary keypad may be connected to the PoE Port.

- Total PoE Power Budget: 30W
- PoE port is power limited to 25.5W at end device per IEEE 802.3at until total PoE Power Budget has been reached.
- Max Cable Length: 100m

BK22 via PoE

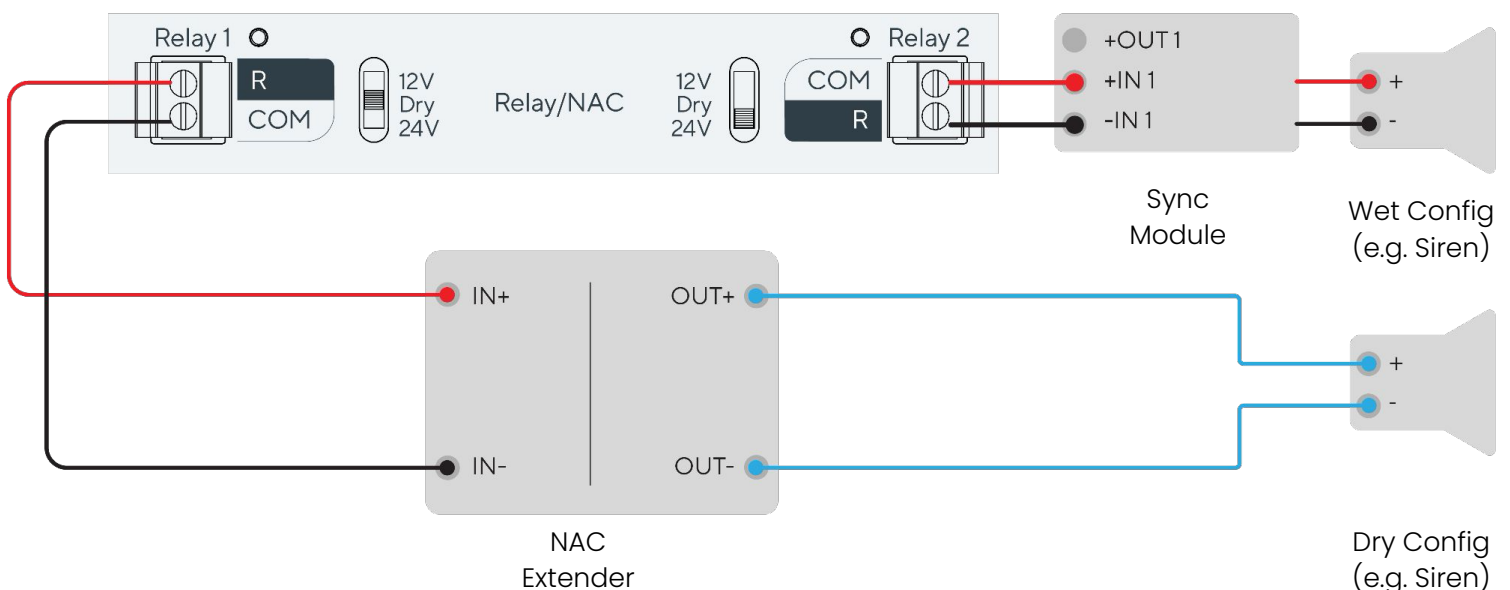


Wiring diagram

NAC Outputs

NAC (Notification Appliance Circuit) outputs are intended for the connection of notification appliances such as bells, sirens, horns, or horn / strobe combinations.

- Wire Gauge Range: 16 – 20 AWG
- Voltage Types and Ratings
 - Regulated 12V switch position – 12.5 VDC, 0.19A nominal
 - Regulated 24V switch position – 28 VDC, 0.1A nominal
 - Dry output switch position – 30 VDC, 1.0A Maximum (0.6 power factor allowed)
- Maximum wire loop impedance 100Ω
- Wet and Dry wiring configurations and panel switch settings are illustrated below. Refer to the NAC manufacturer's installation guide for complete wiring details.
- Dry wiring to a NAC extender must be encased in conduit, located in the same room, and within 20' (6.1 m) of the BP42 alarm panel.
- Supervision with EOL resistors (Verkada p/n ACC-EOL-2K2)
- Notes:
 - NAC outputs are common relay outputs that activate when any qualifying event occurs, as configured in Verkada Command
 - NAC outputs are supervised and power limited
 - A short to earth ground will be flagged as a trouble



Wiring diagram

Compatible NAC Devices

- Compatible NAC appliances are listed below. Install NAC devices in compliance with the manufacturer's recommendations
- **NAC devices on the same output must be the same Manufacturer and Part Number. The device candela / horn setting must match the value in the Notes column to use this table**

Manufacturer	Model Name	Qty / Output	Notes
Wheelock	MT-12/24	10	Horn. Continuous, 12V or 24V
Wheelock	MB-G6-12	16	Bell, 6", 12V Only
Wheelock	MB-G10-12	16	Bell, 10", 12V Only
Wheelock	HN Series	30	Horn, 12V or 24V
Wheelock	ST Series	5	Strobe. 12V or 24V, 15cd
Wheelock	HS Series	5	Horn Strobe. 12V or 24V, Temporal High 15/75cd
System Sensor	HR	20	Horn. 12V or 24V, Temporal High
System Sensor	SR	16	Strobe, 12V or 24V, 15/75cd
System Sensor	P2R	10	Horn Strobe, 24V, Temporal High, 15/75cd
System Sensor	P4RK	10	Horn Strobe, 24V, Temporal High, 15cd
Gentex	GEH24	20	Horn, 24V, Temporal High
Gentex	GS	12	Strobe. 24V, 15cd
Gentex	GHS	10	Horn Strobe, 24V, 15cd, Temporal High

Wheelock Horns, Strobes or Horn Strobes must use DSM Sync Module for temporal signaling.

System Sensor Horns, Strobes or Horn Strobes must use MDL3 Sync Module for temporal signaling.

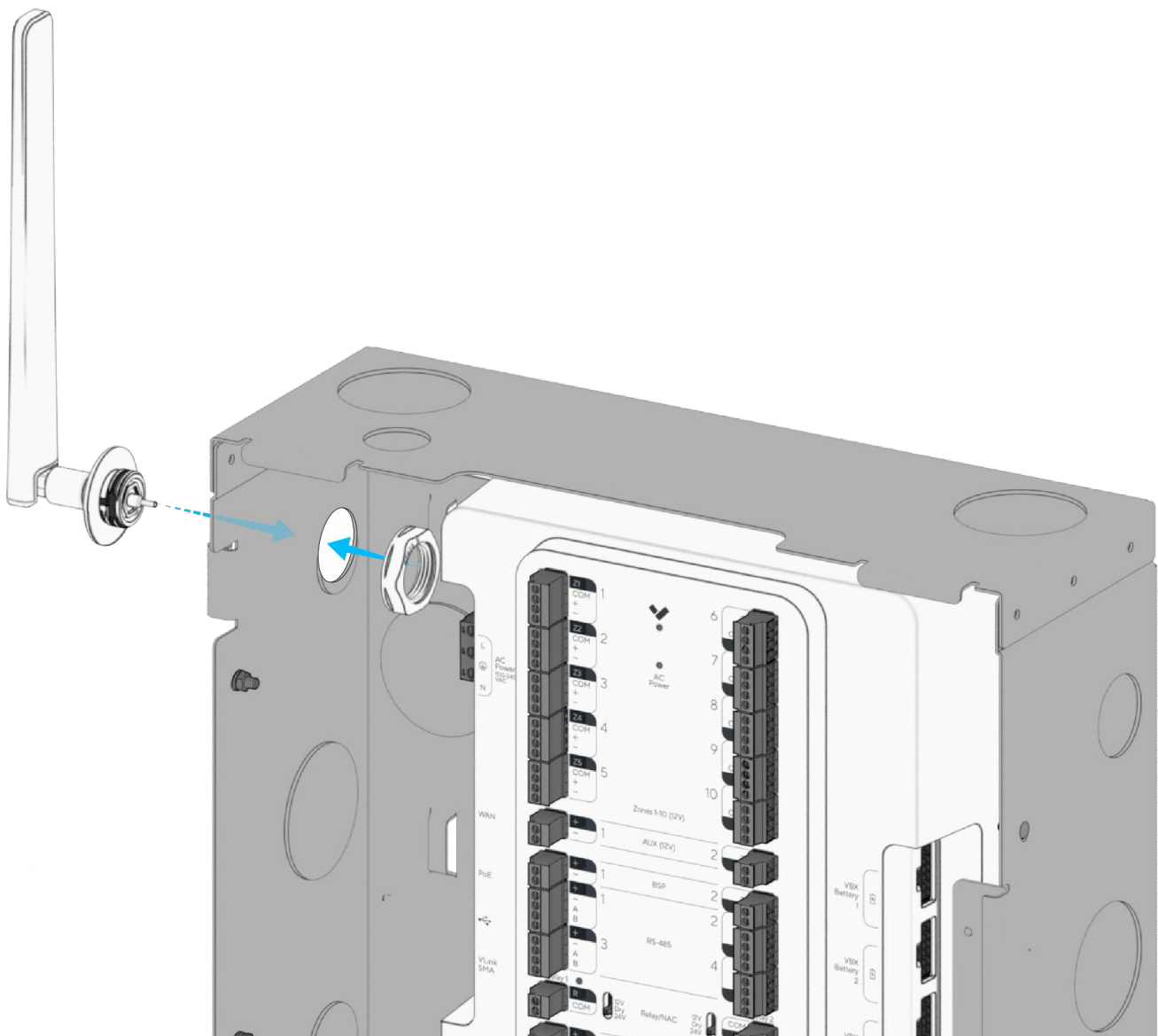
Gentex Horns, Strobes or Horn Strobes must use AVSM Sync Module for temporal signaling.

All sync modules may be used to synchronize across one or two zones. Please consult the sync module wiring diagram for further details.

Wiring diagram

Sub-GHz External Antenna

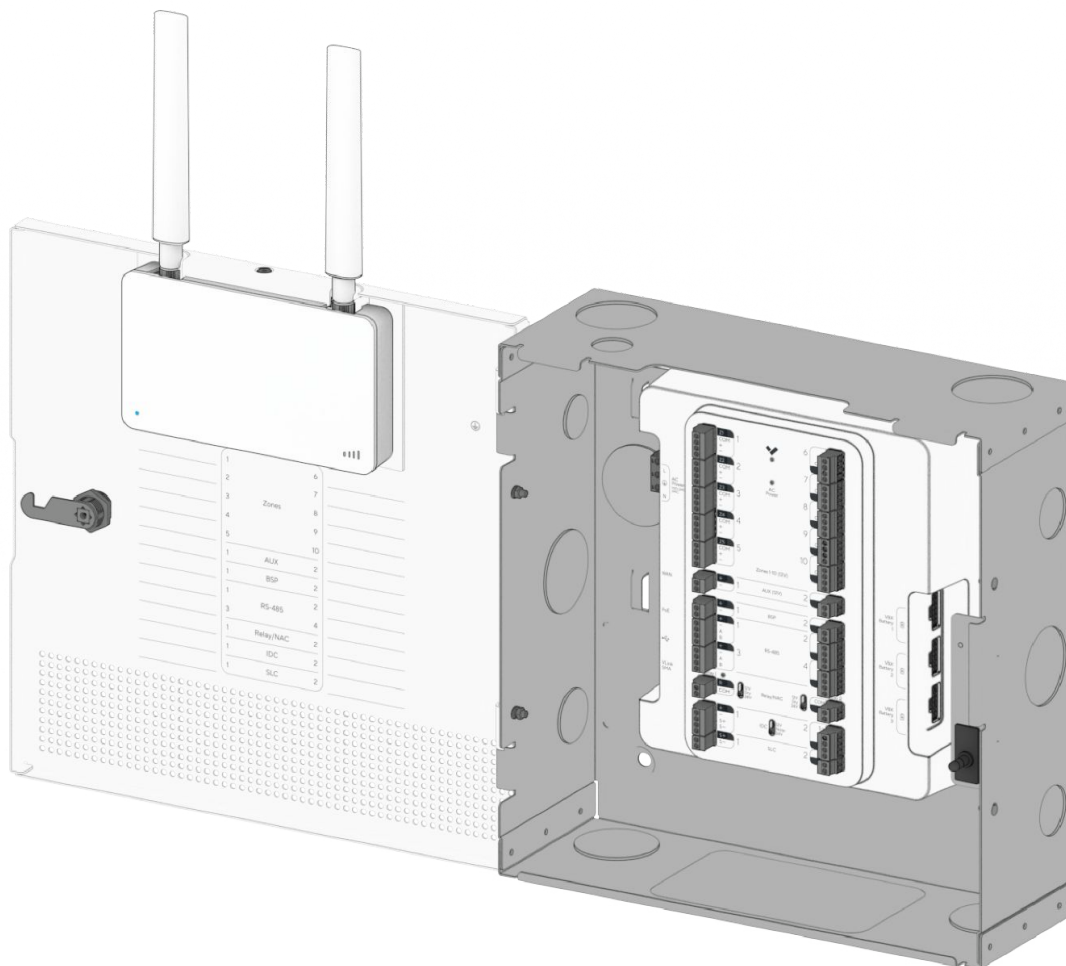
- Remove the small knockout from the top of the panel.
- Unscrew the attachment nut from the antenna assembly.
- Insert the antenna assembly into the knockout hole.
- Re-thread the attachment nut to the antenna assembly (only finger tight, no wrench...)
- Attach the SMA connector to the main panel (using a small wrench)
- Sub-GHz devices are used only for intrusion detection



Wiring diagram

Backup Cellular Communicator

- Using the T10 Screwdriver that came with ACC-CEL-LTE-2, remove the plastic insert from the door.
- Remove the ACC-CEL-LTE-2 mount plate.
- Insert the USB cable that came with ACC-CEL-LTE-2 into the USB port on ACC-CEL-LTE-2.
- Install ACC-CEL-LTE-2 into the BP42 door. Magnets will temporarily hold the unit in place until the security screw has been tightened.
- Install the USB cable into the main panel.
- Zip tie the USB cable to the cable management features inside BP42



Battery Installation

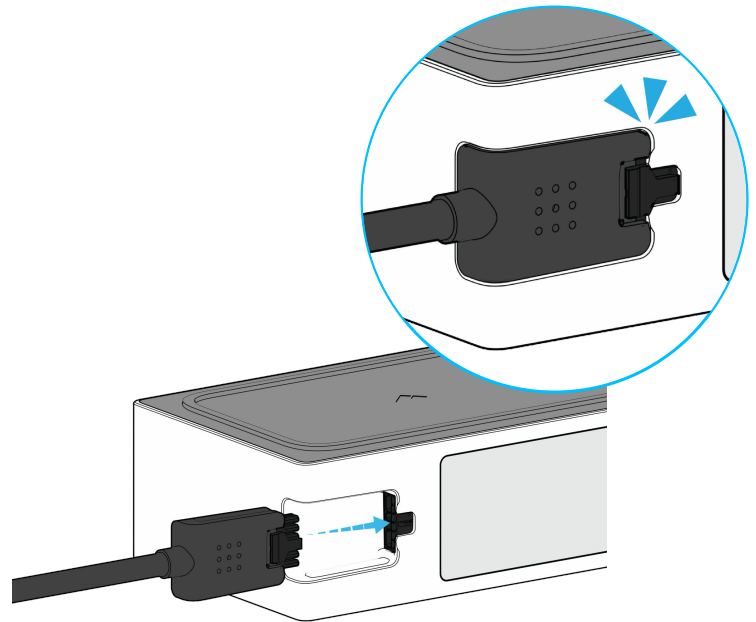
Warning

Do not install batteries until all wiring and servicing complete

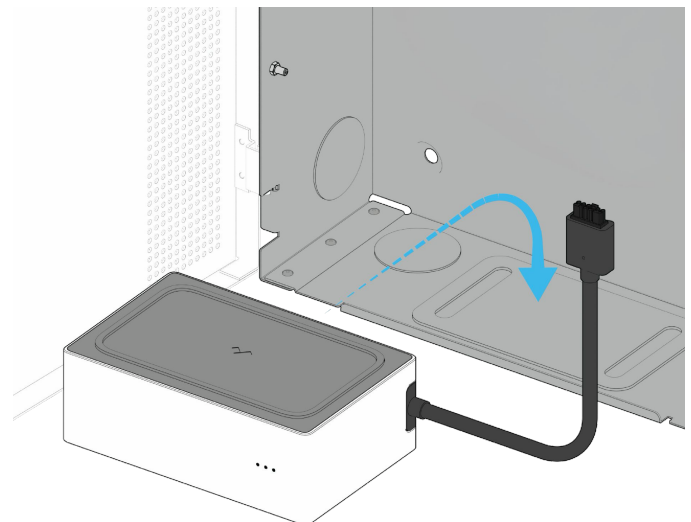
Batteries Installed Inside BP42

Remove all packaging material from the battery ACC-VBX-200WH.

Slide battery into BP42 until audible “click” is heard.



Confirm correct installation via Charging Battery LED activity as described in the Battery LED Behavior section.



Appendix

Support

Thank you for purchasing this Verkada product. If for any reason you're experiencing issues or need assistance, please contact our 24/7 Technical Support Team immediately.

Sincerely,
The Verkada Team
verkada.com/support

