

WIRING FAIL SAFE AND FAIL SECURE LOCKING HARDWARE

Fail safe and fail secure are ways of configuring locking hardware:

- **Fail safe** hardware **unlocks** when power is interrupted
- **Fail secure** hardware **locks** when power is interrupted

VOLTAGE SWITCHES

To power locking hardware without an external supply (Wet Relay), select 12V or 24V, and connect locking hardware to NO and GND (for fail secure locks) or NC and GND (for fail safe locks). To use external power, select DRY and use NO or NC and C, and wire to external supply.

WARNING: Remove DC Input Power and PoE before changing the voltage of the relays.

PROVISIONING THE SDC

Provisioning the SDC means registering it in the Control Center and getting it up and running with the latest firmware. You can provision the SDC using the Open Admin app for first time setup and in the case of [RESETTING THE SDC](#).

REQUIREMENTS

- Meet all [NETWORK REQUIREMENTS](#)
- Connect the SDC to the Internet via Ethernet or via Wi-Fi
- Install the Open Admin app
 - [iOS App Store](#)
 - [Google Play Store](#)

To provision the SDC:

1. Before you can provision an SDC using the Open Admin app, you must first create an SDC in the Control Center.
 - a. To add one SDC:
 - i. Go to <https://control.openpath.com/login> and log in
 - ii. Go to Hardware > ACU Management
 - iii. To add a new SDC, click the blue **Create ACU** button on the top right corner
 - iv. Enter a name for the SDC. Names are usually relevant to the location where the SDC is installed.

- v. From the **Add ACU Expansion Board** dropdown, select Openpath SDC and click Add.
 - **Note:** You must add at least one expansion board
 - vi. A description of the SDC will appear in green. Click **Save**.
 - vii. At this point, you can create Readers, Entries, and Zones prior to provisioning
- b. To add multiple SDCs:
 - i. Go to <https://control.openpath.com/login> and log in
 - ii. Go to Administration > Quick Start
 - iii. Enter a Site Name, click **Next**
 - iv. Enter how many SDCs are located at your Site, then enter names for the SDCs. Names are usually relevant to the location where the SDC is installed. Click **Next**.
 - v. Enter how many Readers are connected to the ACUs and enter names. Click **Next**.
 - vi. Review your Site Details, then click **Confirm & Submit**. It may take a few minutes for setup to complete.
- 2. When you're ready to provision, log into the Open Admin app with your Control Center credentials
 - a. Locate the org to which you're provisioning hardware, either on the list or using search, then tap on the org name
 - b. Wait until the Status LED is solid blue, then press the Admin button (Figure 3) on the SDC (the Status LED will change to blinking purple)
 - c. In the Open Admin app, tap on the last four digits of the serial number for the SDC (the Status LED will change to solid purple)
 - d. Tap **Provision Device**
 - e. Tap on the ACU Name that you want to provision to (this is the name of the SDC you created in the Control Center), then tap **Yes** to proceed (the Status LED will change to blinking yellow)
 - f. The app will send notifications when the SDC provision state changes from Unprovisioned to Provisioning in progress and Provisioning in progress to Provisioning complete
 - g. When setup is complete, the Status LED will change to solid white
 - i. **Note:** SDC will disconnect from the Open Admin app after 5 minutes of inactivity; press the Admin button to reset the timer



Figure 3: ADMIN button

TEST INTERNET CONNECTION

In the Open Admin app, you can tap **Test Internet Connection** to check if the SDC can ping <http://api.openpath.com/health>

NETWORK SETTINGS

In the Open Admin app, you can configure network settings for the SDC. The default interface for the SDC is Ethernet/wired connection. You can change this by going to Network Settings > Wi-Fi IP Settings and enabling **Default Interface**. Ethernet and Wi-Fi connections can be DHCP (default) or can have a static IP address.

To change network settings:

1. Connect to the SDC by pressing the Admin button again if needed
2. Tap on **Network Settings**
3. Select **Configure network manually**
4. Configure the network settings as needed
5. Tap **Save** on the top right of the screen

COUNTRY SETTINGS

The country code on the SDC is automatically set up during initial connection and provisioning based on information from the installer's Open Admin app. This setting cannot be changed by the installer. If you need to change the country code, please contact Openpath support.

Troubleshooting

[LEGACY WIRING](#)

[SDC LEDS](#)

[RESETTING THE SDC](#)

LEGACY WIRING

Sometimes legacy wiring (unshielded and straight through, rather than shielded twisted pair, often 22-6) results in slower connections and dropped packets between the Openpath Reader and SDC. To remedy this, you can switch GND and VIN with +B and -A connections on the SDC and readers to ensure the data pair (+B and -A) are using the alternate pair of legacy wires.

SDC LEDS

The Openpath SDC's Status LED indicates the following:

- **Solid White** indicates the SDC is provisioned and functioning normally
- **Blinking Red** indicates there is a problem with the Internet connection
- **Solid Cyan** appears when the SDC is booting
- **Solid Yellow** appears when you turn on the SDC for the first time
- **Blinking Yellow**
- **Solid Blue** indicates that the SDC has finished booting and is ready for provisioning
- **Solid Purple** indicates that the SDC is connected to the Open Admin app
- **Blinking Purple** indicates the SDC is ready to connect to the Open Admin app
- **Solid Red** indicates the SDC is in an error state—go to the Hardware Dashboard in the Control Center for more information

STATUS LED	○ Solid White	Normal operation
	◐ Blinking Red	No Internet
	● Solid Cyan	Booting
	● Solid Yellow	Restoring software
	◐ Blinking Yellow	Updating software
	● Solid Blue	Unprovisioned state
	● Solid Purple	Connected to app
	◐ Blinking Purple	Ready to connect to app
	● Solid Red	Error, see Control Center

Figure 4: SDC Status LED

The Openpath SDC has eight Port LEDs and two power LEDs. The Port LEDs indicate the following:

- Openpath Readers or Wiegand Readers
 - **Solid:** Normal operation
 - **Blinking:** Error state
- Sensors (including REX and Contact Sensors)
 - **Solid:** Active
 - **Blinking:** EOL shorted or cut
- Locking hardware (relays)
 - **Solid:** Relay is energized
 - **Blinking:** Fault detection

PORT LEDs	OP Readers	Solid	Normal operation
		Blinking	Error state
	Sensors	Solid	Active
		Blinking	EOL shorted or cut
	Locks	Solid	Relay is energized
		Blinking	Fault detection

Figure 5: SDC Port LEDs

RESETTING THE SDC

SOFT RESET

To soft reset the SDC, disconnect power and Ethernet from the SDC, wait 10 seconds, then reconnect the power.

HARD RESET

WARNING: Only hard reset the SDC if absolutely necessary and if instructed by Openpath. This will clear all of the data off of the SDC and will require reprovisioning.

To hard reset the ACU:

1. Disconnect power and Ethernet from the SDC
2. Hold down the ADMIN BUTTON for 15 seconds
3. While still holding down the **ADMIN** button, reconnect the power, and continue to hold the button for another 15 seconds. You should see the Status LED turn yellow.
4. Wait until the Status LED turns blue (refer to [SDC LEDS](#)) before [PROVISIONING THE ACU](#)

Regulatory

All national and local electrical codes apply.

FCC

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. To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm should be maintained between the antenna of Openpath Smart Reader(s) and persons during operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RF Radiation Hazard Warning

To ensure compliance with FCC and Industry Canada RF exposure requirements, this device must be installed in a location where the antennas of the device will have a minimum distance of at least 20 cm from all persons. Using higher gain antennas and types of antennas not certified for use with this product is not allowed. The device shall not be co-located with another transmitter.

Installez l'appareil en veillant à conserver une distance d'au moins 20 cm entre les éléments rayonnants et les personnes. Cet avertissement de sécurité est conforme aux limites d'exposition définies par la norme CNR-102 relative aux fréquences radio.

Industry Canada Notice and Marking

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna

type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Warnings

- Disconnect power before servicing
- Do not plug into an outlet controlled by an on/off switch

Technical Specifications

Table 2: Technical specifications of Openpath hardware

Smart Readers (OP-RLF-STD, OP-RHF-STD, OP-RLF-MULB, OP-RHF-MULB)	12VDC, 0.25A OP-RLF-STD/MULB: FCC ID: 2APJVOPRLF OP-RHF-STD/MULB: FCC ID: 2APJVOPRHF
Elevator Board (OP-16EM)	12-24VDC, 0.35A @ 24V
Single Door Controller (OP-2ESH-POE)	12-24VDC, 0.3A @ 24V
Openpath 4-Port Board (OP-4EX4)	12-24VDC, 0.4A @ 24V
Openpath 8-Port Board (OP-8EX8)	12-24VDC, 0.6A @ 24V