

OPENPATH ACCESS CONTROL SYSTEM INSTALLATION GUIDE v.1

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[Openpath Access Control System Installation Guide](#)

[GETTING STARTED](#)

[ADDITIONAL RESOURCES](#)

[PRIOR TO INSTALLATION](#)

[Installation](#)

[NETWORK REQUIREMENTS](#)

[RECOMMENDED CONFIGURATION](#)

[WIRING THE REX WITH THE DOOR STRIKE](#)

[WIRING THE REX WITH THE ELECTROMAGNETIC LOCK](#)

[Troubleshooting](#)

[LEGACY WIRING](#)

[ACU LEDS](#)

[READER LED](#)

[PROVISIONING THE ACU](#)

[RESETTING THE ACU](#)

Openpath Access Control System Installation Guide

GETTING STARTED

This Installation Guide explains how to install and configure Openpath Smart Hubs (ACUs) and Openpath Smart Readers as part of an Openpath Access Control system.

ADDITIONAL RESOURCES

For more information, refer to the [Smart Reader Data Sheet](#) and [Smart Hub \(ACU\) Data Sheet](#).

PRIOR TO INSTALLATION

Prior to installing Openpath hardware, it is assumed that you have performed a customer site survey and have determined the following:

- How many entries need to be configured (e.g. doors, gates, and/or elevator floors)
- Whether you're using legacy wiring or new wiring
- What kind of electronic entry mechanisms, Request to Exit (REX) mechanisms, and door contact sensors will be used and their power requirements
- Whether you're providing backup batteries for the ACUs

Installation

NETWORK REQUIREMENTS

An Ethernet connection with DHCP must be used to connect the ACU to the Local Area Network (LAN). You also need to configure firewall settings to communicate with the Openpath system. Openpath uses the following outbound ports:

- TCP port 443
- TCP port 80
- TCP port 8883
- UDP port 123

NOTE: If using an external DNS server, outbound UDP port 53 must also be open.

To support Wi-Fi unlocking from the mobile app, inbound TCP port 443 must be available from within the LAN. Inbound port forwarding on the router, firewall or NAT device is not required.

RECOMMENDED CONFIGURATION

Openpath readers and ACUs communicate via RS-485. The following wire types are compatible, listed in the order of preference which impacts distance.

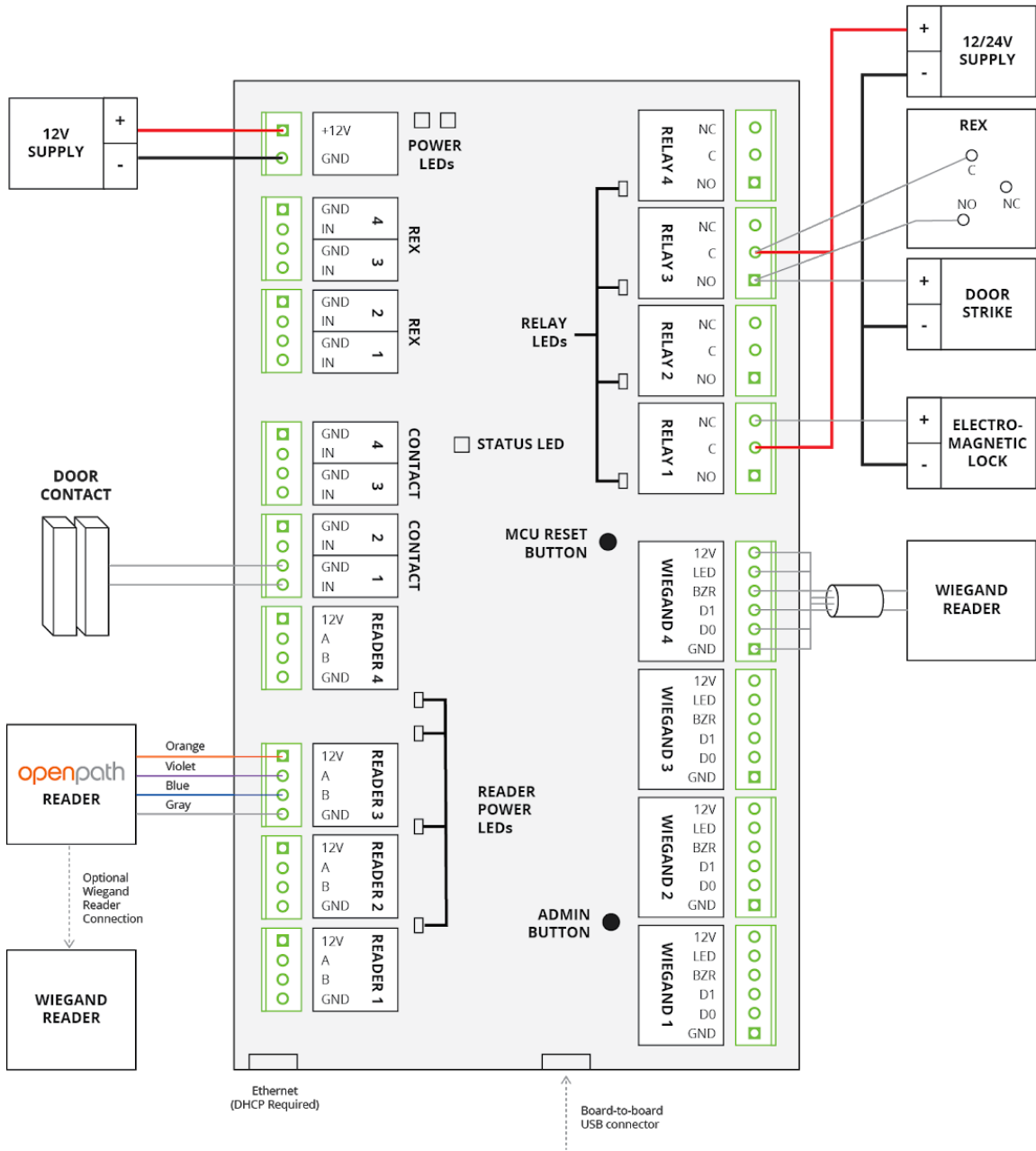
- Shielded CAT6A (recommended, additional two pairs can be used for sensors)
- Shielded CAT6
- Shielded RS485 w/22-24AWG (lower gauge, thicker wire is better)
- Shielded CAT5
- Unshielded CAT6
- Unshielded CAT5
- Shielded 22/6
- Unshielded 22/6

Ideally, use one twisted pair for GND and VIN and one twisted pair for +B and -A.

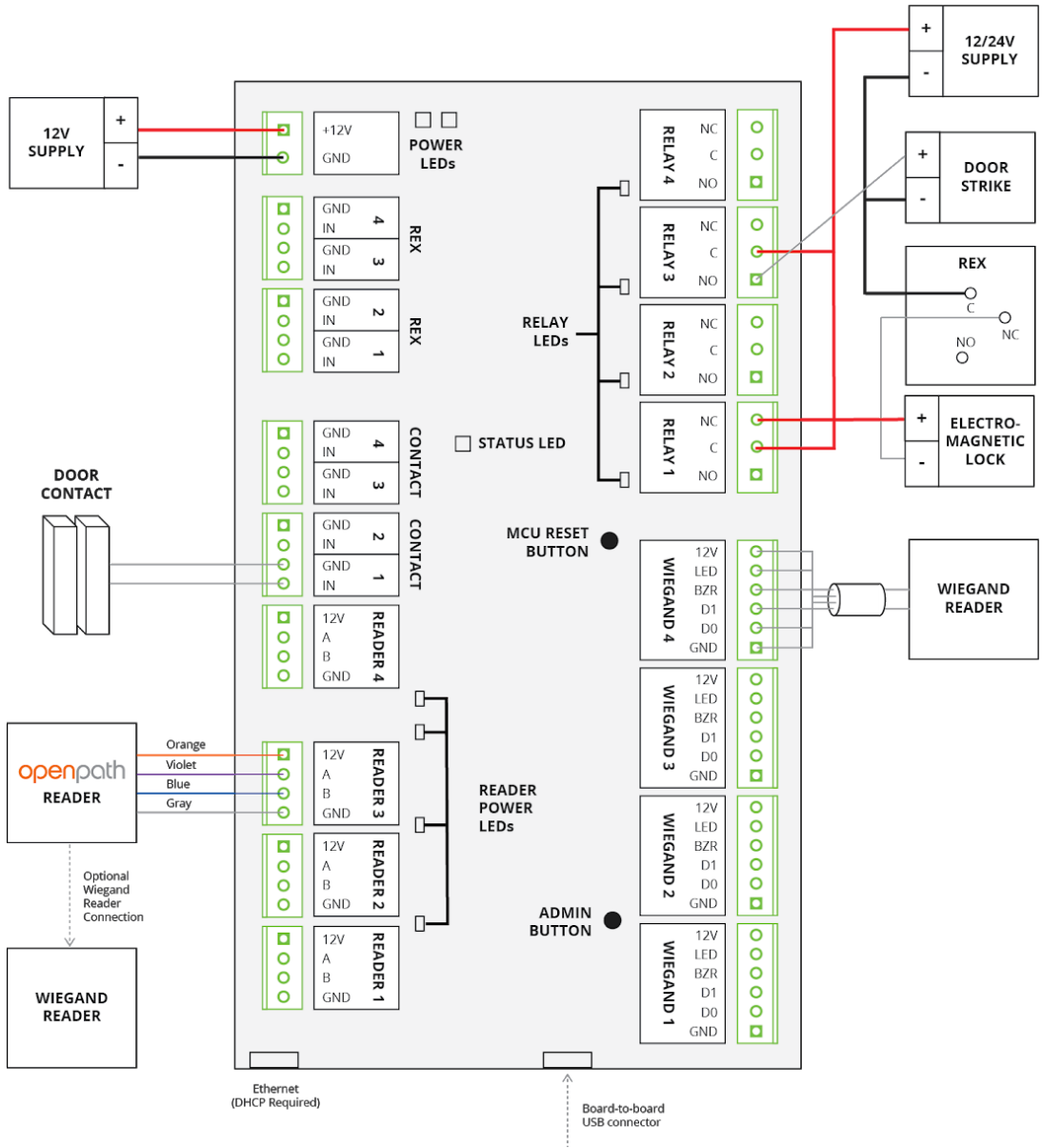
For reader installation, we recommend that you install a 1-Gang 20 CU box in order to flush-mount the reader. Alternatively, the reader may also be surface mounted with the included back plate.

NOTE: For elevators, all relays must be on the same ACU. If you need more than four access controlled floors, use our elevator expansion board.

WIRING THE REX WITH THE DOOR STRIKE



WIRING THE REX WITH THE ELECTROMAGNETIC LOCK



Troubleshooting

[LEGACY WIRING](#)

[ACU LEDs](#)

[READER LED](#)

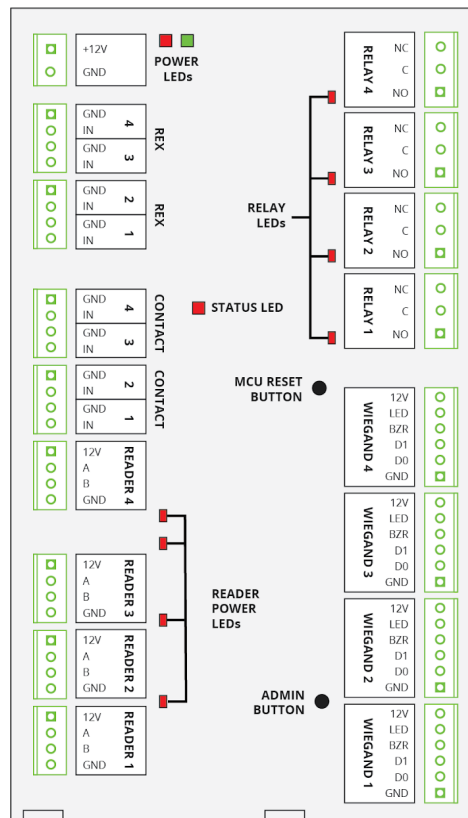
[PROVISIONING THE ACU](#)

[RESETTING THE ACU](#)

LEGACY WIRING

Sometimes legacy wiring results in slower connections and dropped packets. To remedy this, you can switch GND and VIN with +B and -A connections on the ACU and readers to ensure the data pair (+B and -A) are using the alternate pair of legacy wires.

ACU LEDs



The Openpath ACU has several LEDs that indicate the following:

- POWER LEDs indicate that the ACU is connected to power
- The four RELAY LEDs indicate when the relays are activated
- The STATUS LED in the center of the ACU indicates that the ACU has been configured with firmware
- The four READER POWER LEDs indicate that the ACU has output power enabled per reader

READER LED

The Openpath Smart Reader's lights indicate the following:

- If the center dot quickly switches between multiple colors and outer ring quickly spins once, the reader has just received power
- If all lights are off, the reader is not connected to power (check to see if the power wires are swapped)
- If the center dot is flashing red, the reader is connected to power but cannot communicate with the ACU (check to see if the +B and -A lines are swapped)
- If the center dot is solid blue, the reader is connected to power and can communicate with the ACU, but has not been configured as an entry in the online portal
- If the center dot is solid white, then the door is locked
- If the outer ring is solid white, then the door is unlocked

PROVISIONING THE ACU

Provisioning the ACU means registering it in the online portal and getting it up and running with the latest firmware.

To provision the ACU:

1. Connect the ACU to the Internet via Ethernet
2. Press the ADMIN BUTTON
3. On a computer or mobile phone on the same network as the ACU, go to <https://control.openpath.com>
4. Log in with your administrative login
5. Go to **Hardware > ACU Management**
6. Locate the ACU on the list and click **Register**
7. A new window will open with instructions on registering the ACU. Click **Yes** to proceed.

RESETTING THE ACU

Soft Reset: To soft reset the ACU, disconnect power from the ACU, wait 10 seconds, then reconnect the power.

WARNING: Only hard reset the ACU if absolutely necessary. This will clear all of the data off of the ACU and will require reprovisioning, which requires having a computer or mobile phone on the same network as the ACU.

Hard Reset: To hard reset the ACU, disconnect power from the ACU, hold down the ADMIN BUTTON, reconnect power to the ACU, wait 20 seconds while still holding the button down, then release the button. Wait ten minutes before re-provisioning the ACU following the [PROVISIONING THE ACU](#) steps above.