

SwiftreaderX Installation Manual

CONTACT INFO:

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Swiftlane Hardware Components

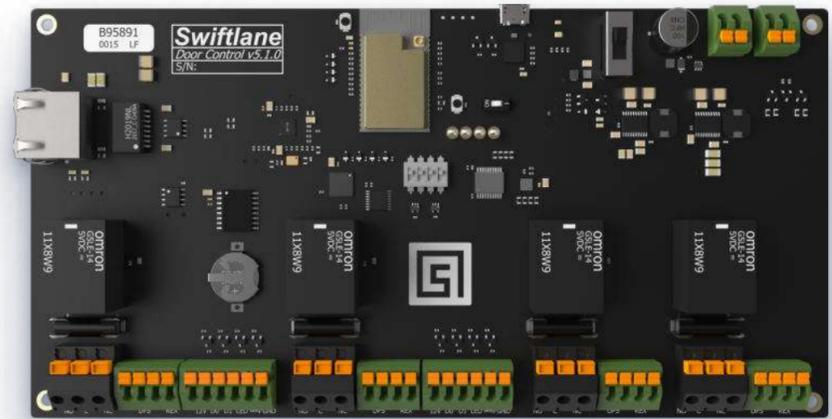
We will be covering the following components of a Swiftlane installation:

1. SwiftReaderX ([Data sheet](#))

Note: Make sure to provide 24V DC to the SwiftReaderX.

2. Door Controller ([Data sheet](#))

- 4 Door Controller
- 4 dry contact relays
- 2 Wiegand card reader inputs
- Fire alarm input
- 4 Request to exit (REX)
- 4 Door position switch inputs
- Cloud connection required over ethernet
- 300 mA power consumption without readers



Other Hardware components needed:

3. Power Supply

- T1SFK3F ([Data sheet](#))
- T1SFK3F4 ([Data sheet](#))

4. Key Card Readers

- Encrypted (Smartcard) Credentials and Readers ([Data Sheets](#))
- Proximity Cards and Readers ([Data Sheets](#))
- Long Range Receivers and Transmitters ([Data Sheets](#))

5. Standard Ethernet 5e or 6 cable

6. Electric Strike(s) installed at the physical door

Wiring Requirements

S. NO.	SIGNAL	BELDEN WIRE PART NO.	AWG (MAX - MIN)	SHIELDED?	REMARKS
S-001	CU board Power	83319E	18-22	Recommended	
S-002	Lock Power	83319E	18-22	Recommended	
S-003	ACM4/PD4UL/PD8UL	83319E	18-22	Recommended	
S-004	Door position sensor	9829	24	Yes	Can use multi pair conductors to reduce individual wires
S-005	Request to Exit	9829	24	Yes	
S-006a	Weigand Card Reader	5504FE	18	Yes	
S-006b	Weigand Card Reader	4504FE	22	Yes	
S-007	Firealarm input	9829	24	Yes	
S-008	RJ-45 Ethernet Cable	n/a	Cat5/5e	Yes	

Network Requirements

API Endpoints

Customers should allow complete outbound connections from Access Point devices on port 80 and 443. This ensures the highest level of reliability for the system.

However, here are some specific endpoints called from the Swiftlane system. Please note that this is a changing set of requirements and may affect future performance of the device. We highly recommend that you allow all outgoing 80/443 traffic from the Swiftlane devices.

admin.swiftlane.com/*

[\[swiftpass.ue.r.appspot.com/\]](https://swiftpass.ue.r.appspot.com/)([<https://swiftpass.ue.r.appspot.com/>](https://swiftpass.ue.r.appspot.com/))*

Swiftlane Door Controller Panel Firewall Configuration

- Enable bidirectional connections for port 80 and 443
- Enable bidirectional mqtt.googleapis.com:8883 (for communication between API and door controller hardware)
- Enable bidirectional clouddot.googleapis.com:443 (for communication between API and door controller hardware)

SwiftReaderX Firewall Configuration

Enable bidirectional communication on ports 80 and 443

Port 5223 17.0.0.0/8 outbound: Apple Push Notification service (APNs) for Apple devices.

IP range `17.0.0.0/8` is an IP range block [assigned to Apple](#) Inc so this merely represents that Apple push notification servers would connect to the port 5223 on the reader devices for push notifications.

Email Domain Authentication (User enrollment flow)

Make sure that the [Swiftlane.com](#) email domain is whitelisted as a trusted domain on the spam filters to avoid [Swiftlane.com](#) emails going to spam. Swiftlane already uses DMARC, and sender authentication to ensure high deliverability of our emails.

Swiftlane intercom uses webrtc based video and audio intercom that requires specific endpoints and paths to be enabled.

WebRTC Signaling Server

WebSocket: <wss://global.vss.twilio.com/signaling>

This opens a web socket connection for WebRTC signaling.

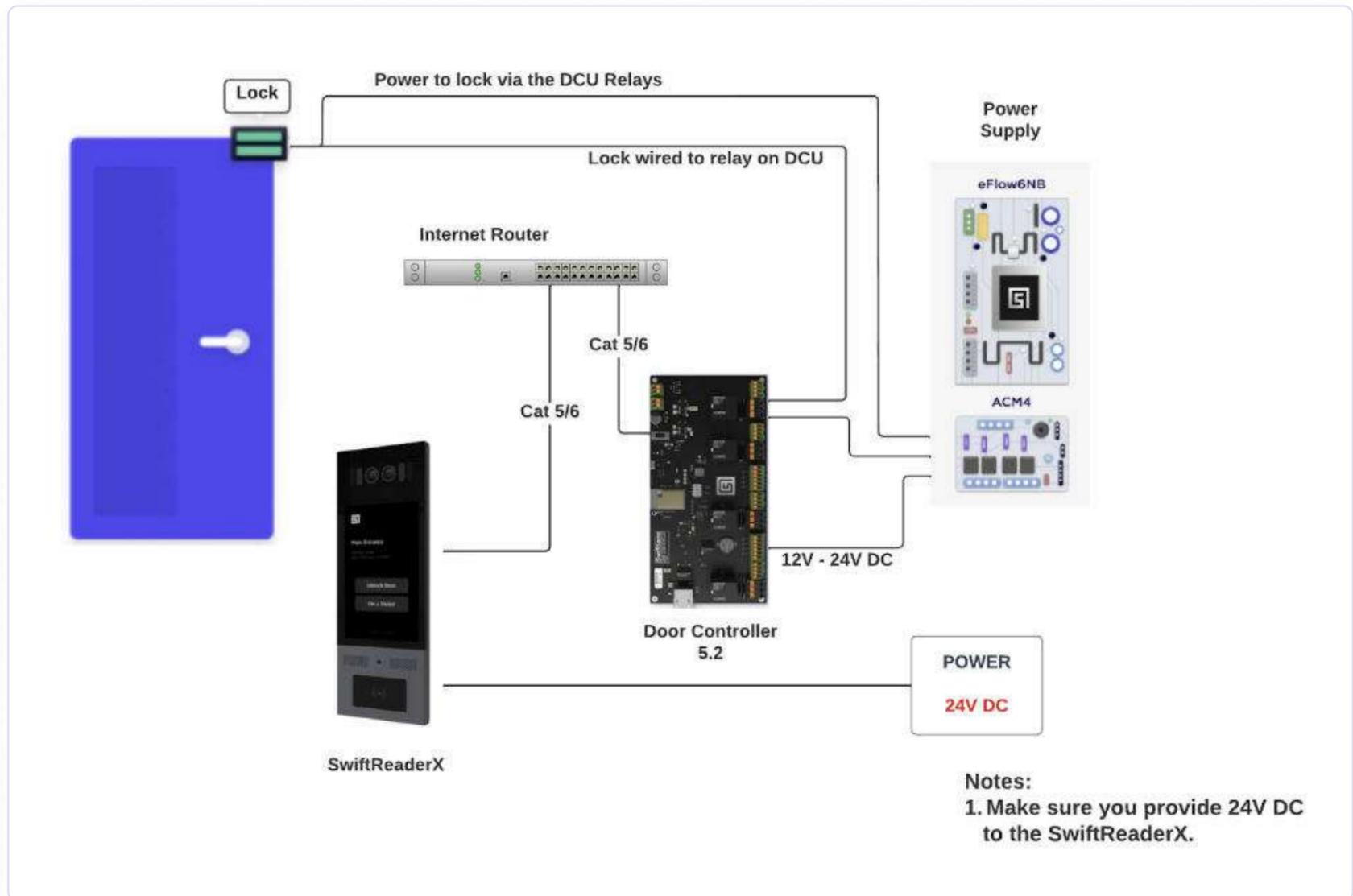
Video Events WebSocket

WebSocket: <wss://sdkgw.us1.twilio.com>

WebSocket: <wss://sdkgw.us1.twilio.com/v1/VideoEvents>

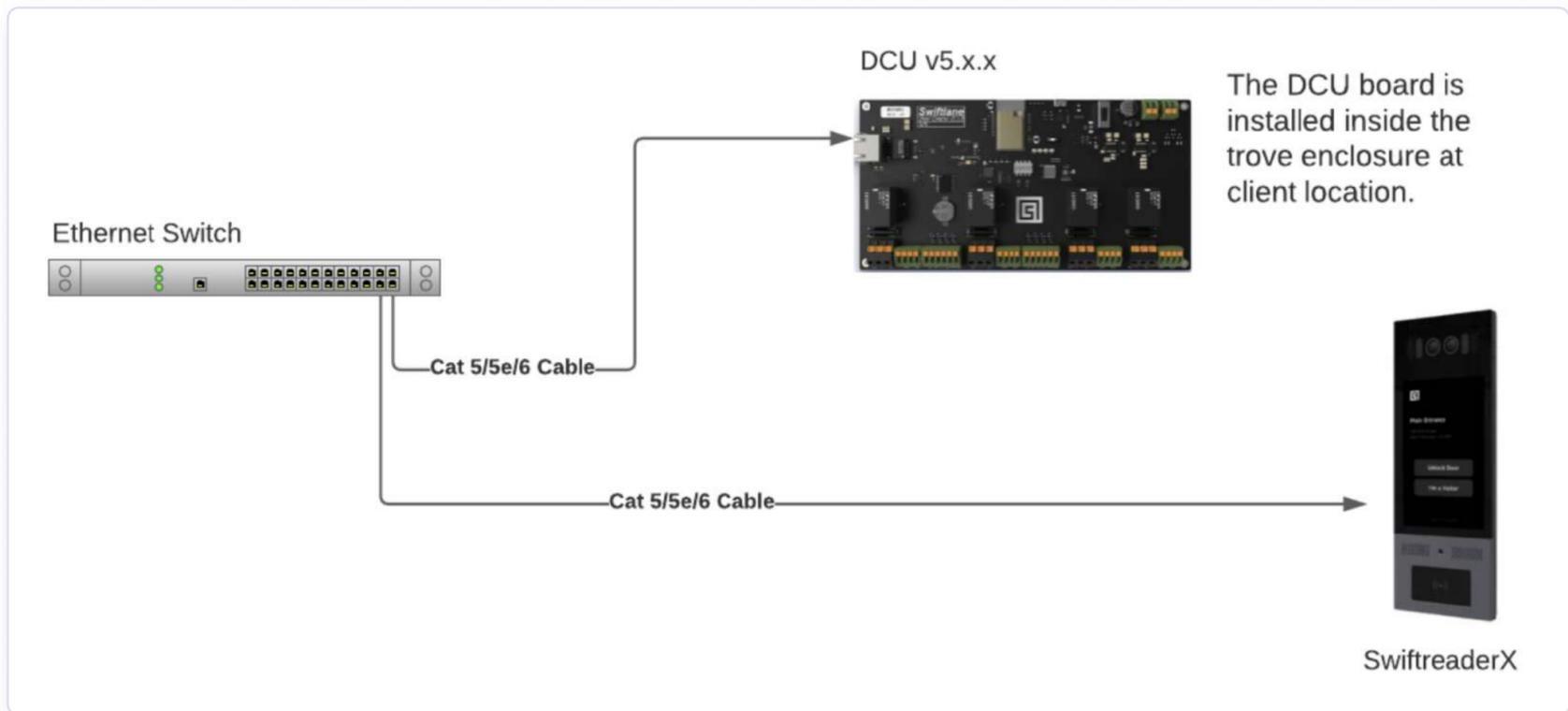
Overall Installation Architecture

SwiftreadeX Install Diagram



Networking Diagram - Without Cellular Backup

The following diagrams show how to connect a DCIJ v5.x.x board and SwiftReaderX to the client's network.

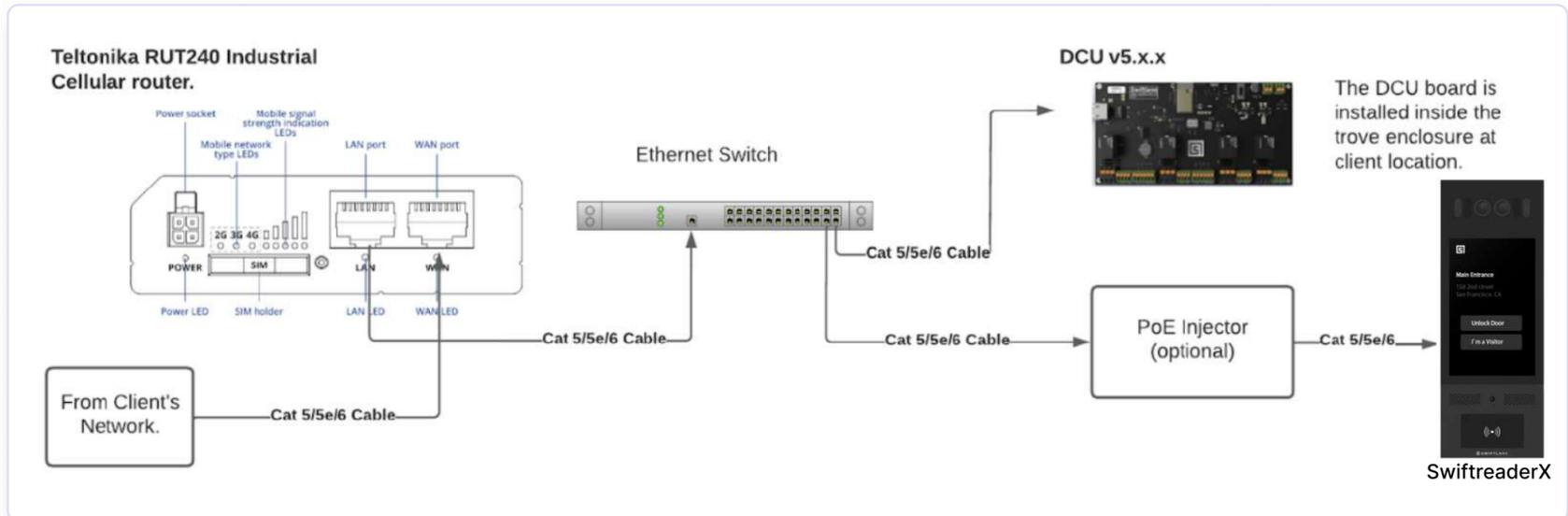


Notes:

- Network should support DHCP.
- If adding a new switch, please refer to the network switch manual regarding instructions to set it up.
- The SwiftReaderX gets data from the ethernet cable. DCU and SwiftReaderX are never connected to each other directly. They maintain connectivity to each other via internet.
- **Although the SwiftReaderX is connected to POE, it will still need 24v DC to properly work.**

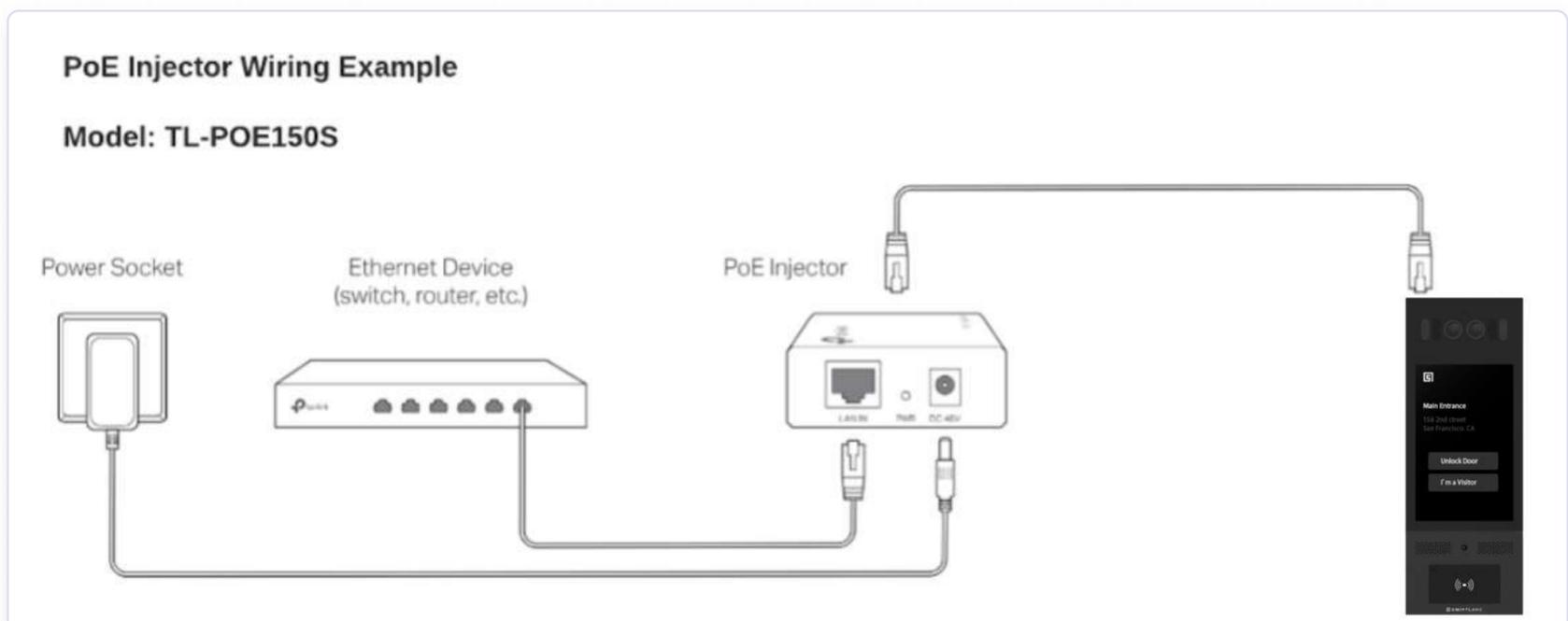
Networking Diagram - With Cellular Backup

The following diagrams show how to connect a DCU v5.x.x board and SwiftReaderX to the client's network while using a cellular backup router.



Notes:

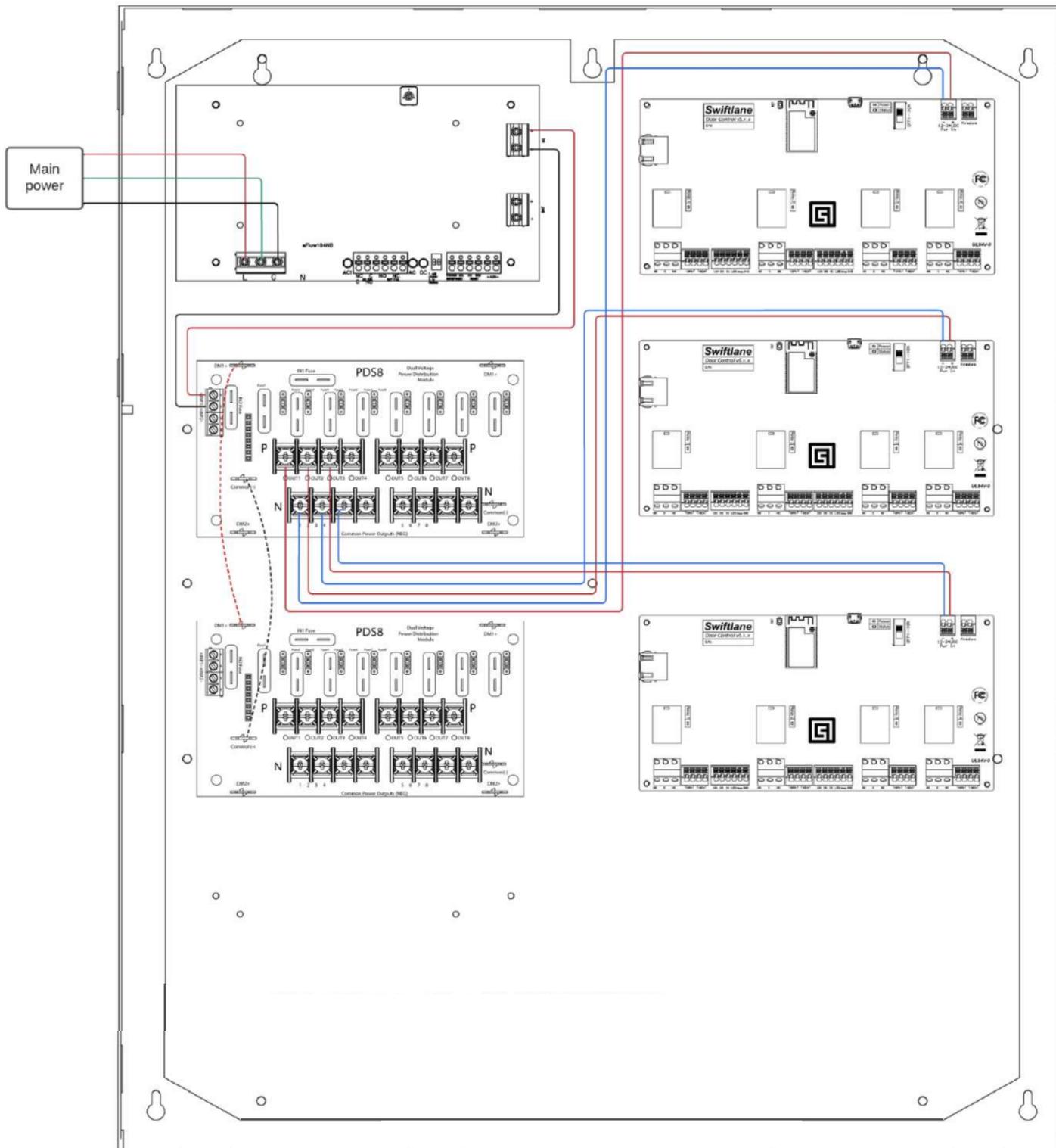
- Network should support DHCP.
- If adding a new switch, please refer to the network switch manual regarding instructions to set it up.
- POE Injector is used to inject power to ethernet cable. The SwiftReaderX then gets data and power from the ethernet cable. POE Injector is optional if the client's network switch is POE enabled.
- DCU and SwiftReaderX are never connected to each other directly. They maintain connectivity to each other via internet.
- Teltonika RUT240 - Quick Install Guide POE Injector Wiring Example



T2SFK7F12 - Connection Diagram

Trove 2 enclosure with eFlow104NB Power supply, PD8UL/PD8ULCB Board and DCU 5.x.x Board.

Diagram shows only power connections between boards. Refer to the DCU -PD4UL for final wiring details.



Notes:

- Only 24V locks are supported in this diagram. If 12V locking hardware is a part of the system, please use VR6 boards.
- Dotted lines show the daisy chaining of PDS8 boards using spade lugs provided with PDS8 modules. Verbatim instructions from PDS8 Install manual are given on the right side.

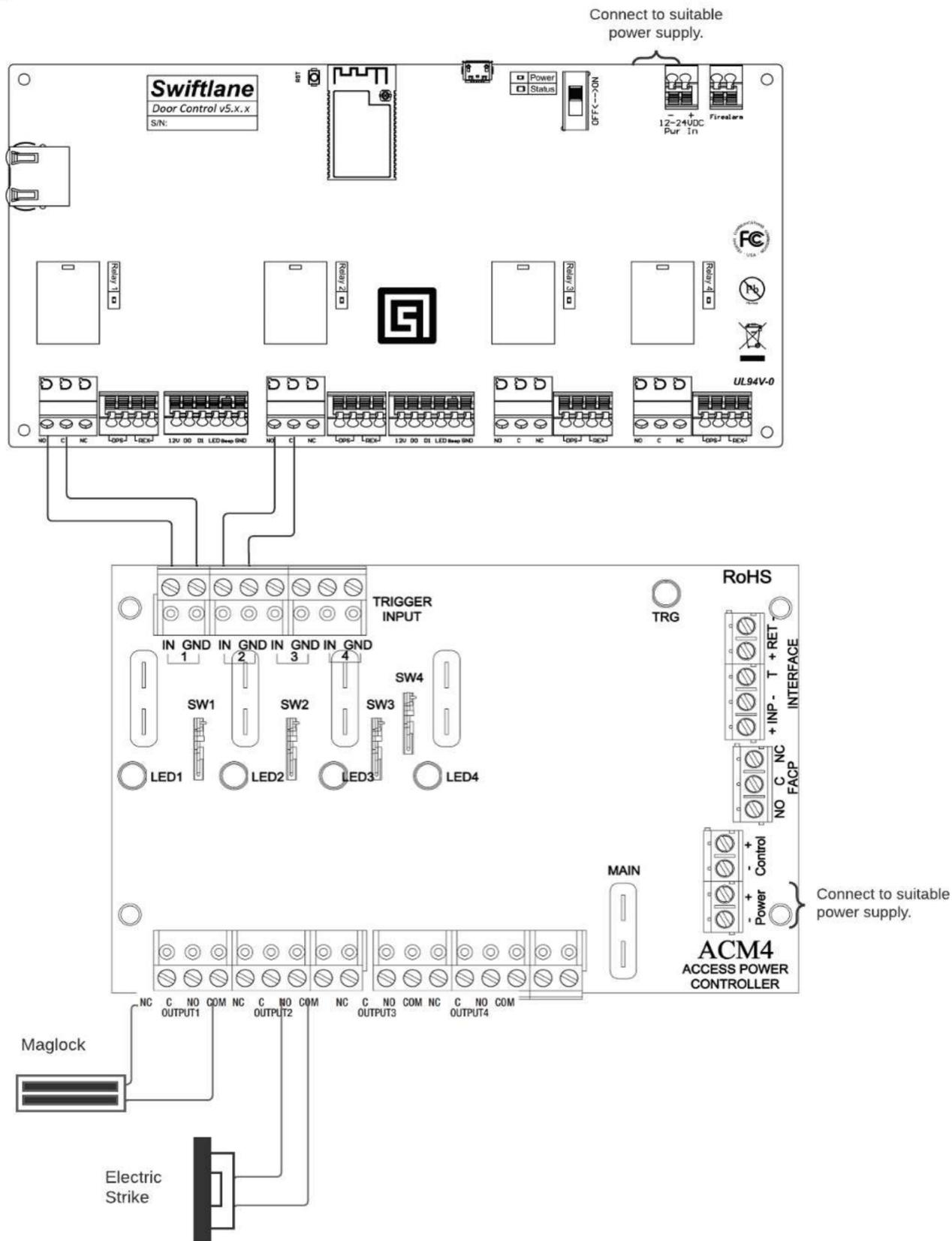
Daisy Chaining Two (2) PDS8/PDS8CB Dual Output Power Distribution Modules:

Use 18 AWG or larger UL Listed wire equipped with 1/4" UL Recognized quick connect terminals rated for proper voltage/current for all jumper connections.

- 1.** Connect first PDS8/PDS8CB board's spade lug marked [PWRI +1 to the second PDS8/PDS8CB board's spade lug marked [PWRI +1 (Fig. 2, pg. 3).
- 2.** Connect first PDS8/PDS8CB board's spade lug marked [Common (—)] to the second PDS8/PDS8CB board's spade lug marked [Common (Fig. 2, pg. 3).

DCU + ACM4 Lock Wiring

Diagram shows how to connect different locks to DCU Board via ACM4 Board.

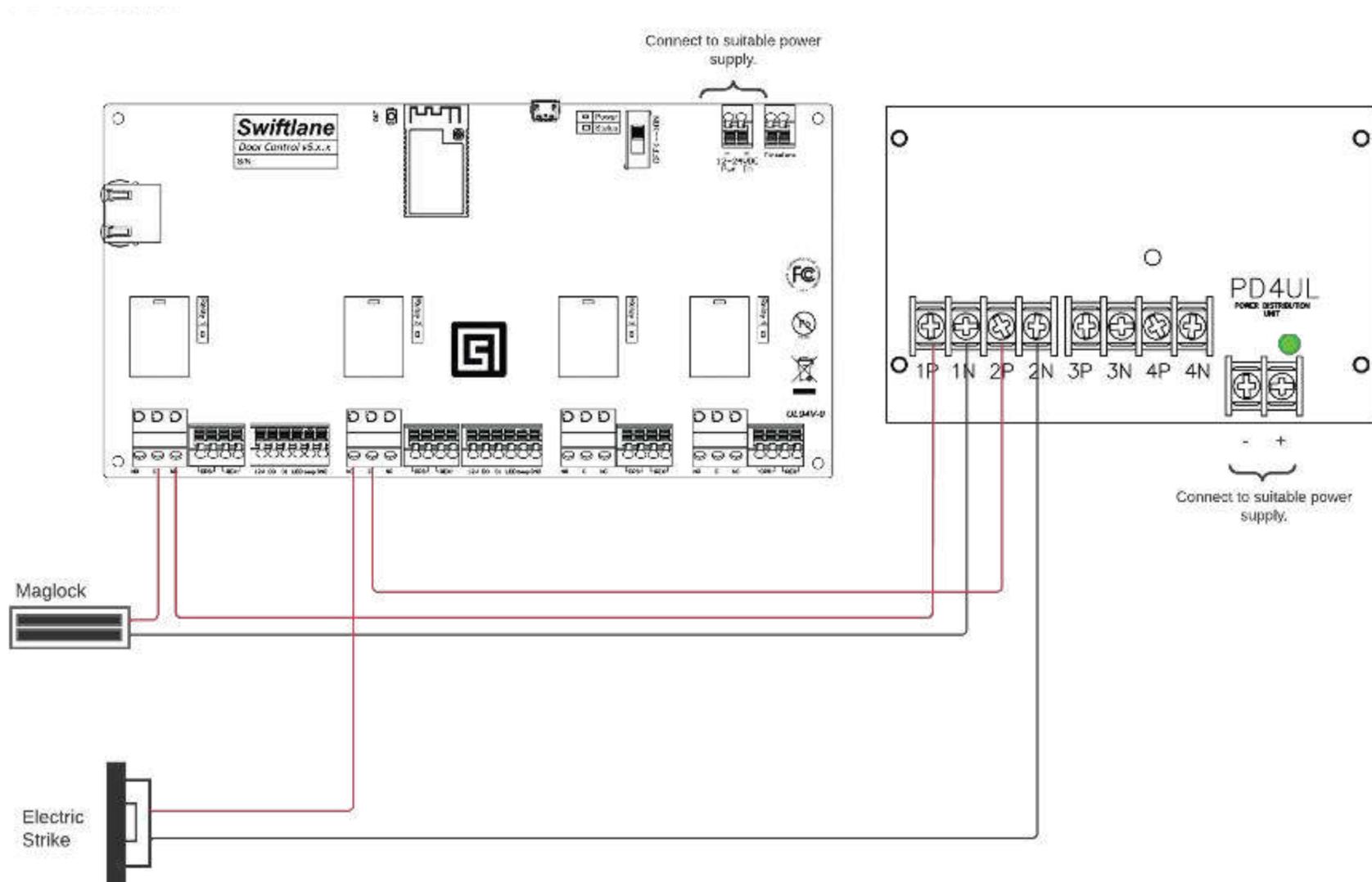


Notes:

- Detailed ACM4 Wiring Instructions.
- Refer to Trove kit wiring diagrams for wiring power to DCU and ACM4 Boards.
- The Maglock and Electric strike are wired as depicted. PLEASE make sure to follow wiring based on lock in place.

DCU + PD4UL Lock Wiring

Diagram shows how to connect different locks to DCLJ Board via PD4UL Board.

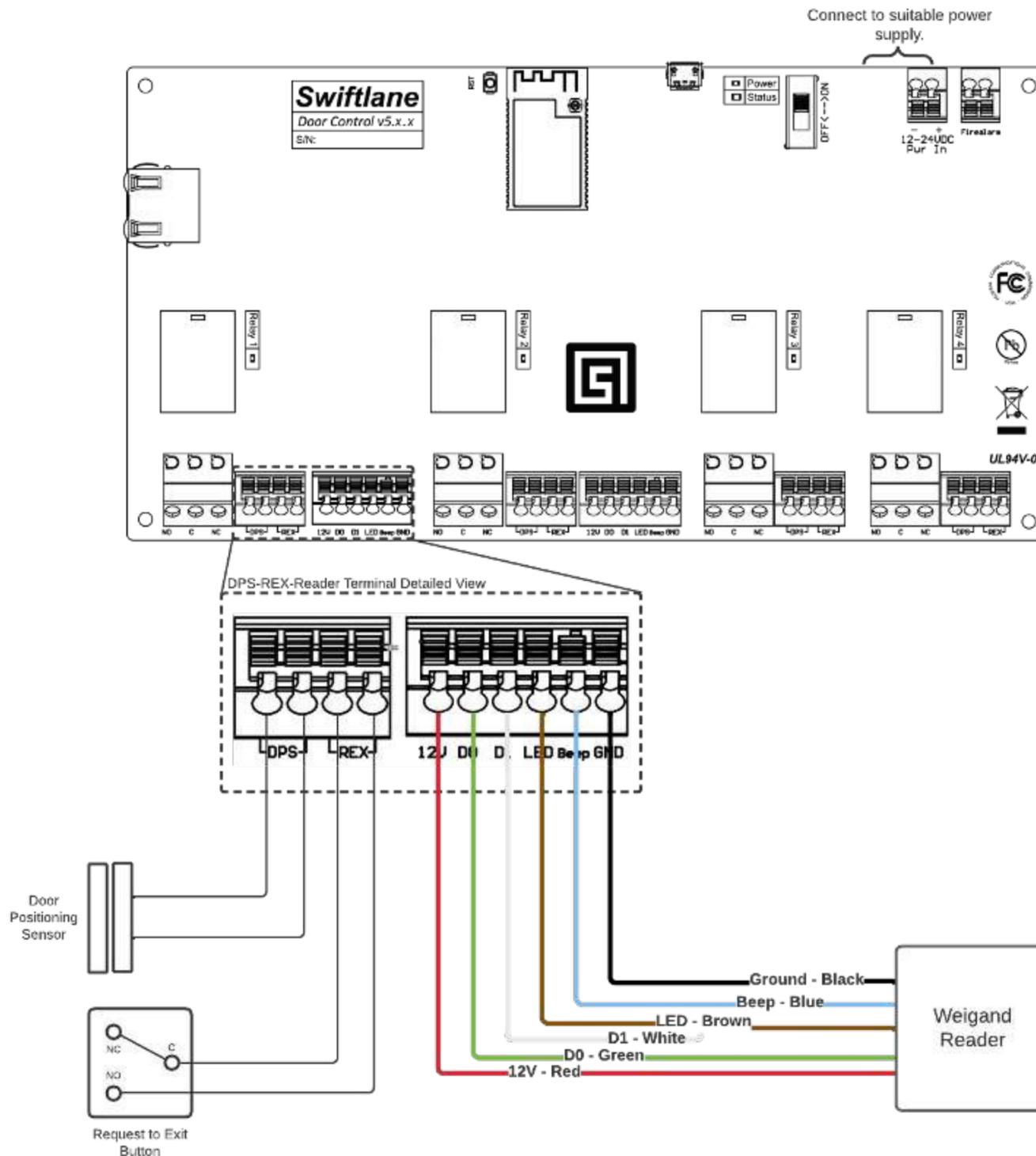


Notes:

- Refer to Trove kit wiring diagrams for wiring power to DCU and PD4UL Boards.
- If using a PDS8 Board with VR6 module for dual voltage supply, follow instructions here.

DCU Inputs Wiring

Diagram shows how to connect REX, DPS and Wiegand Reader inputs to the DCU board.

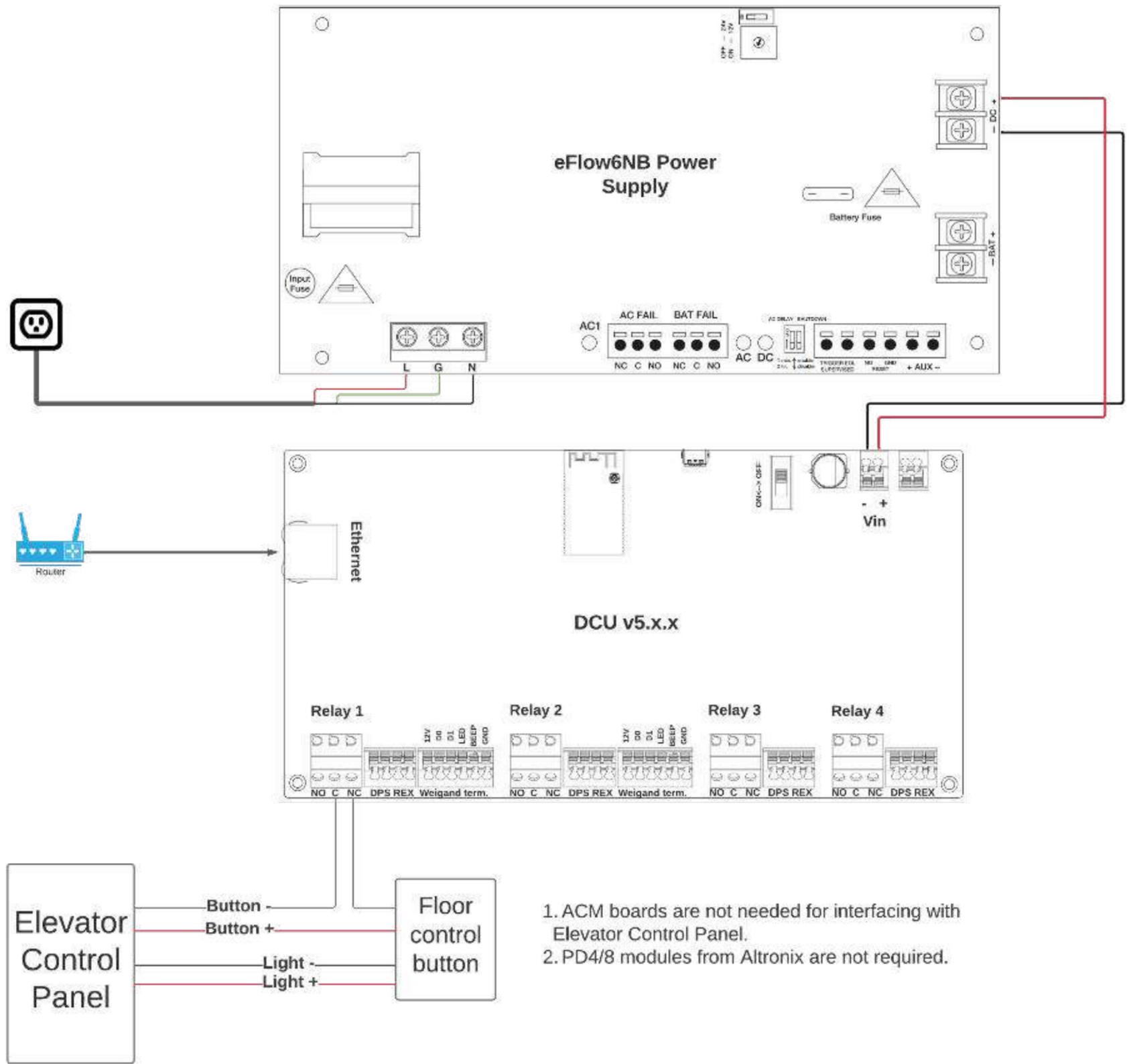


Notes:

- If Wiegand Reader does not follow the color codes, please connect wires as per the reader manual.
- If Farpointe key pad is only being used for PIN entry, follow changing the key pad to 8 bit burst:
 - a) Cycle power to the reader.
 - b) Present the Wiegand Keypad Data Mode control card to the reader (beeps four times).
 - c) Press the #-key (reader beeps four times to indicate success).
 - d) Press *-key (should beep once to indicate a-Bit Burst is enabled).

DCU Elevator Diagram

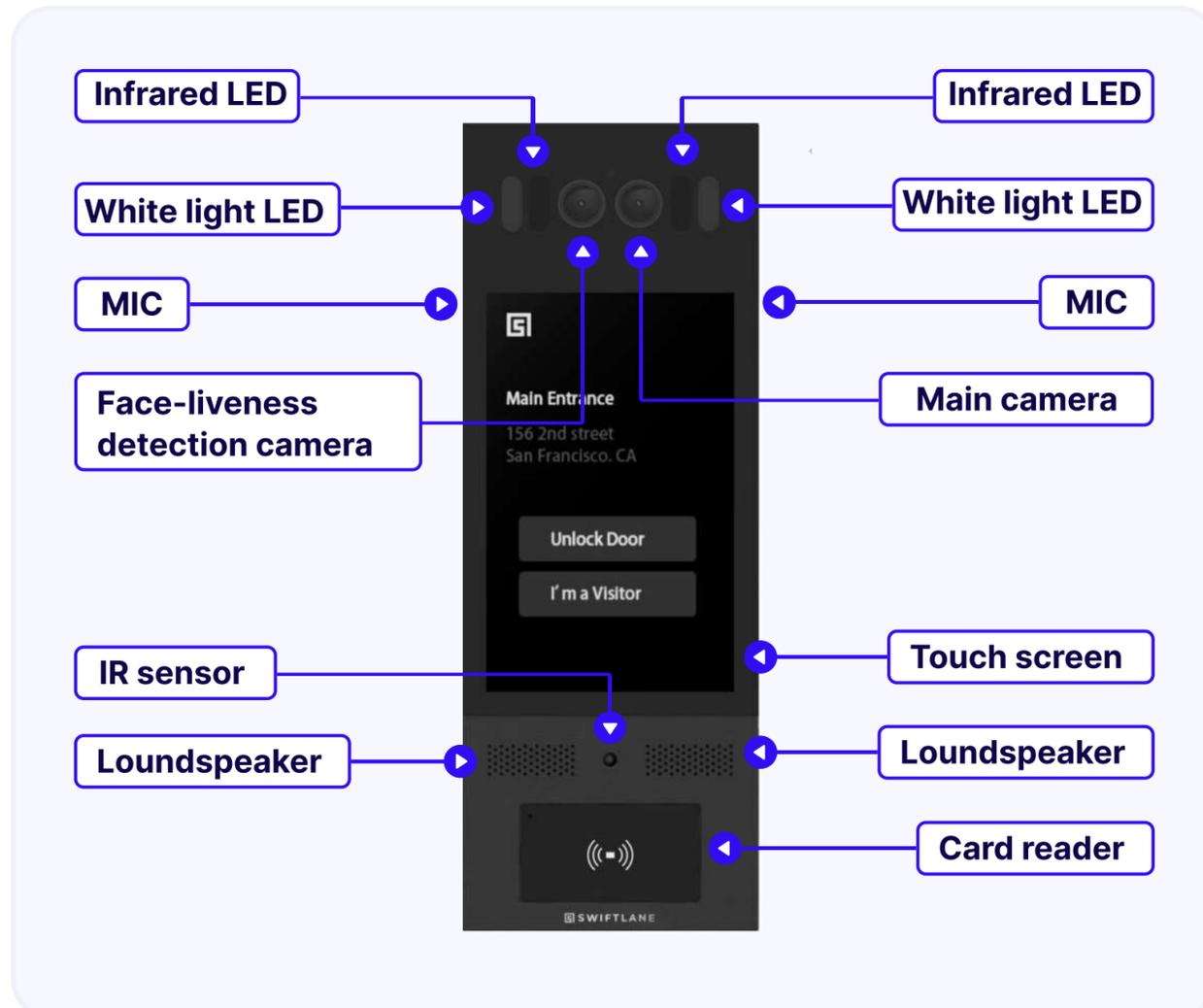
Elevator Control Panel Connection Diagram



SwiftReaderX Installation

Prerequisites

1. Mounting Space (Check Dimensions)
2. Check clearance if flush mounted
3. Check space to run Cat-6 cable and power cable.



Parts List

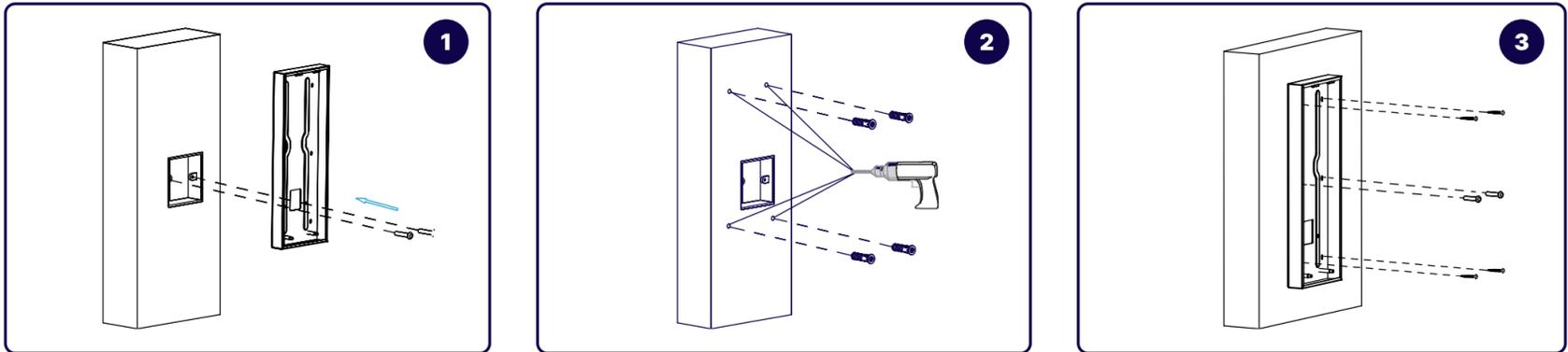
- Wall Mount or Flush Wall Mount Box
- SwiftReaderX
- Ethernet Cable (1)
- Power cable (include but may need to be extended)
- Screws (included in box)
- Additional Parts in Box (review parts manual in box)

Installation Steps

Step 1: Wall-mounting Box or Flush-mounting Box Installation

1. Wall-Mounting

1.1 With 3.4 × 3.4 in. embedded junction box in the wall

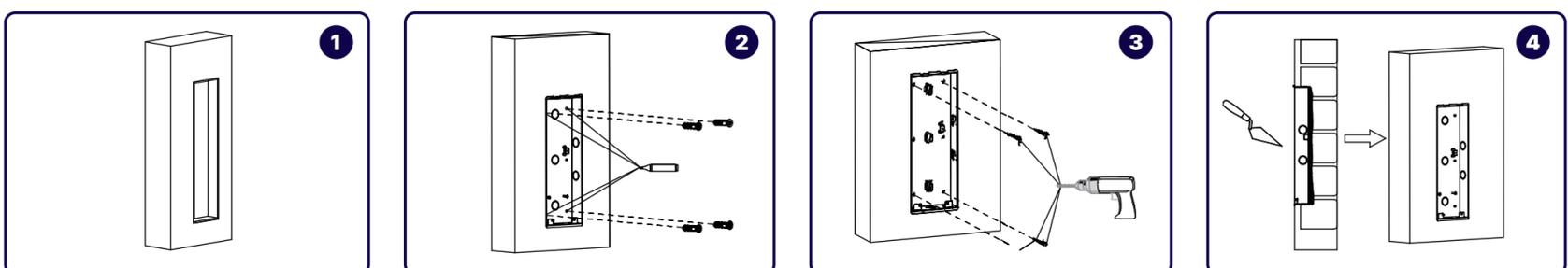


1. Fix the wall-mounting box on to the embedded box with two M4×30 Screws, mark the positions of the four holes of the wall mounting box at the hole center.

2. Take off the box and drill the four marked holes using 0.2" drill bit hand drill before inserting the plastic wall anchors into the drilled holes.

3. Place the wall mounting box closely against the wall while lining up its four holes with their corresponding drilled holes and then fix the wall mounting box on the wall by tightening the four ST4 × 20 screws and two M4×30 screws to the plastic wall anchors.

2. Flush-Mounting



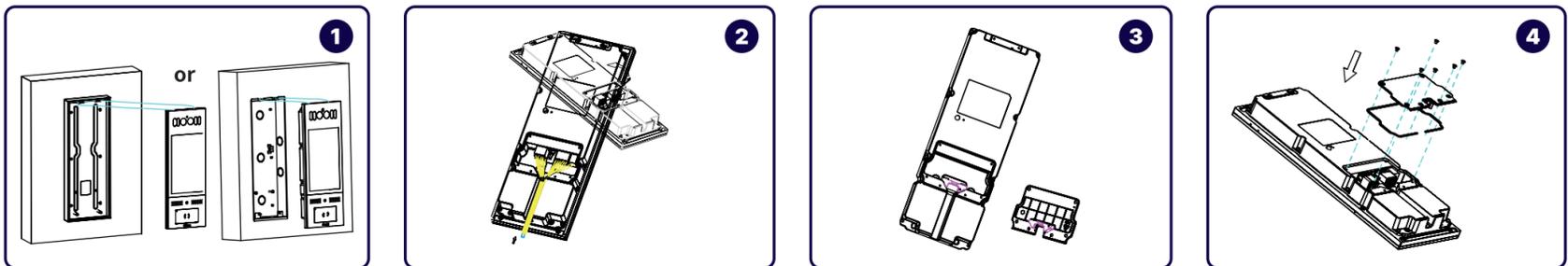
1. Cut out a square hole with the dimension (height x width x depth =13.26 × 4.80 × 2.24 in.).

2. Insert the flush-mounting box into the hole and mark the positions of the four holes of the flush-mounting box on the wall. Take off the box and drill the holes on the marked positions using 0.2" drill bit hand drill before inserting the plastic anchors into the drilled holes.

3. Break off the round knock-out wiring holes and lead the wires through the corresponding hole into the flush-mounting box. Press the flush-mounting box into the square hole. The upper and lower folded edges of the flush-mounting box must fit snugly against the wall. Fix the box using the four plastic wall anchors and the four ST4×20 screws.

4. Make sure that the flush-mounting box are well tightened and its upper and lower folded edges are fit snugly against the wall, fill in the gap between the wall and the flush-mounting box using cement or non-corrosive structural adhesive and wait until the cement is hardened before proceeding to the next step.

Step 2: Back cover Installation



1. Hang the one end of the rope onto the square hanger on the wall-mounting/flush-mounting box. Then, hang the other end of the rope onto the square hook on the device for the convenience of the later wire installation etc.

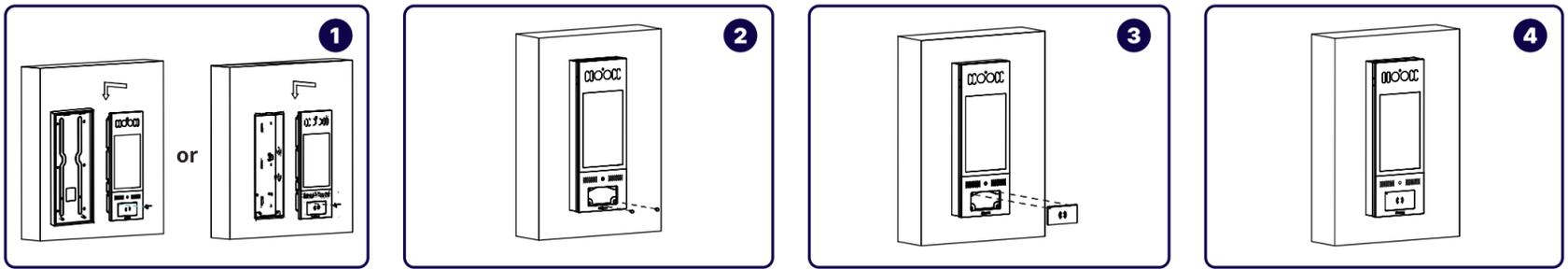
2. Connect the wires to the terminal blocks as needed (for details, refer to "Device Wiring"). Then, insert the terminal blocks into the corresponding interface of the main board as indicated in the drawing according to the number of PIN.

Note: The pry bar attached can be used to unplug the terminal blocks if needed.

3. Choose a suitable size rubber plug (small, large and medium) to hold down the wires while tearing off the adhesive sticker on the selected rubber plug and stick it onto the Swiftreader X back cover. Tear off the adhesive sticker on the other rubber plug of the same size and stick it on to the back cover in the position as indicated in the drawing.

4. Press the SwiftreaderX back cover silicone rubber sealing ring into the corresponding groove as indicated by the arrow and then tighten the back cover using the six M3×4 screws to its corresponding holes.

Step 3: Device Mounting



1. Take off the rope and hang the device onto the two square hangers on the wall-mounting/flush-mounting box. Stick the plate removal key into the small hole on the upper left corner of the card reader touch plate to pull out the plate.

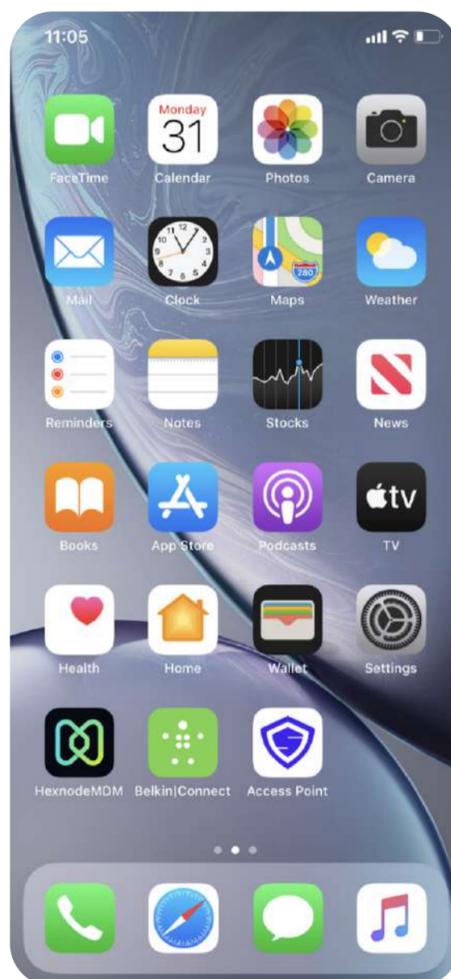
2. Drive the two Torx screws into their corresponding holes.

3. Press the card reader touch plate into the card reader opening.

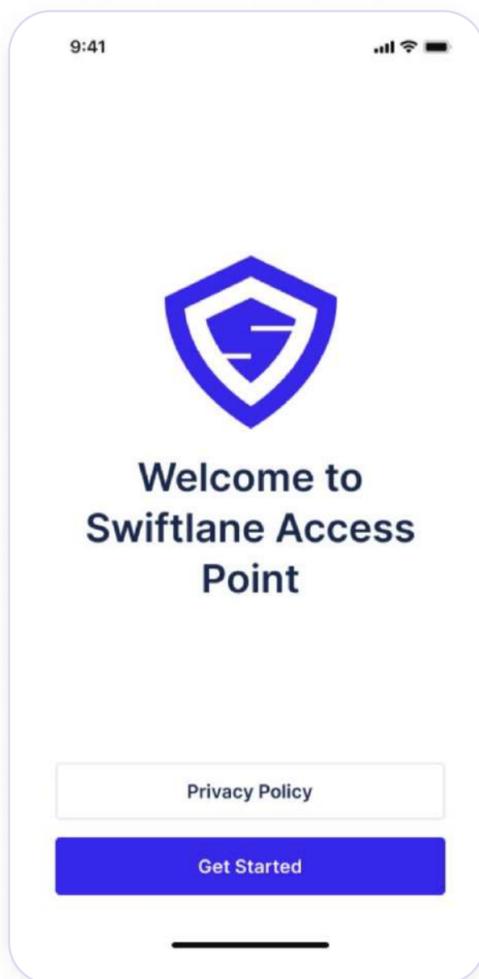
4. Installation is completed.

SwiftReaderX Software Provisioning

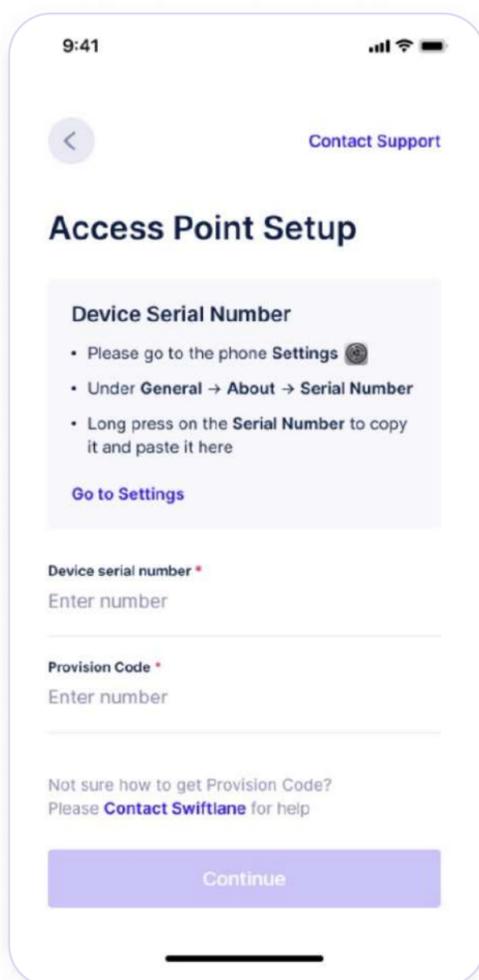
1. When the device is powered and connected to internet, launch the “Access Point” app.



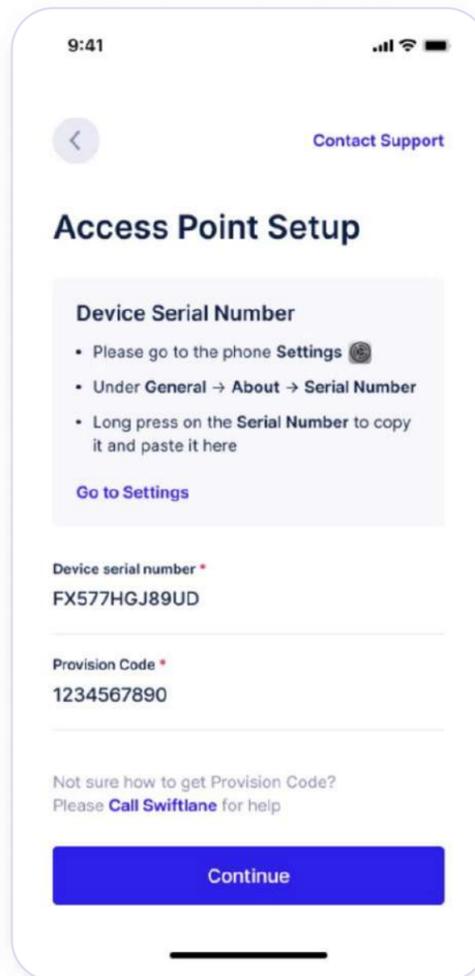
2. Click “Get Started”



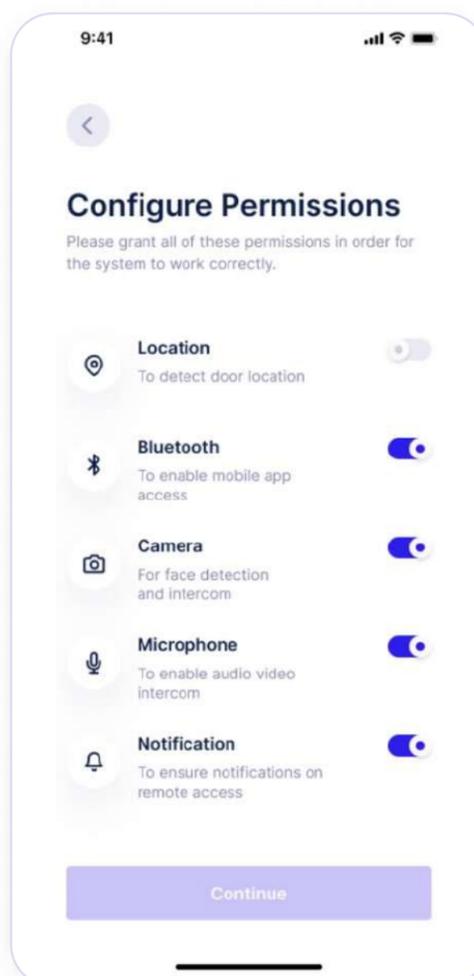
3. Enter the Device Serial Number. If you don't know the Device Serial Number, click “Go to Settings.” Copy the Serial Number, and paste into the “Device Serial Number” space.



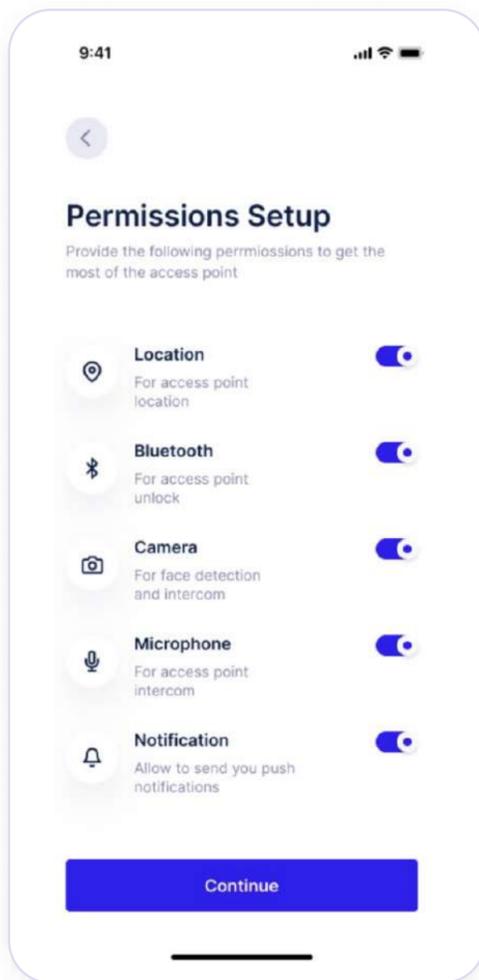
4. Enter the Provision Code. This will be provided by the Swiftlane Tech Support team. Call 505-657-9438 if you are experiencing issues with your Provision Code.



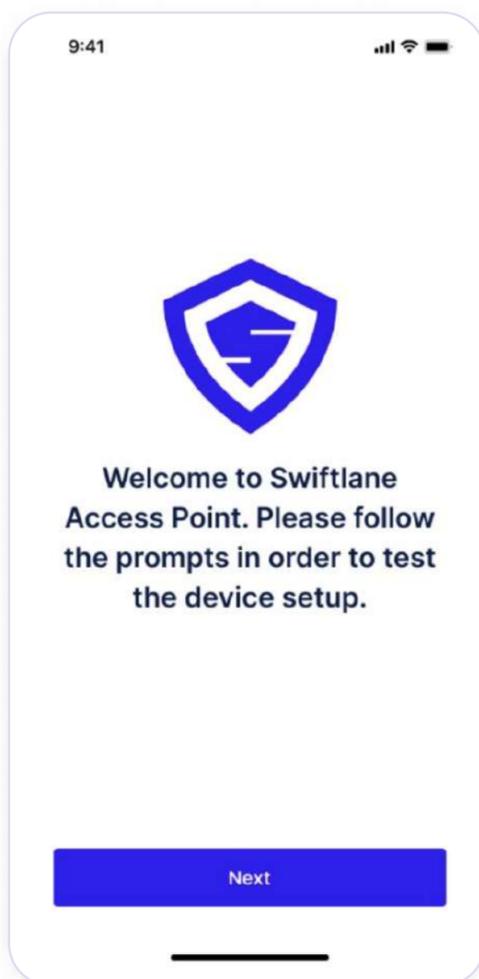
5. Configure Permissions screen is next. Please make sure to grant all permissions to the Access Point App.



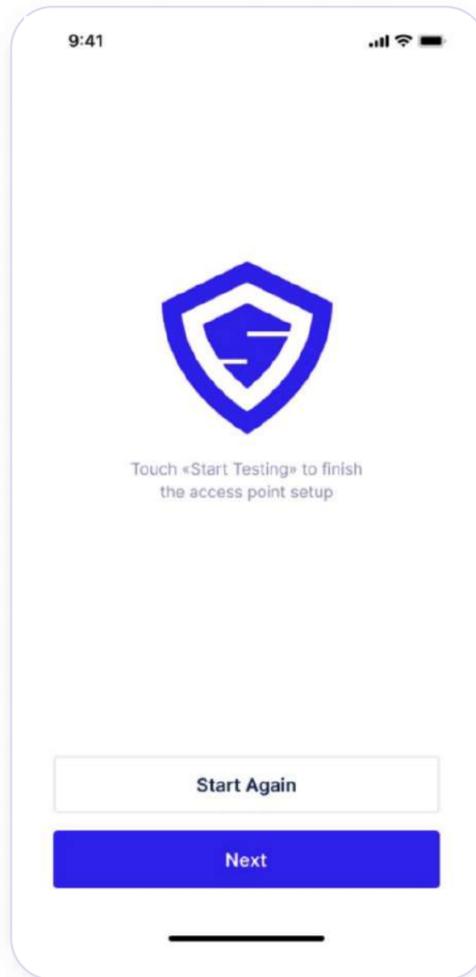
6. If you have not granted all the proper permissions, it will request that you do again.



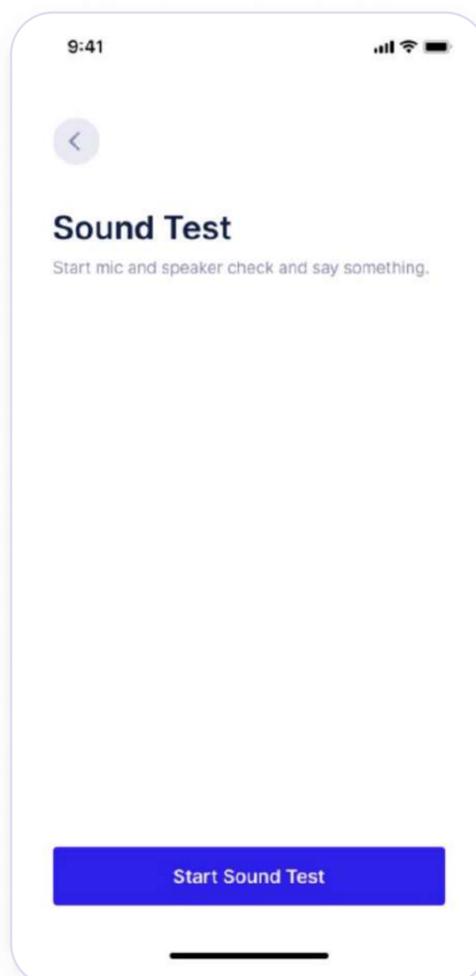
7. Click "Next"



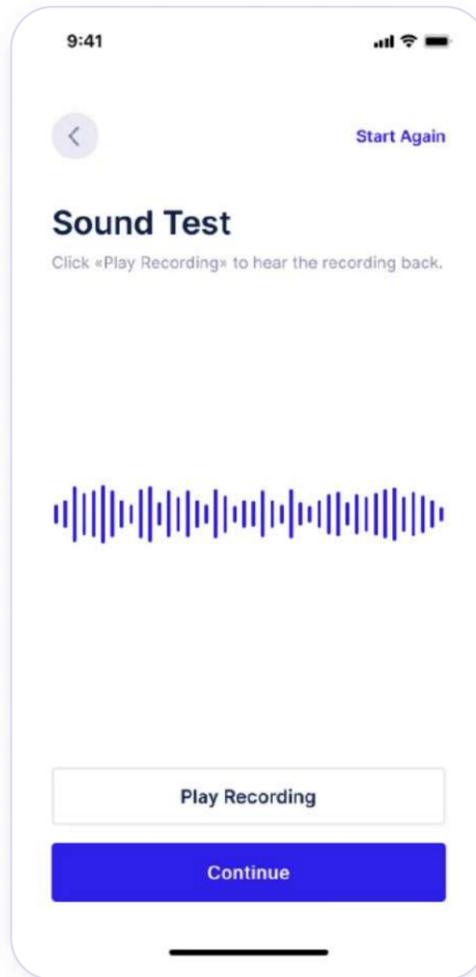
8. Click "Next" to begin Device Setup Testing. We will test the Sound, Network, and Camera.



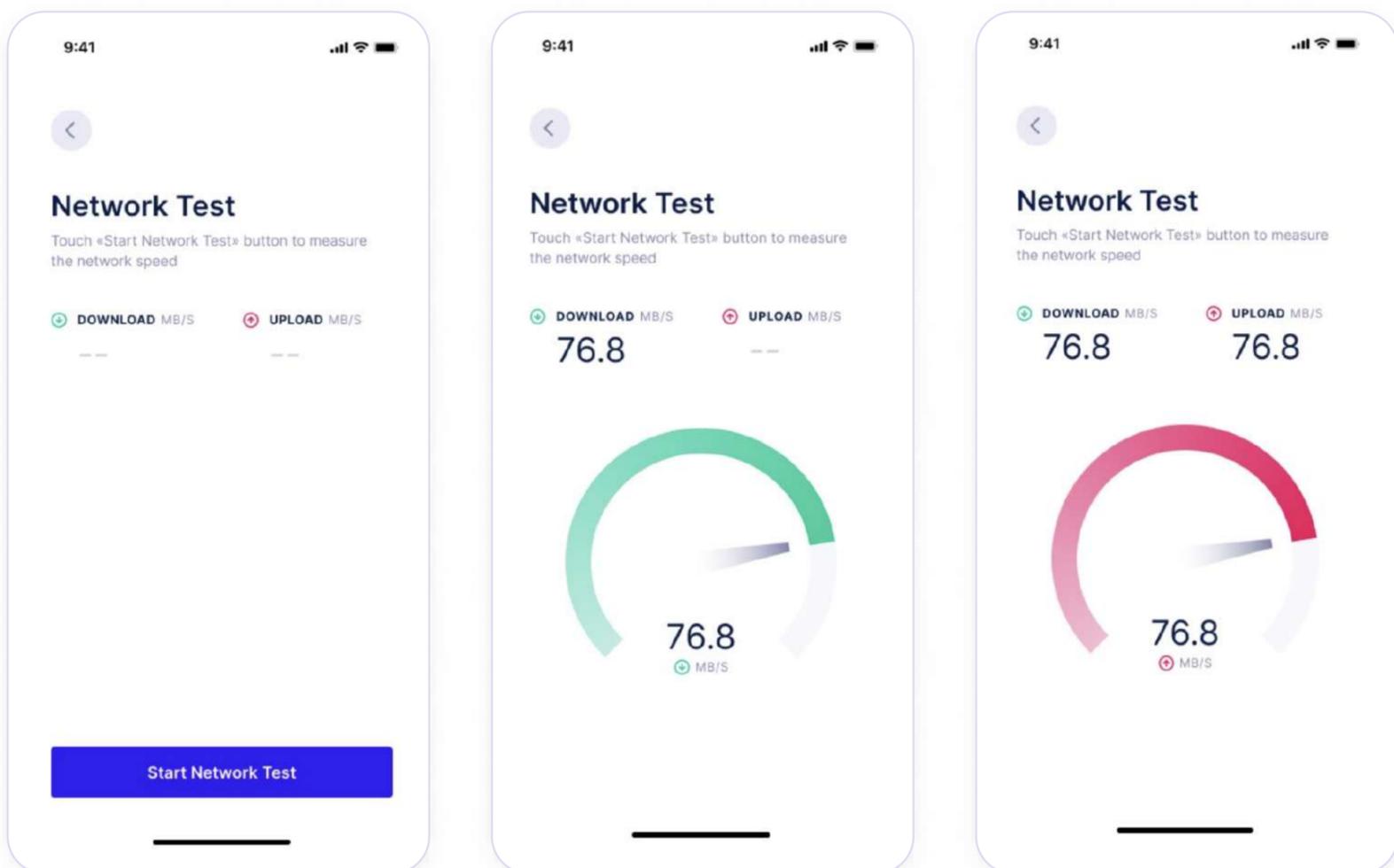
9. Click "Start Sound Testing." You will be prompted to begin speaking.



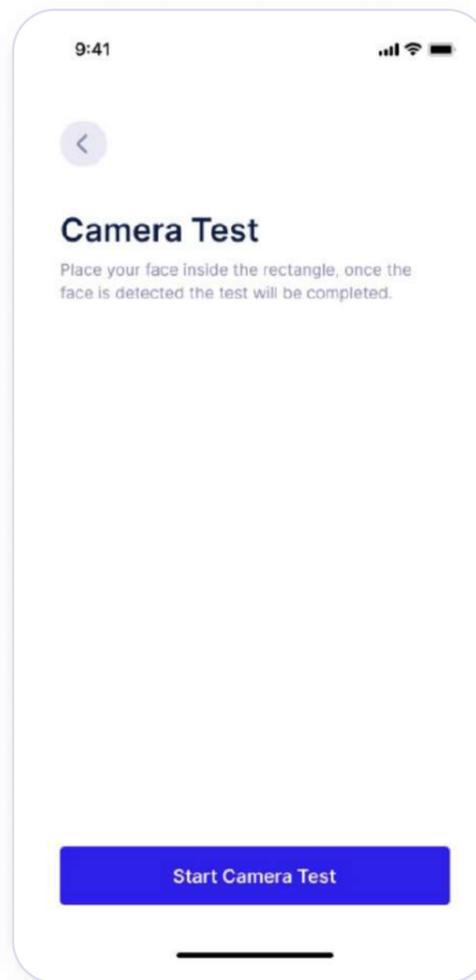
10. Click "Play Recording" to test the sound quality once you have completed the recording.



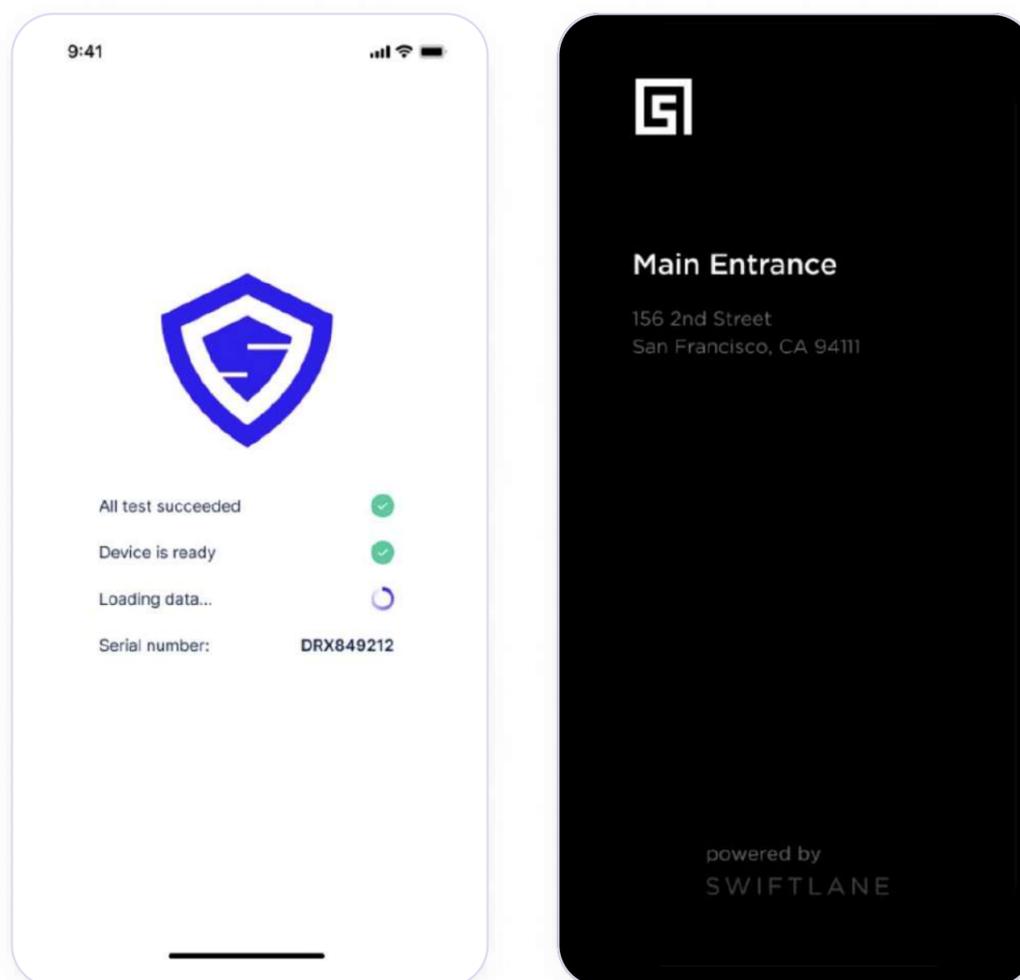
11. Next, test the Network. Click "Start Network Test". It will provide you with the Download/Upload speeds. If they do not meet the minimum requirements, you will be shown a warning that your network is not at the proper speeds.



12. Next, test the Camera for facial recognition. Orient your face to fit within the rectangle to prompt facial recognition to begin.



13. If all tests have been completed successfully, it will provision to the correct Access Point.



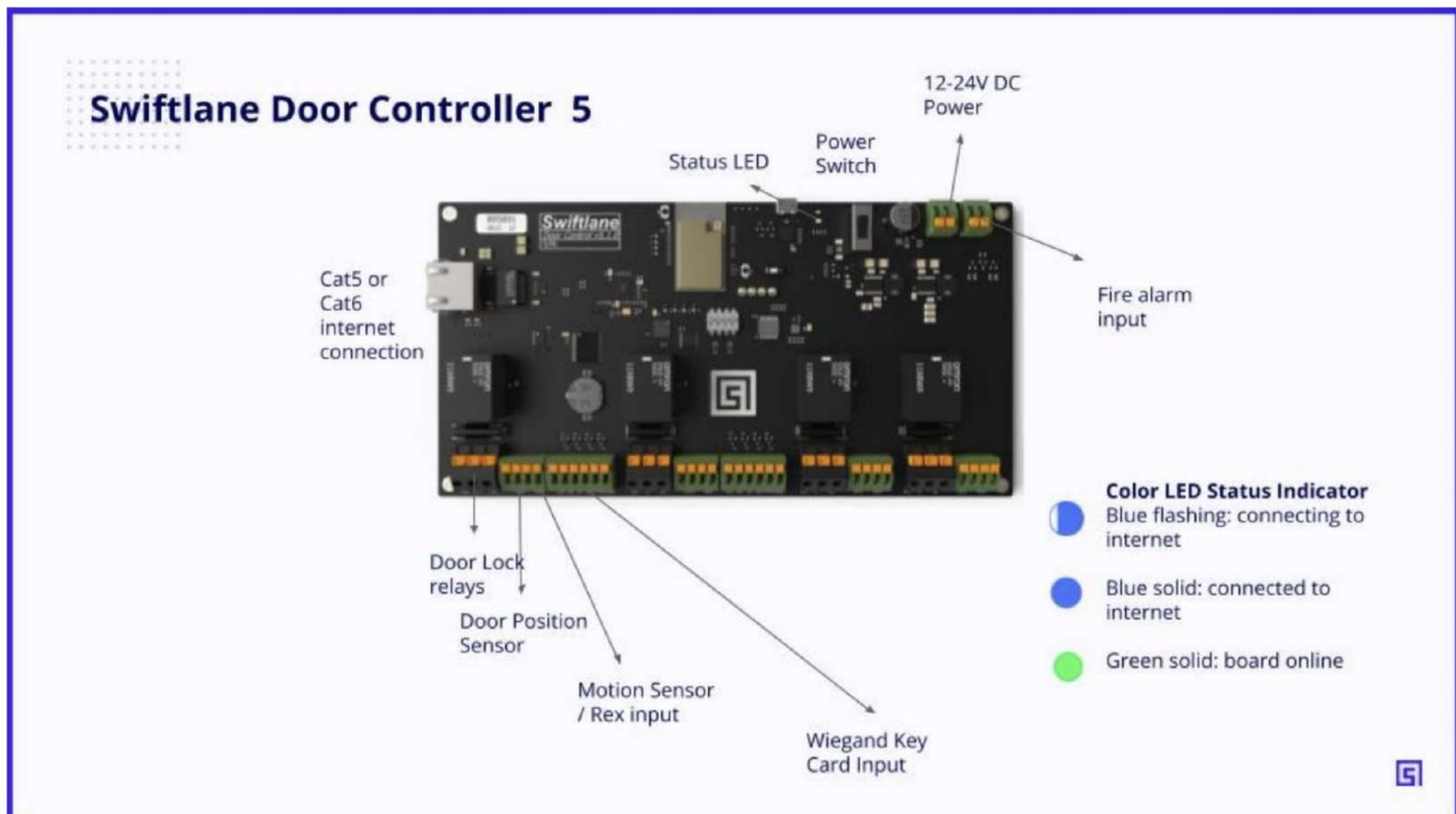
14. The SwiftReaderX is now ready for use. You can test utilizing facial recognition and mobile unlock to make sure the door is physically unlocked.

Installation Checklist

- Swiftlane hardware components received
- Power Supply is connected to Door Controller Unit (DCU) (refer to wiring diagrams)
- Door Controller Power LED light is RED
- Strike is wired properly (refer to wiring diagrams)
- ETH cable from the PoE Switch is connected to the DCU
- DCU Status LED light is solid GREEN
- Connect ETH cable from the router to the SwiftReaderX
- Be sure network connectivity and power is all working properly
- Login to the workspace and assign Relay(s) - Go to Hardware > Door Controller > click “eye” icon > assign the Access Points to the proper Relays that you had wired at the Door Controller
- Check to make sure User Groups are properly assigned to the Access Points. Sites & Access Points > click on Access Point > scroll to “Grant Access to User Group” settings and set the proper User Groups. “Admins” are automatically set up to have access to all Access Points.
- Check to make sure you have access to the Access Points to test properly. Go to User > click your profile> Door Access > “+Add Group” if you don’t have any User Groups assigned to you.
- Login to your workspace via the Swiftlane app
- Refer to **Swiftlane Software Provisioning (pages 21-27)** steps to setup the Access Point
- Test Mobile/Remote Unlock
- Test Facial Recognition (if applicable)
- Test Intercom Call (if applicable)
- When all is completed the system is ready to go!

Troubleshooting Documentation

Door Controller Troubleshooting Tips



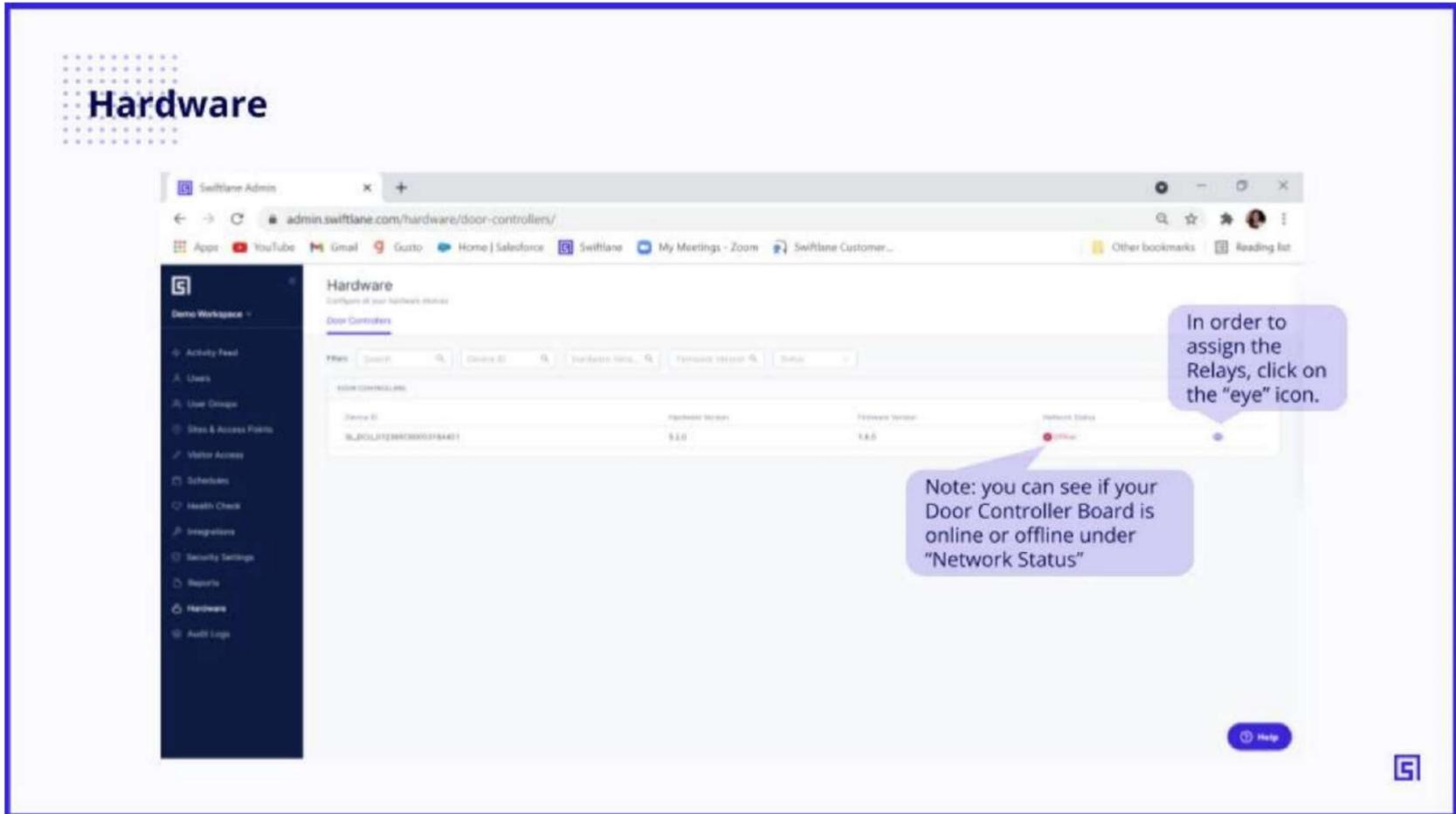
Here are some steps for troubleshooting:

1. First, you want to check that the Door Controller is connected to the power supply and the Power LED light is solid red. (skip to #4 if it is solid red)
2. If the Power LED light is not red, make sure that the Power switch is turned "ON".
3. If the Power switch is "ON" then check the wiring. If wiring is good then check the Power source to see if it's getting any power.
4. Check the Status LED light on the board and make sure it is GREEN, indicating there is connectivity. (skip to #6 if the Status led light is GREEN)
5. If the Status light is NOT green. Blinking blue means it is searching for network connectivity. Solid blue means it is connected to a network source and is now trying to connect to Swiftlane cloud. If the solid blue light goes back to blinking blue then it means that something could be blocking communication. You may need to contact the network provider as the internet may be down or blocking the connection to our hardware.

6. After attempting all the previous steps, a power cycle will be required. Turn the Power switch to off and wait 15 seconds before turning the switch back on. This should get the door controller back online.

Remember: you want the Power LED light to be solid red and the Status LED light as green.

You can always check the Status of your Door Controller within your Admin Dashboard by going to Hardware > Door Controller > Network Status.



If all else fails, please call support at 505-657-9438 or email us at support@swiftlane.com

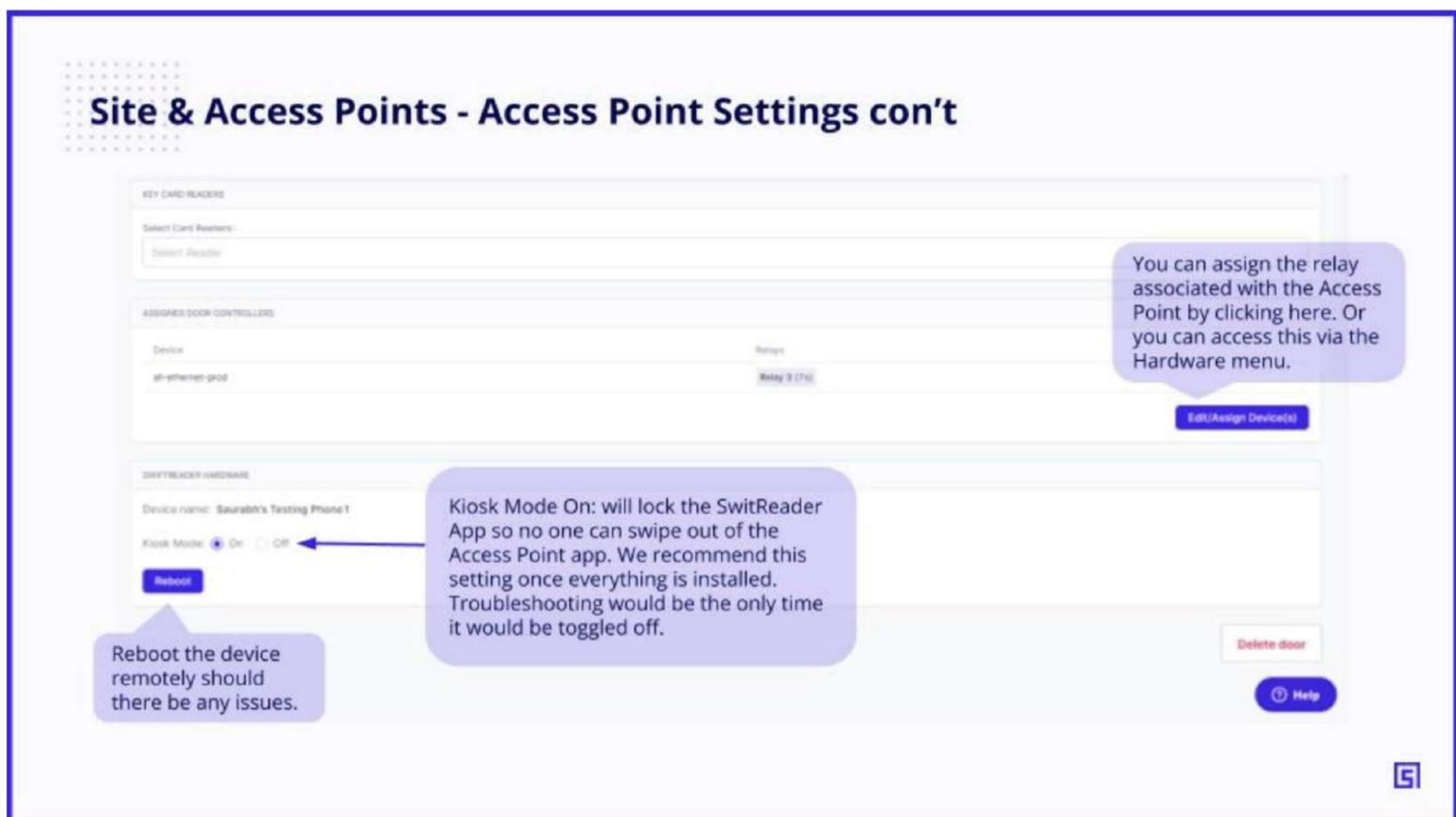
SwiftReaderX: Network Connectivity

When your access control (SwiftReaderX) goes down and you're not able to get network connectivity, here are a few troubleshooting tips.

1. The first thing to look for is making sure that the internet in the building is on and running smoothly. This will affect the connectivity of the SwiftReaderX. If the internet is down, troubleshoot the router to get your network back up and running OR work with your internet provider.
2. If your internet router is working appropriately, then inspect the Ethernet Cable. Make sure the ETH cable is connected appropriately to the router. Check the ETH cable to make sure it is good. If not, switch ETH cable(s).

If all else fails, please call support at 505-657-9438 or email us at support@swiftlane.com

Remotely Reboot the SwiftReader



From the admin dashboard, click on "Sites & Access Points." Select the Access Point, scroll to the bottom, and click on the purple "Reboot" button to reset your device.

Note: If you are noticing the SwiftReaderX isn't taking any of the changes in the settings or not responding correctly, it is strongly encouraged to reboot the device first.

Altronix Power Supply Issue

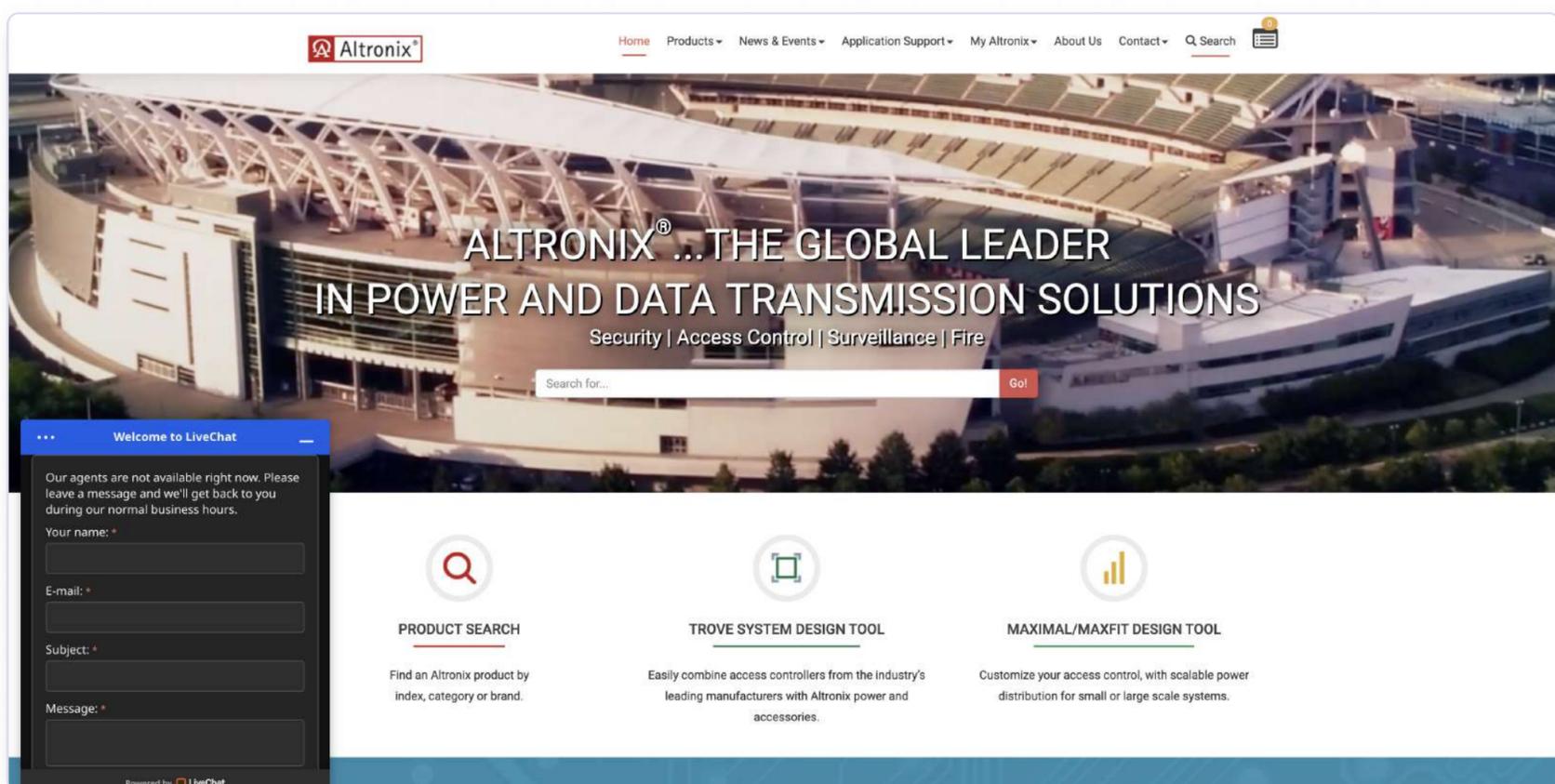
If you are experiencing any issues with the Power Supply, please contact Altronix Tech Support to open a support ticket. Please reference that you are installing Swiftlane and found that the Power Supply provided is not working properly.

Altronix Contact Information:

Phone: 718-567-8181 (Monday - Friday 8am - 5pm EST)

Email: tech.support@altronix.com

Live Chat: altronix.com



Once you have opened a ticket, please let the Swiftlane Tech Support team know so that we can speed up the process of replacing any parts if needed. Please include the Altronix Support Ticket number.

Contact Tech Support at: 505-657-9438 (Monday - Friday, 9am-5pm PST) or via email: support@swiftlane.com.