

OPENPATH
SINGLE DOOR CONTROLLER
INSTALLATION GUIDE
V1

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Openpath Single Door Controller Installation Guide

GETTING STARTED

This Installation Guide explains how to install and configure the Openpath Single Door Controller (SDC) as part of an Openpath Access Control system.

ADDITIONAL RESOURCES

- [Smart Reader Data Sheet](#)
- [Openpath Admin App Guide](#)
- [Openpath User Guide](#)

PRIOR TO INSTALLATION

Prior to installing Openpath hardware, perform a customer site survey to determine 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 an external supply with backup batteries for the SDC. See [SELECTING A BACKUP BATTERY](#).
- Whether you're supporting a legacy access control panel. See [WIRING TO LEGACY PANELS](#).

Installation

NETWORK REQUIREMENTS

An Ethernet or Wi-Fi connection or a static IP address must be used to connect the SDC 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
- 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, the SDC's inbound TCP port 443 must be available from within the LAN. Inbound port forwarding on the router, firewall, or NAT device is not required.

POWER REQUIREMENTS

The Openpath SDC can be powered with PoE, PoE+, or an external 12-24V supply. Use an external power supply for backup or if PoE is not available—24V required if locking hardware requires 24V.

Operating Voltage: 12-24VDC

Input Rating: 12V @ 2A (min) or 24V @ 1A (min)

Output Ratings:

- Power Out connector can supply up to 100mA @ 12V or 50mA @ 24V
- 2 reader ports, max power output: 250mA @ 12V each
- 2 relays, max power output:
 - PoE: Max 3W combined output (e.g. 250mA @ 12V or 125mA @ 24V)
 - PoE+: Max 9W combined output (e.g. 750mA @ 12V or 375mA @ 24V)

SELECTING A BACKUP BATTERY

While not required, Openpath recommends having a backup battery on the external supply or PoE injector in case of power outages. The size of battery depends on your setup and how long you want to power the system.

Table 1: Power requirements (24V)

SDC	.3A
Smart Reader (2)	0.25A
Locking hardware (while engaged)	0.25A–0.5A

Assuming an external 24V power supply, an SDC configured with two Openpath Readers and locking hardware uses about 1.1 Amps. To keep the system running for 3 hours with all entries engaged, you need $1.1A \times 3 \text{ hours} = 3.3 \text{ AH}$, so two 12V 4AH sealed lead acid (SLA) or gel cell batteries in series.

MOUNTING INSTRUCTIONS

The SDC can be mounted a few different ways: on a single or double gang box or on drywall.

To install on a standard US 1-gang box:

1. Use two 6-32 screws (A) to attach backplate (B) to gang box
Recommended: Use the provided drywall screws (C) and anchors (not shown) on drywall for added stability
2. Snap on main housing (D) to backplate (B)
 - a. On the right side of the main housing (D), ensure that the two edge clips fit into their respective notches on the backplate (B)
 - b. Press firmly on the main housing (D) to snap into place
3. Partially unscrew pre-installed M4 set screw (E) to secure main housing (D) to backplate (B)
4. Use the cable slot (F) to hold cables while wiring; see [STANDARD WIRING CONFIGURATION](#)
5. Snap on front cover (G)

Note: For a double gang box, follow the directions above, using additional 6-32 screws.

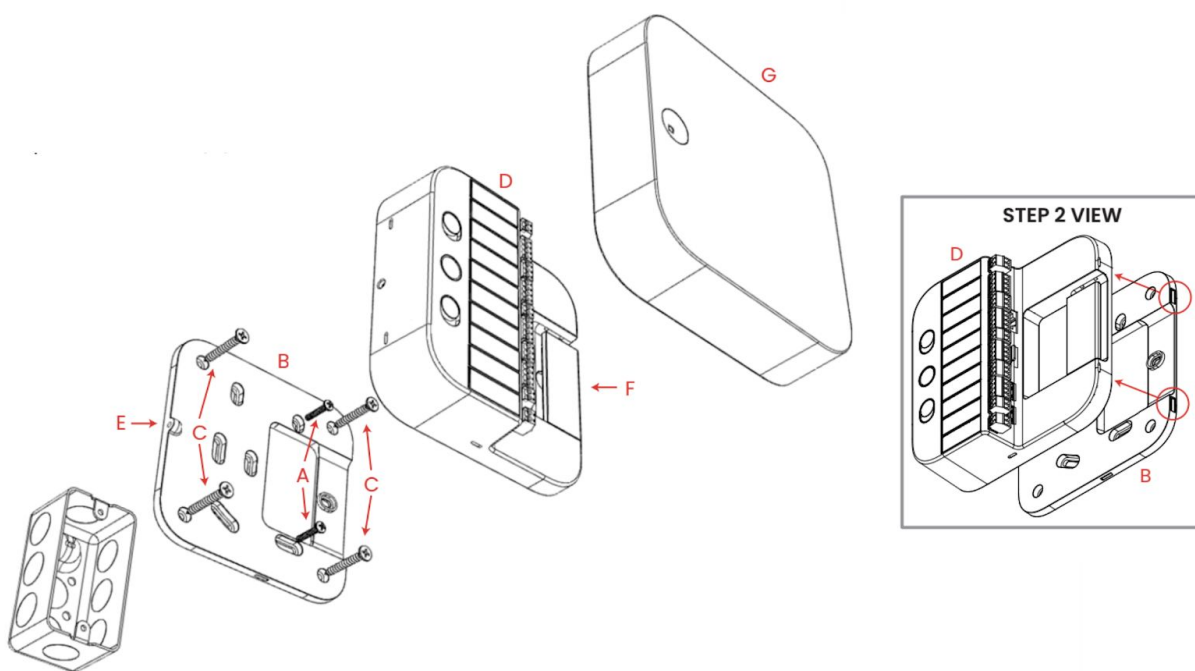


Figure 1: Mounting SDC to wall

To install on drywall:

1. Use the provided drywall screws (C) and anchors (not shown) to attach backplate (B) to wall
2. Snap on main housing (D) to backplate (B)
 - a. On the right side of the main housing (D), ensure that the two edge clips fit into their respective notches on the backplate (B)
 - b. Press firmly on the main housing (D) to snap into place
3. Partially unscrew pre-installed M4 set screw (E) to secure main housing (D) to backplate (B)
4. Use the cable slot (F) to hold cables while wiring; see [STANDARD WIRING CONFIGURATION](#)
5. Snap on front cover (G)

RECOMMENDED CONFIGURATION

Openpath Readers and Access Control Units (ACUs)/SDCs 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 (power) and one twisted pair for +B and -A (data).

For shielded wiring, connect one side of the drain wire (the shield around the wires) to the GND terminal on the ACU. Both the shield and the GND wire can share the same GND terminal. Do not connect the other side of the shield to anything.

For Openpath Standard Smart 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 and readers must be connected to the same SDC. If you need more than two access controlled floors or readers, add the Openpath Elevator Expansion Module.

WARNING: Always remove power from the SDC and locking hardware before wiring readers and other devices. Failure to do so can damage the SDC.

STANDARD WIRING CONFIGURATION

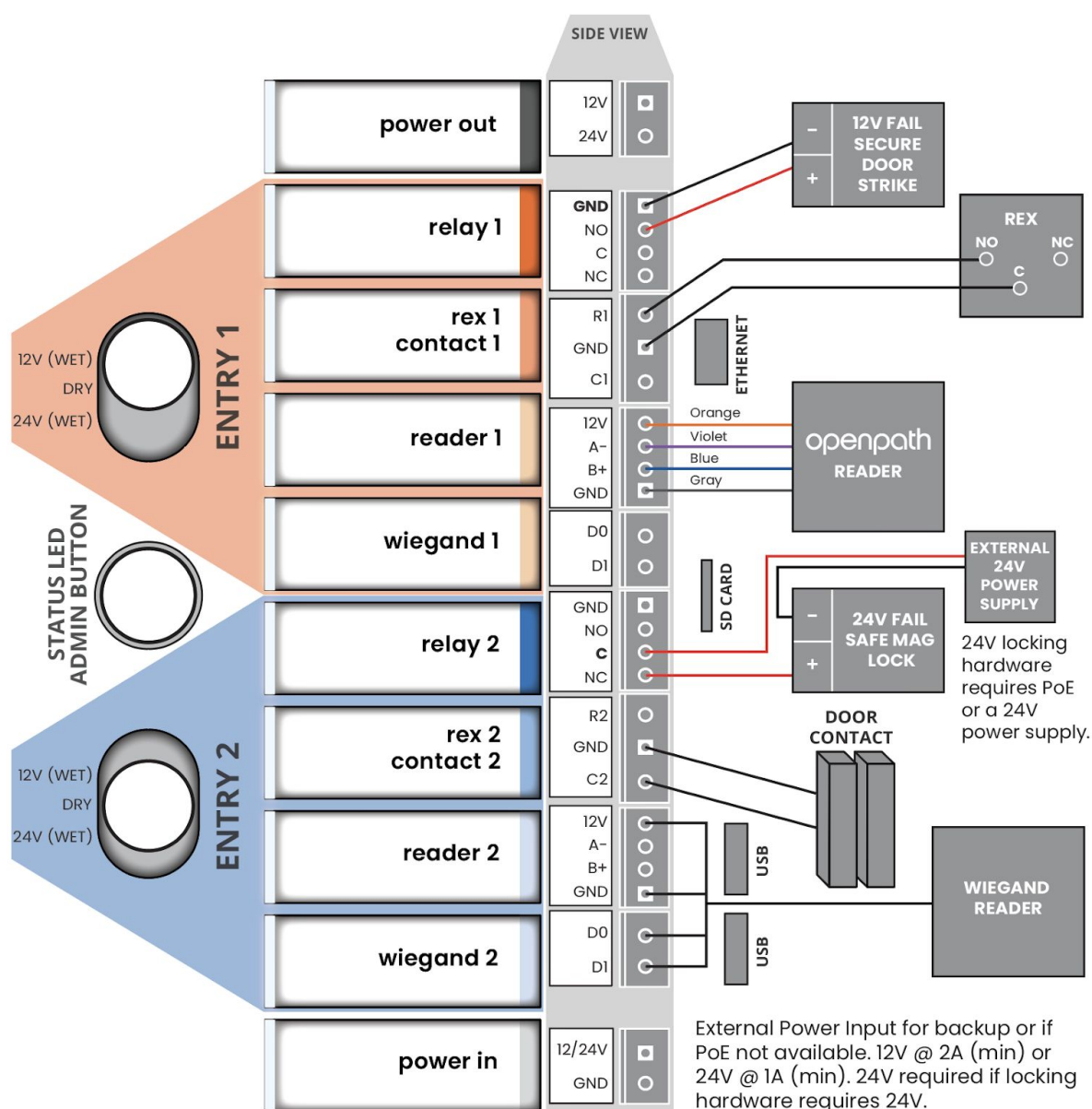


Figure 2: Example SDC wiring