

Swiftlane Installation Manual

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Swiftlane Hardware Components

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

1. SwiftReader Enclosure (Indoor/Outdoor Sunshade)

- [Data Sheet](#)

2. Swiftlane Reader Phone

- [Data Sheet](#)

3. Belkin Adapter

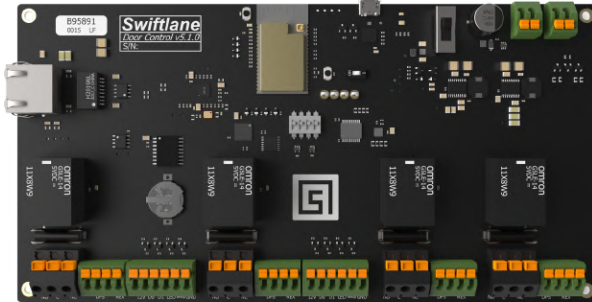
- The belkin adapter is used to allow Power over Ethernet (PoE). This allows for internet connectivity while powering the iPhone at all times.



4. 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:

5. Power Supply

6. Key Card Readers

- a. [Encrypted \(Smartcard\) Credentials and Readers Data Sheets](#)
- b. [Proximity Cards and Readers Data Sheets](#)
- c. [Long Range Receivers and Transmitters Data Sheets](#)

7. PoE Switch

(RECOMMENDED) - Trendnet POE 5-Port Gigabit POE+ Switch

- **ETHERNET PORT CONFIGURATION:** 4 Gigabit PoE+ ports and 1 Gigabit port with LED indicators, provides a 10Gbps
- **DESKTOP DESIGN:** With a compact and lightweight metal housing design, this Ethernet switch is well-suited for desktop installations.
- **PoE+ POWER:** A 31W PoE power budget supplies up to four Power over Ethernet devices. TPE-TG50g, delivers data and power over existing Ethernet cables to Power over Ethernet (PoE) devices such as access points and IP cameras.
- **PLUG-AND-PLAY:** Simply power up the switch and plug in connected devices. No software to install or configuration needed.
- **DATA TRANSFER RATE:** Ethernet: 10Mbps (half duplex), 20Mbps (full duplex) Fast Ethernet: 100Mbps (half duplex), 200Mbps (full duplex) Gigabit: 2000Mbps (full duplex)





8. Standard Ethernet 5e or 6 cable
9. Electric Strike(s) installed at the physical door

Wiring Requirements

S. no.	Signal	Belden Wire part no.	AWG (max - min)	Shielded?	Remarks
S-001	DCU 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/>)*`

Swiftlane Door Controller Panel Firewall Configuration

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

SwiftReader 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](https://swiftlane.com) email domain is whitelisted as a trusted domain on the spam filters to avoid [Swiftlane.com](https://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

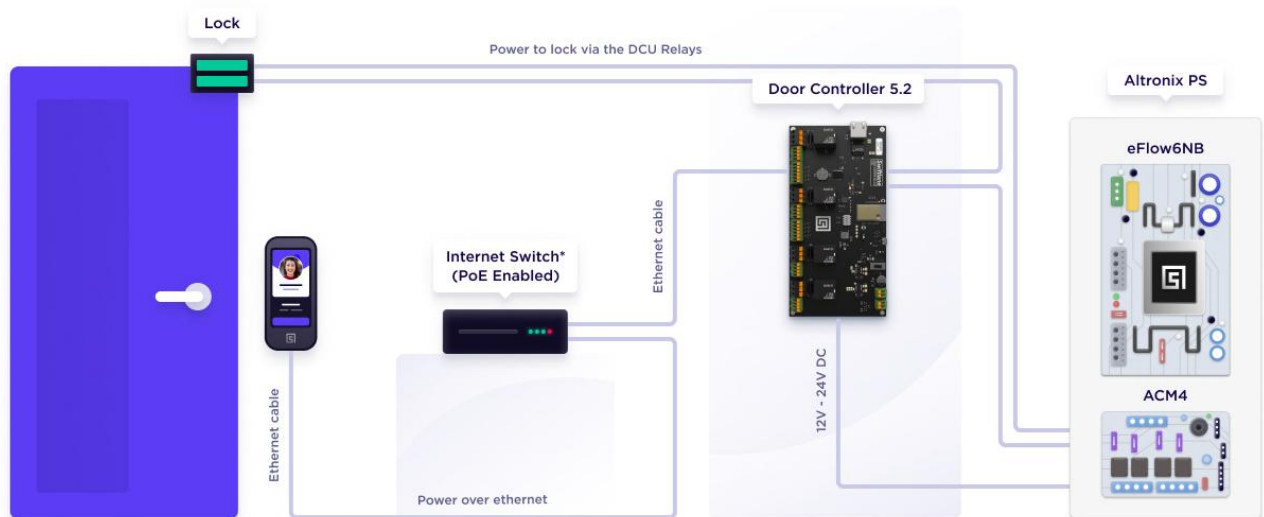
Websocket: <wss://sdkgw.us1.twilio.com>

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

Overall Installation Architecture

Swiftlane Install Diagram

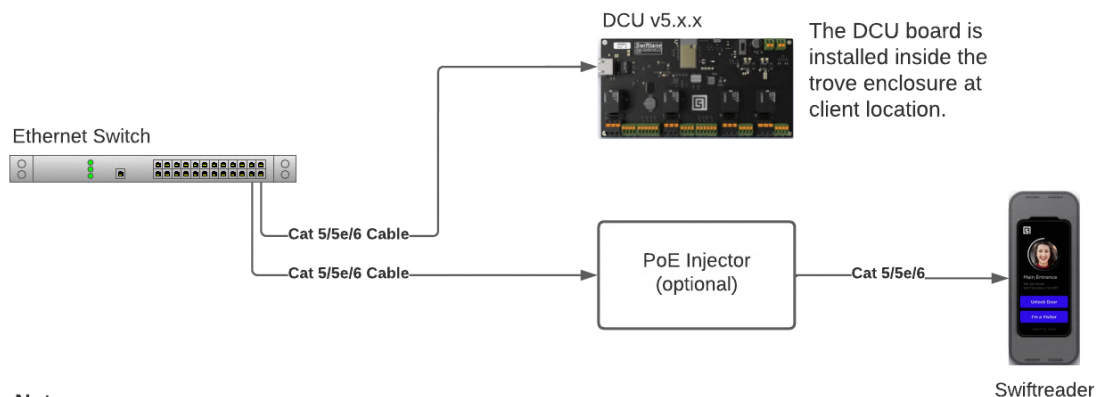
Swiftlane Install Diagram



Networking Diagram – Without Cellular Backup

Networking Diagram - Without Cellular Backup

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

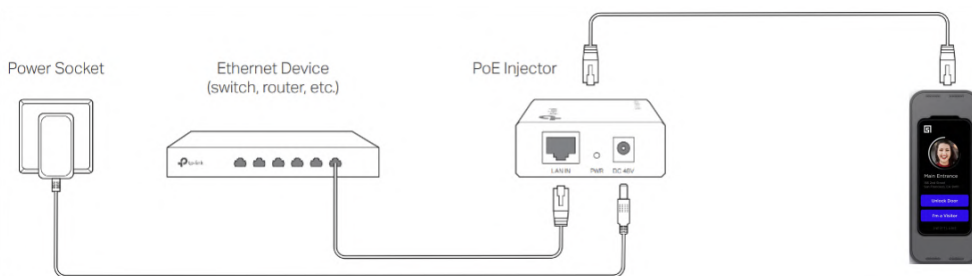


Notes:

1. Network should support DHCP.
2. If adding a new switch, please refer to the network switch manual regarding instructions to set it up.
3. PoE Injector is used to inject power to ethernet cable. The Swiftreader then gets data and power from the ethernet cable. PoE Injector is optional if the client's network switch is PoE enabled.
4. DCU and SwiftReader are never connected to each other directly. They maintain connectivity to each other via internet.

PoE Injector Wiring Example

Model: TL-POE150S

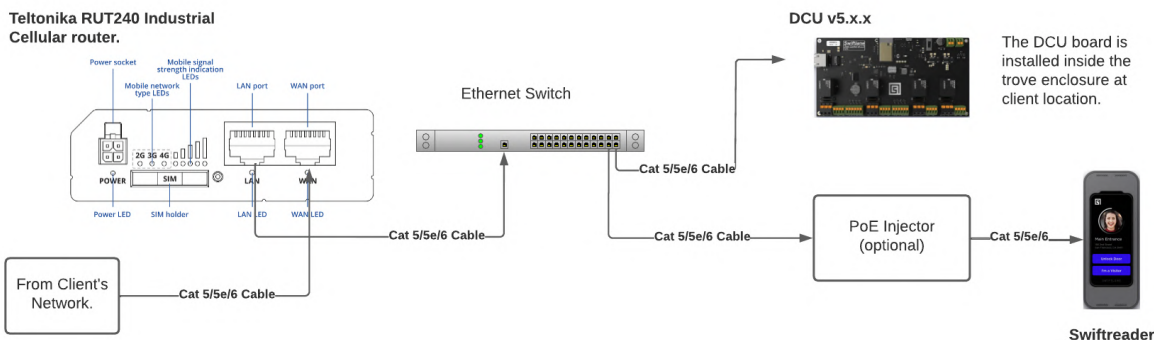


Networking Diagram – With Cellular Backup ([TELTONIKA RUT240](#))

Networking Diagram - With Cellular Backup

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

Teltonika RUT240 Industrial Cellular router.



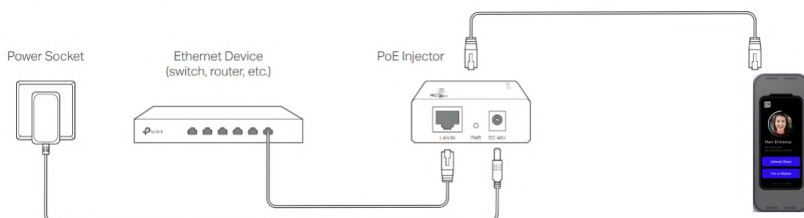
Notes:

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

Text

PoE Injector Wiring Example

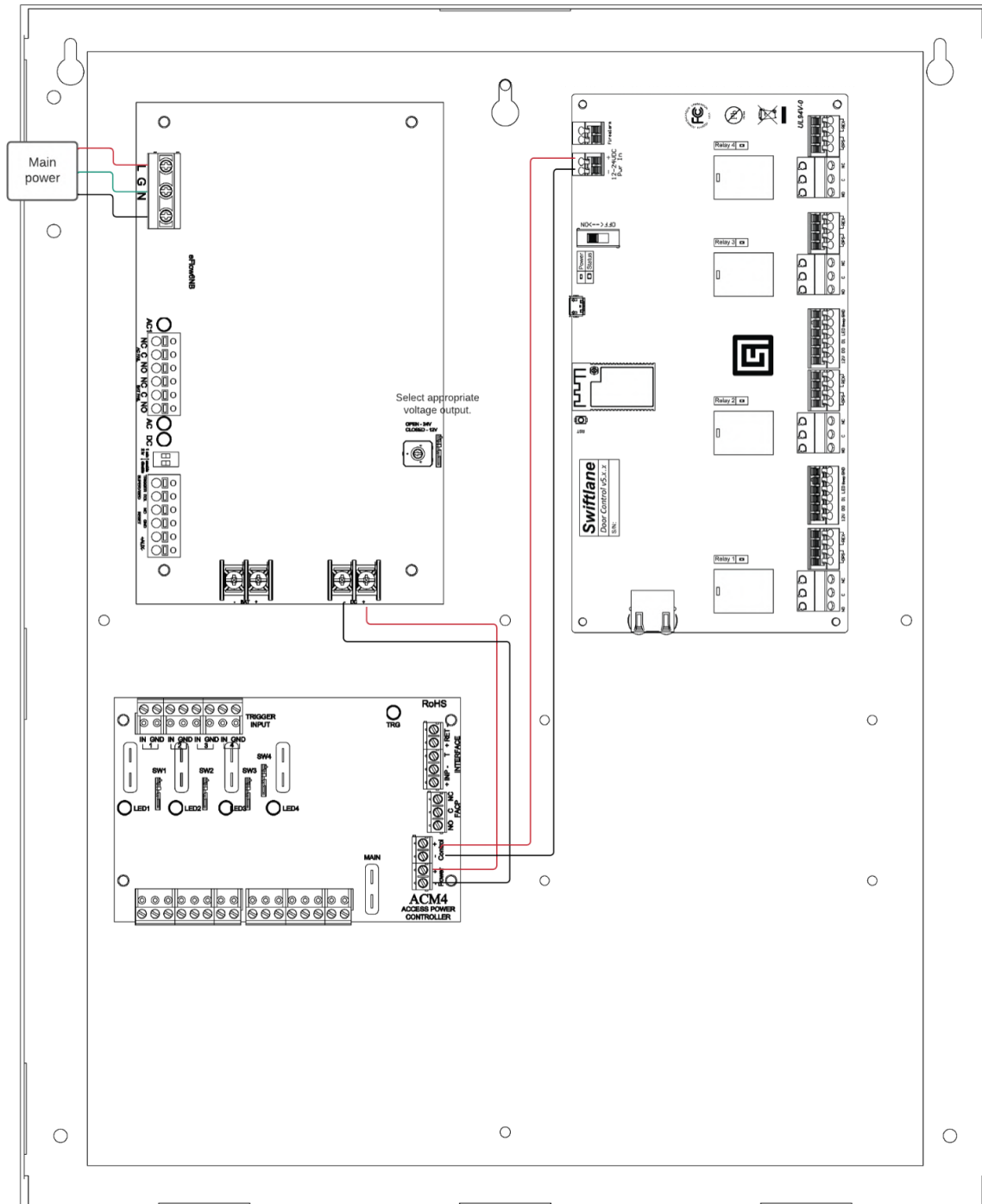
Model: TL-POE150S



T1SFK3F4 - Connection Diagram

Trove 1 enclosure with eFlow6NB Power supply, ACM4 Board and DCU 5.x.x Board.

Diagram shows only power connections between boards. Refer to the DCU -ACM4 for final wiring details

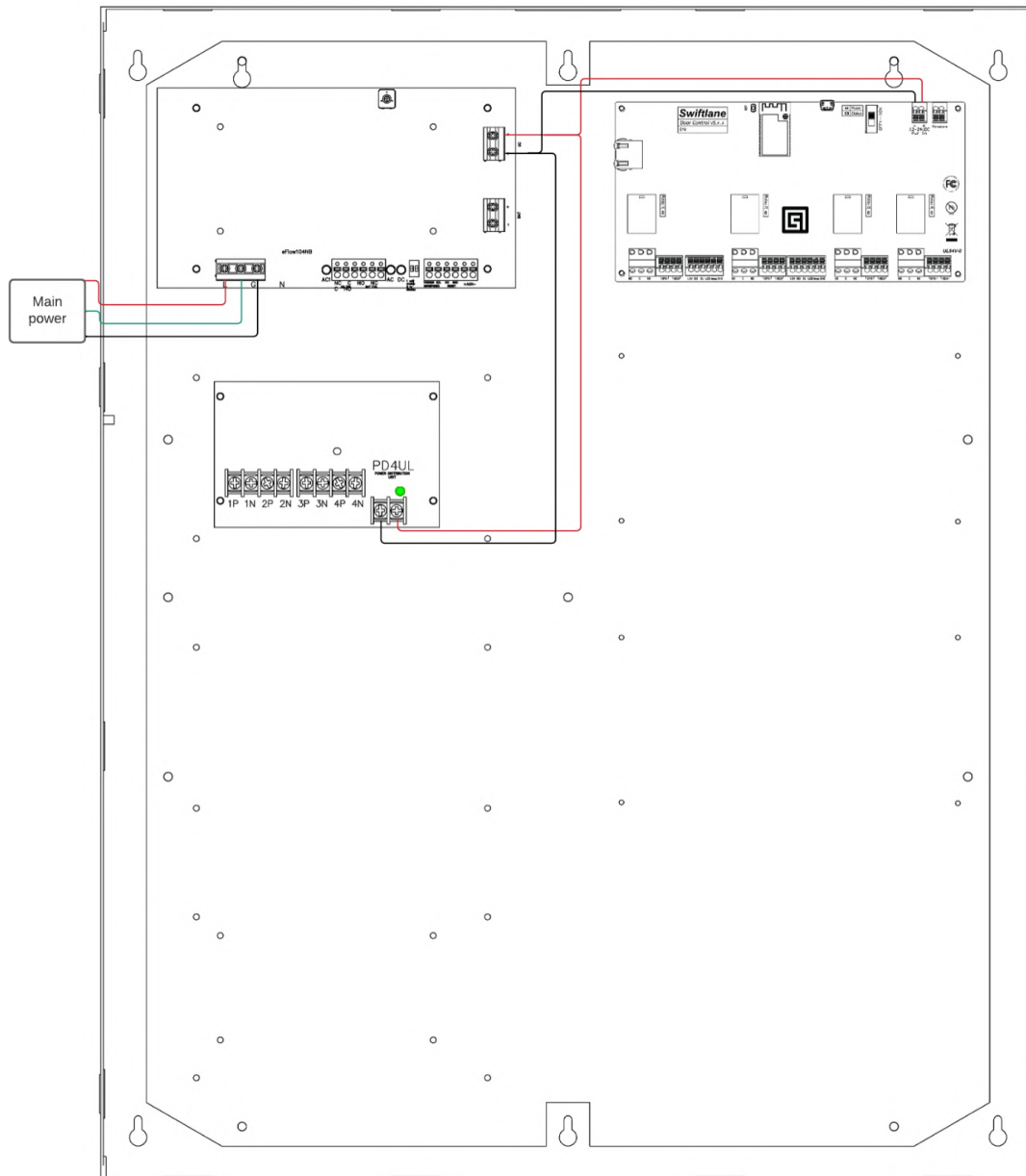


T2SFK7F4/T2SFK7F4D – Connection Diagram

T2SFK7F4/T2SFK7F4D - Connection Diagram

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

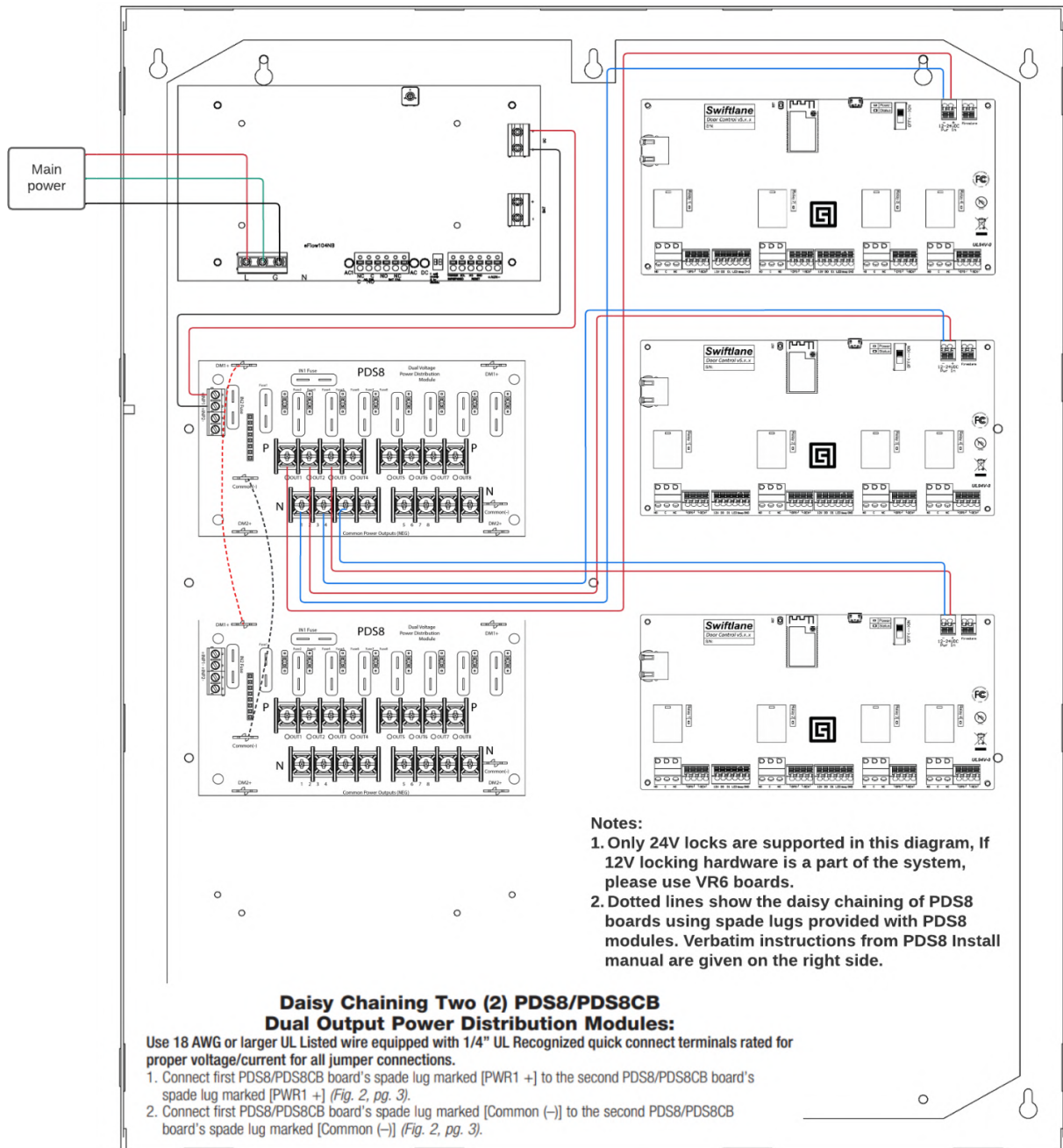
Diagram shows only power connections between
boards. Refer to the DCU -PD4UL for final wiring details



T2SFK7F12 - Connection Diagram

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

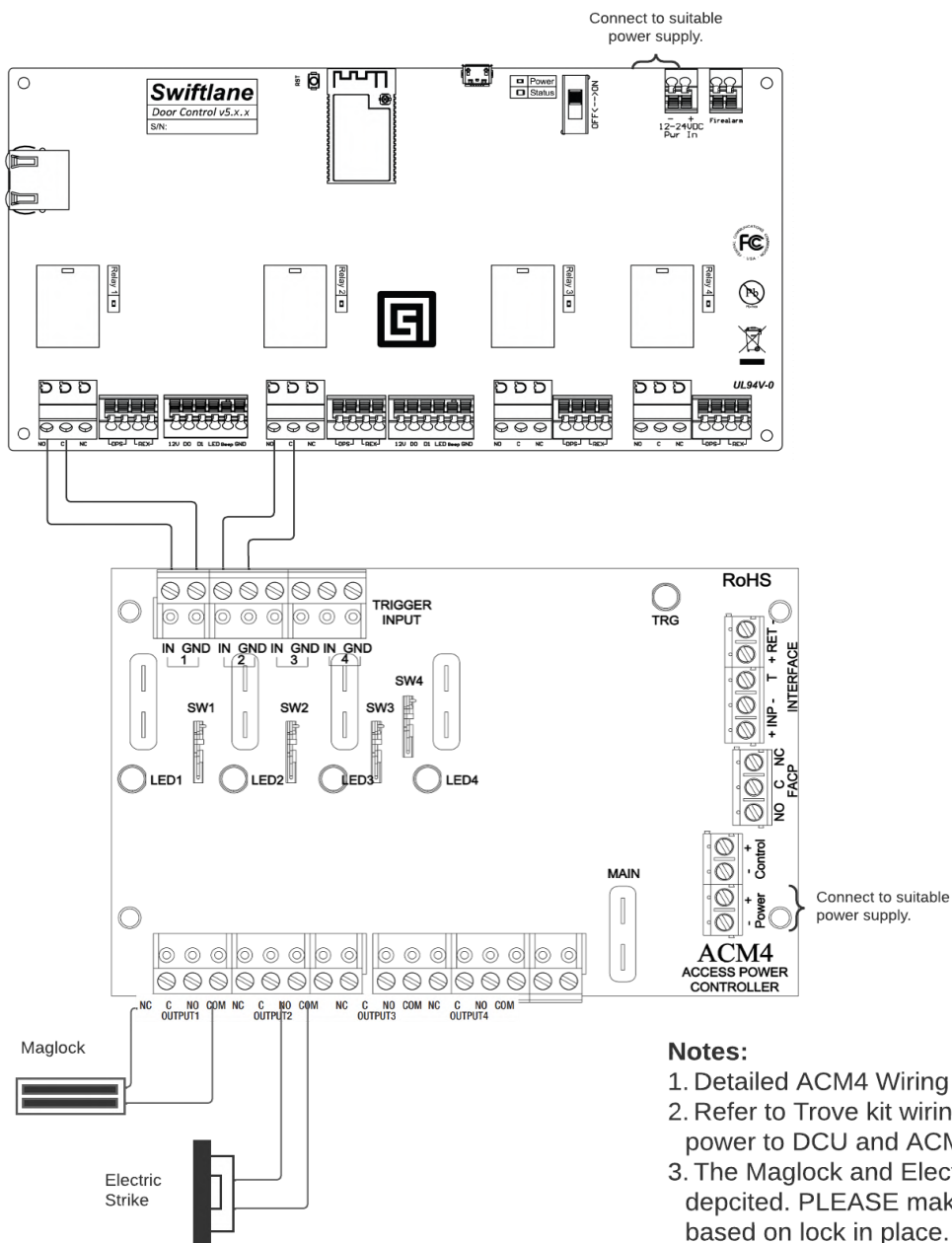
Diagram shows only power connections between boards. Refer to the DCU -PD4UL for final wiring details



DCU + ACM4 Lock Wiring Diagram

DCU + ACM4 Lock Wiring

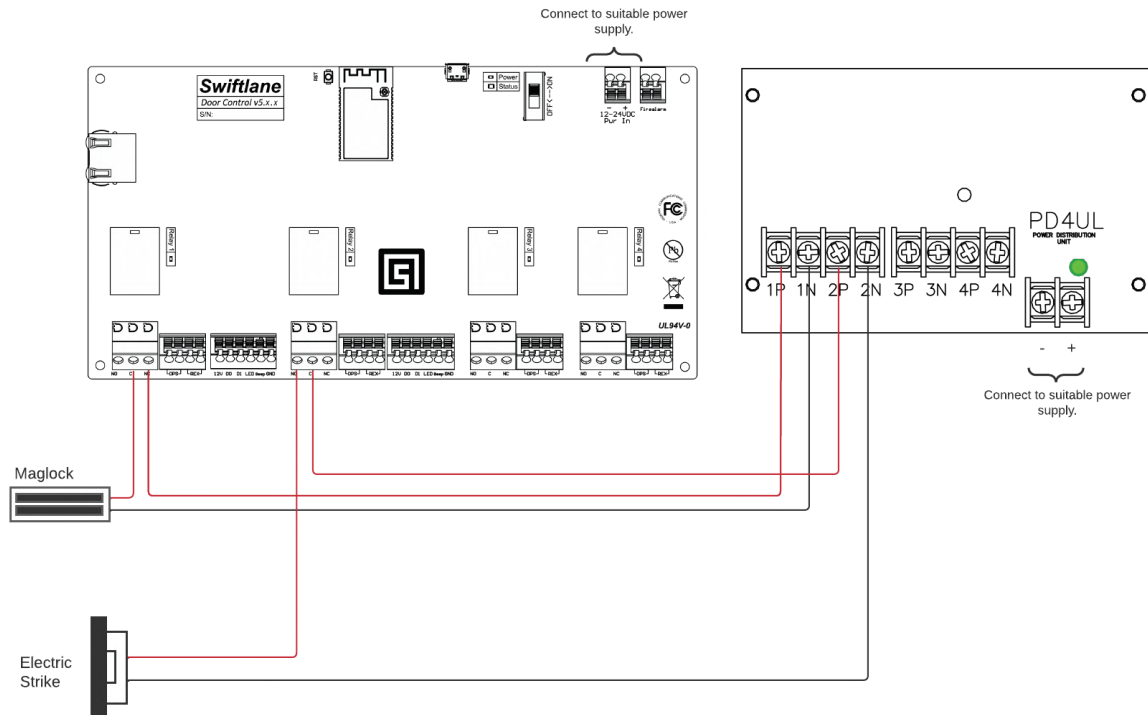
Diagram shows how to connect different locks to DCU Board via ACM4 Board.



DCU + PD4UL Lock Wiring

DCU + PD4UL Lock Wiring

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



Notes:

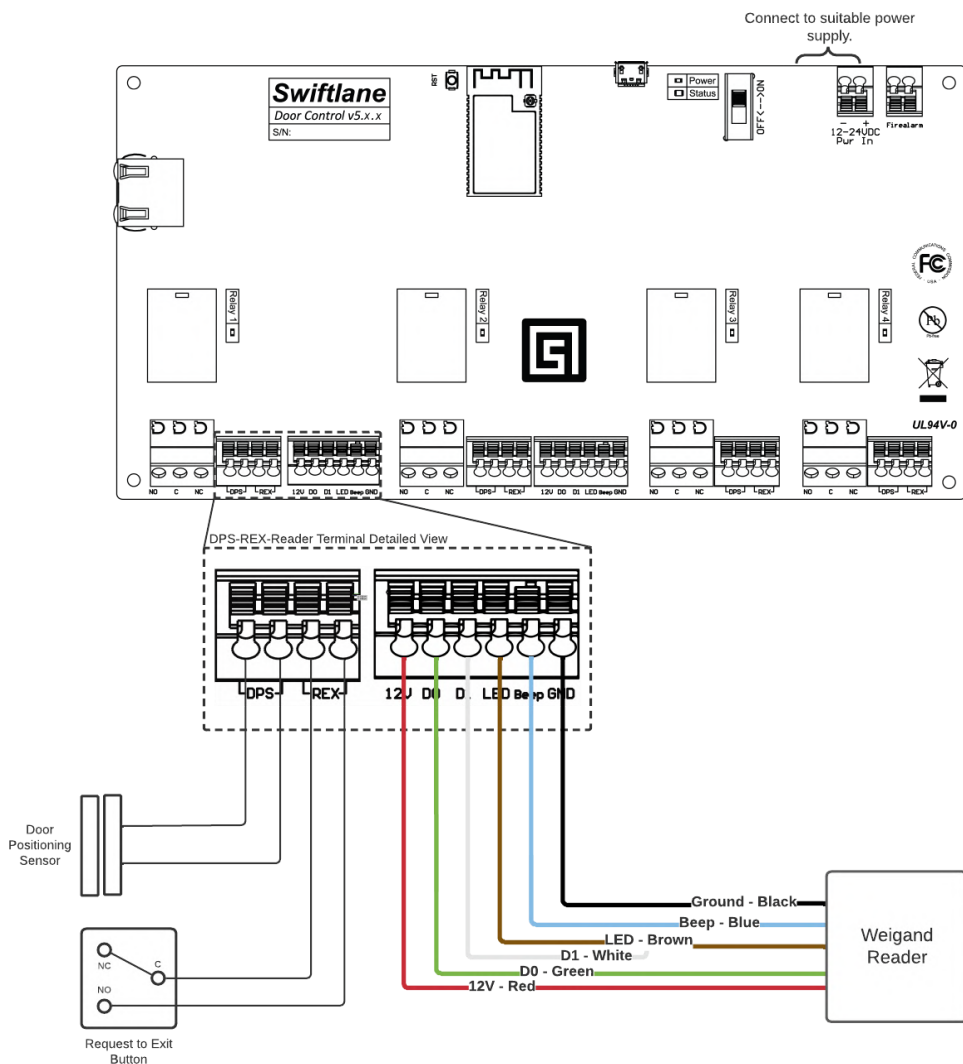
1. Refer to Trove kit wiring diagrams for wiring power to DCU and PD4UL Boards.
2. If using a PDS8 Board with VR6 module for dual voltage supply, follow instructions here.



DCU Inputs Wiring

DCU Inputs Wiring

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



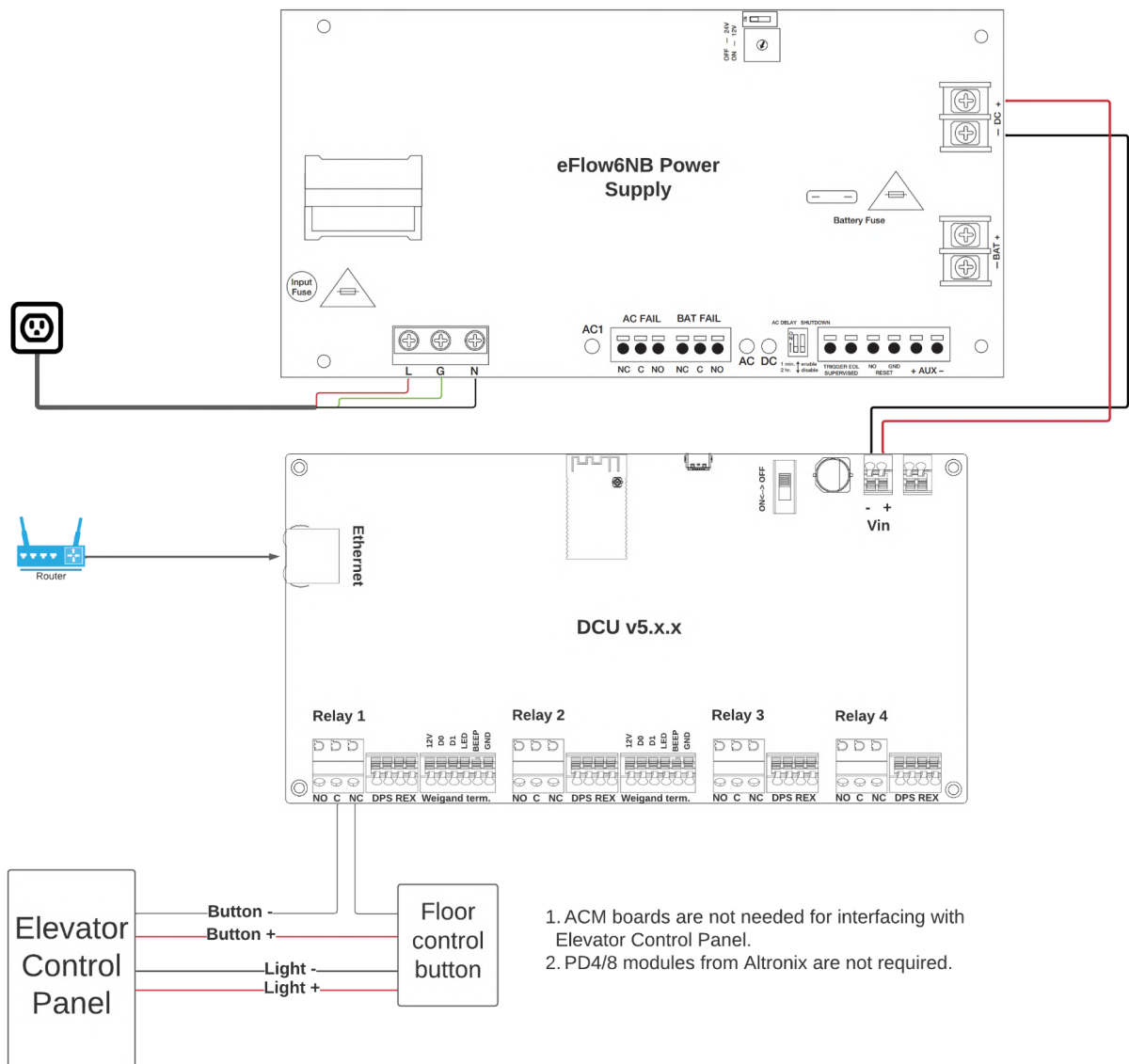
Notes:

1. If Wiegand Reader does not follow the color codes, please connect wires as per the reader manual.
2. If Farpointe key pad is only being used for PIN entry then please 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 8-Bit Burst is enabled).



DCU - Elevator Wiring Diagram

Elevator Control Panel Connection Diagram



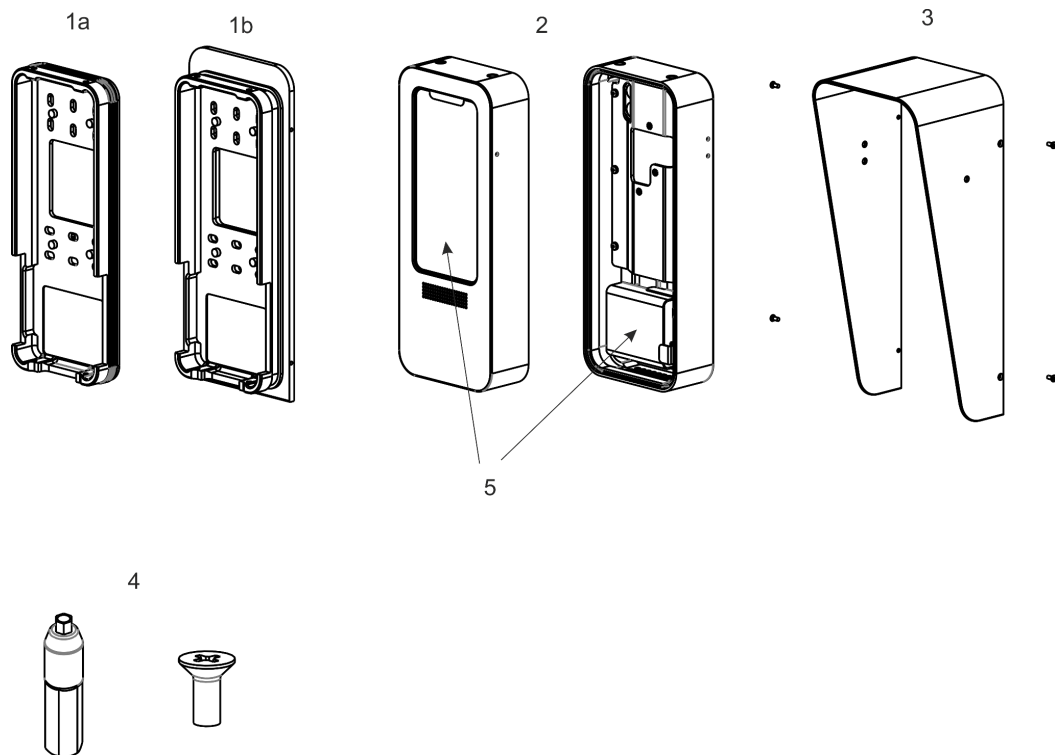
Straight Thermal SwiftReader Installation

Prerequisites:

1. Wall Mounting screws
2. Electrical Box
3. POE Supported Wired Ethernet Connection

Parts List:

1. Straight Thermal Back Plate
(1a without sunshade version, 1b with sunshade version)
2. Straight Thermal Enclosure
3. Straight Thermal Sunshade and countersunk M2.5×6mm screws (if applicable)
4. Custom Security Screws & Bit
5. iPhone & Belkin Adapter will be pre installed (utilize push pins to turn on the iPhone and control volume if needed)

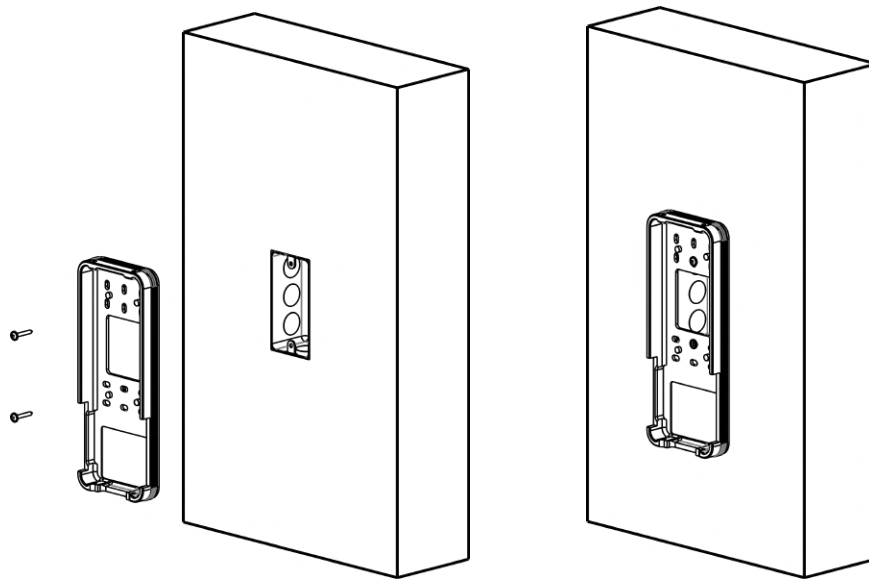


Installation Steps:

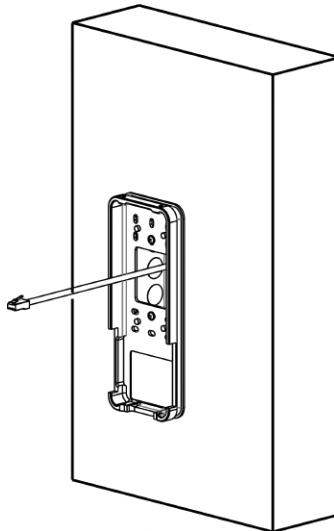
Mount the "SwiftReader" next to the door at a height of 5 feet 4 inches

Avoid installing the Sunshade SwiftReader where direct sunlight can hit the device

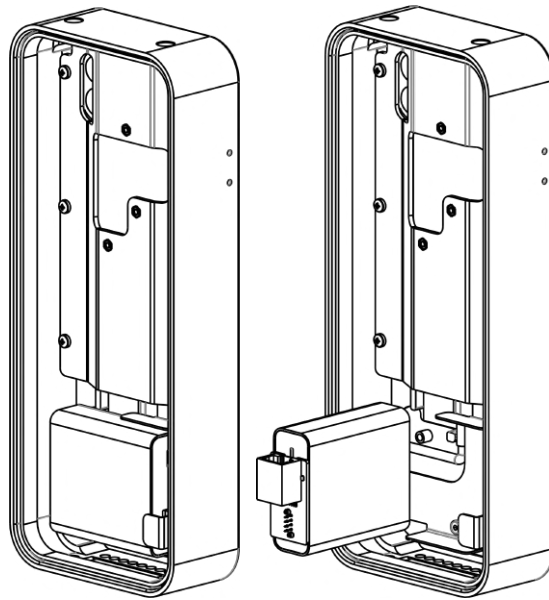
1. Install the back cover to the wall with 2 screws on a gang box (use either washer head screws or pan head screws and washers). Alternatively you could use wall anchors and screws (washer head or pan head and washers)



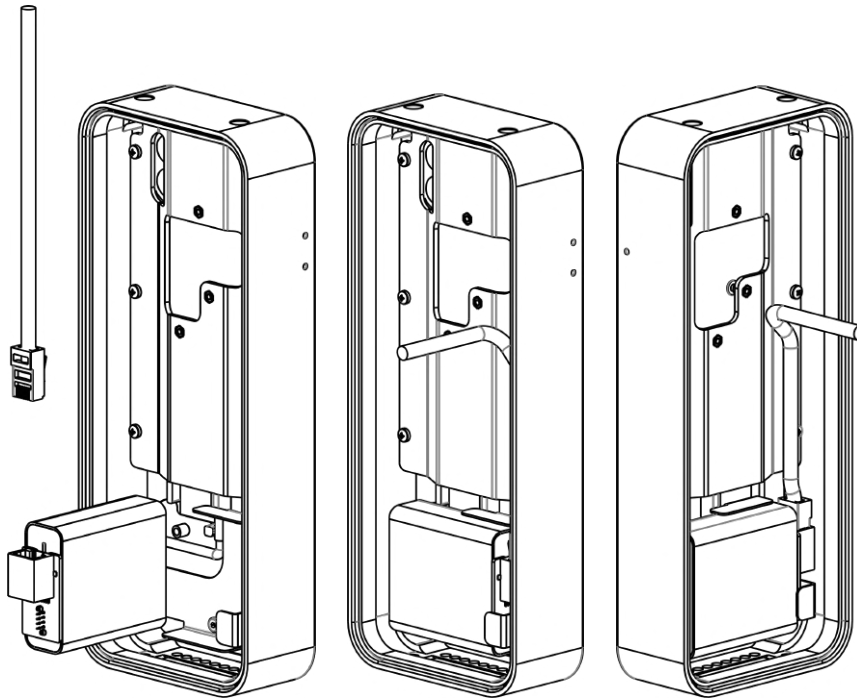
2. Terminate the ethernet cable coming out from a wall to a RJ45 plug



3. Push the belkin adapter to the left and tilt to raise.

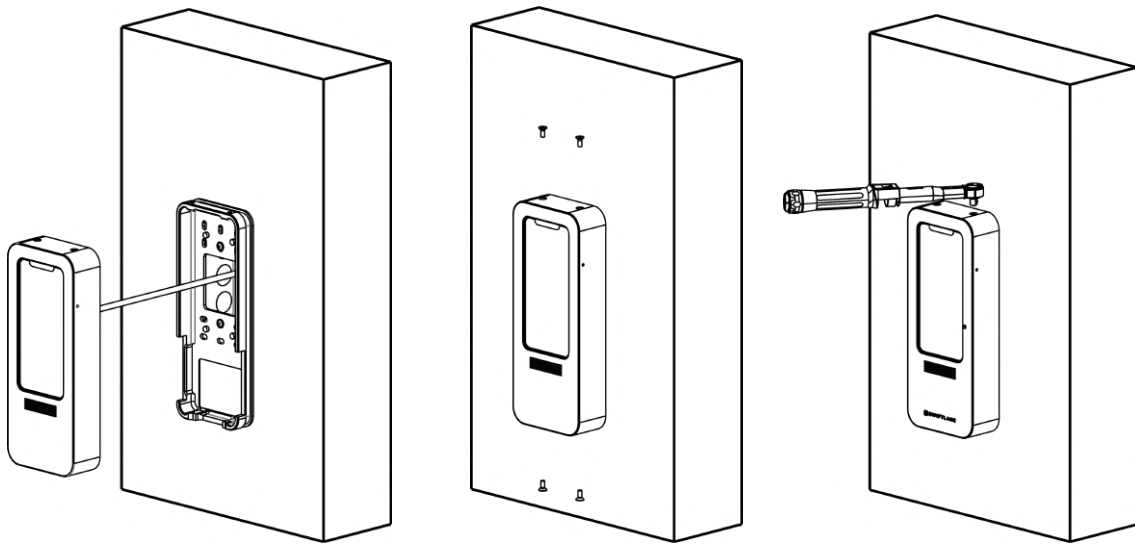


4. Connect the RJ45 plug, put the belkin back in place and arrange the ethernet cable as shown

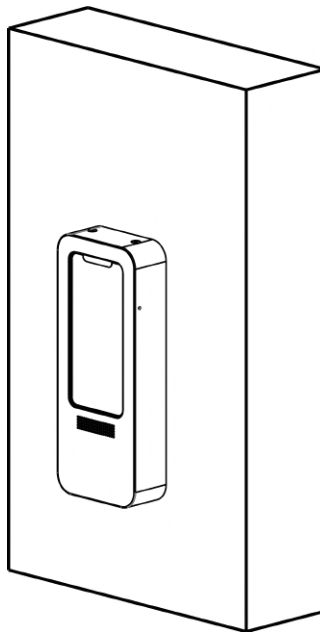


5. Arrange the ethernet cable inside the gang box, push the front cover in place and secure it with 4x M4×10 screws.

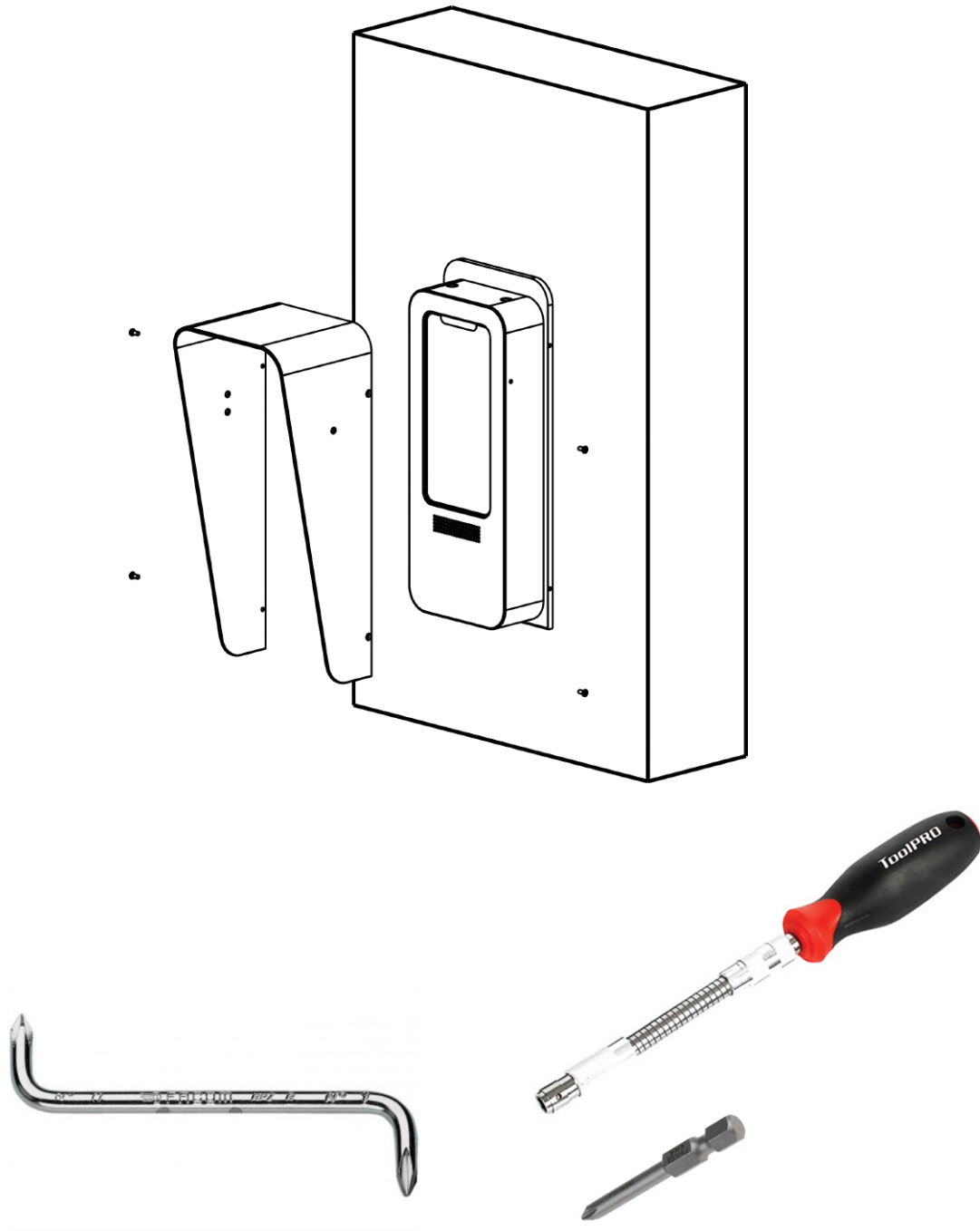
Tightening torque should not exceed 2Nm (about 18inc-lbs). A torque wrench could be used



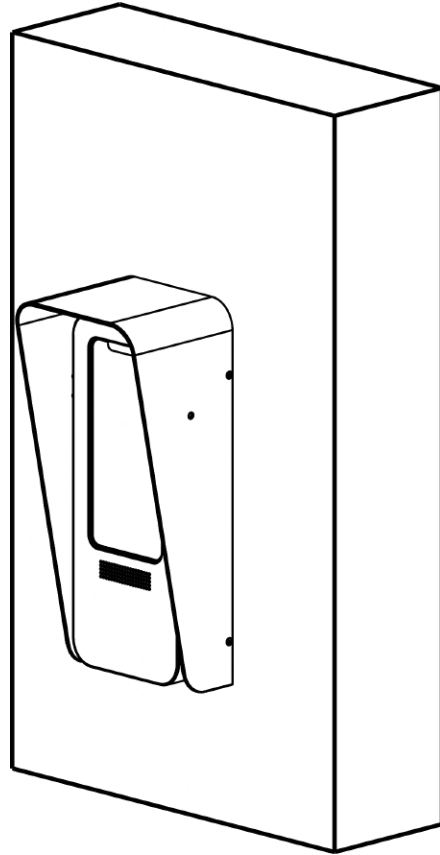
6. Enclosure is assembled as such



7. If applicable, place the shade on backplane and secure with 4x M2.5×6mm countersunk screws
PH1 drive bit (length at least 50mm) with a flexible screwdriver could be used or an angled screwdriver



8. The Sunshade enclosure is assembled as such



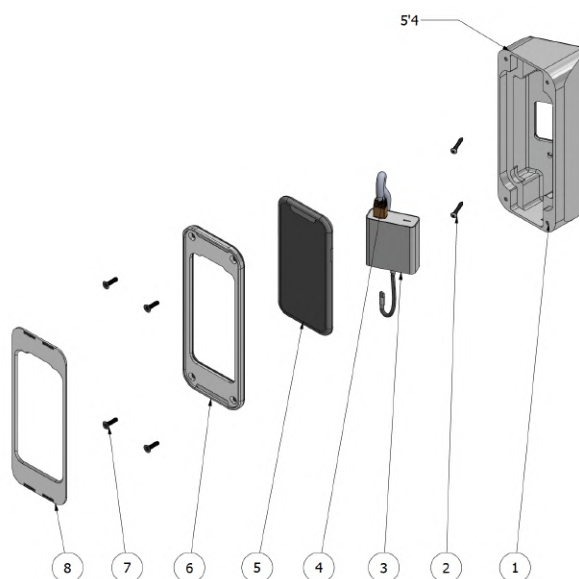
Older Indoor SwiftReader Installation (Angled)

Prerequisites

1. Mounting Space (1 gang box)
2. Electrical Box (if 1 gang box is not present)
3. POE supported Wired Ethernet Connection

Parts List

1. Wall Mount Base Unit (1)
2. Tamper-Resistant Torx Rounded Head Screws No. 6 1" (2)
3. Belkin Ethernet Adapter (1)
4. Ethernet Cable (1)
5. iPhone XR or 11 (1)
6. Front Face (1)
7. Tamper-Resistant Torx Flat Head Screws M4×0.7 -16mm (4)
8. Front Face Cover Plate (1)



Installation Steps

Mount the “SwiftReader” next to the door at a height of 5 feet 4 inches. The “SwiftReader” is angled sideways at 25°. Ensure the SwiftReader is facing toward the door, so it faces the person in front of the door.

1. Create a single gang box cavity at the selected mounting point. The gang box cavity should be made at such a height that after installation the top of the SwiftReader sits at 5 feet 4 inches from the ground. This installation height maximizes the visibility of the “SwiftReader.”
2. Install the electrical box inside the newly created cavity.
3. Route the ethernet cable to the install location.
4. Secure the “Wall Mount Base Unit” to the gang box using “Tamper-Resistant Torx Rounded Head Screws.”



5. Route the ethernet cable through the hole in the center of the “Wall Mount Base Unit”.
6. Connect the Ethernet cable to the “Ethernet + Power Adapter with Lightning Connector” and fit it inside the “Wall Mount Base Unit.”
7. Place the “iPhone XR” inside the “Wall Mount Base Unit.” Connect the lightning adapter from the “Ethernet + Power Adapter with Lightning Connector” to the phone’s charging port and turn on the phone.
8. Attach the “Front Face” to the “Wall Mount Base Unit” using the provided “Torx Flat Head Screws — M4×0.7”. Make sure that the phone is turned on, the sound volume is all the way up, and the “Front Face” is positioned correctly before you screw it on.
9. Peel the sticker from the “Front Face Cover Plate” and attach it to the “Front Face” of the unit.

Older Sunshade SwiftReader Installation



1. Mount the sunshade next to the door at a height of 5 feet 7 inches. The “SwiftReader” mount will go inside at the height of 5 feet 4 inches and is angled downward 10°.
2. Avoid installing the Sunshade SwiftReader where direct sunlight can hit the device.
3. Create a single gang box cavity at the selected mounting point. The gang box cavity should be made at such a height that after installation the top of the SwiftReader sits at 5 feet 4 inches from the ground. This installation height maximizes the visibility of the “SwiftReader.”



4. Install the electrical box inside the newly created cavity.
5. Route the ethernet cable to the install location.
6. Secure the "Wall Mount Base Unit" to the gang box using "Tamper-Resistant Torx Rounded Head Screws."
7. Route the ethernet cable through the hole in the center of the "Wall Mount Base Unit."
8. Connect the Ethernet cable to the "Ethernet + Power Adapter with Lightning Connector" and fit it inside the "Wall Mount Base Unit."
9. Place the "iPhone XR" inside the "Wall Mount Base Unit." Connect the lightning adapter from the "Ethernet + Power Adapter with Lightning Connector" to the phone's charging port and turn on the phone.
10. Attach the "Front Face" to the "Wall Mount Base Unit" using the provided "Torx Flat Head Screws — M4×0.7." Make sure that the phone is turned on, the sound volume is all the way up, and the "Front Face" is positioned correctly before you screw it on.
11. Peel the sticker from the "Front Face Cover Plate" and attach it to the "Front Face" of the unit.

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)
- ☐ Connect the PoE Switch to the network modem
- ☐ ETH cable from the PoE Switch is connected to the DCU
- ☐ DCU Status led light is solid GREEN
- ☐ Install **SwiftReader** Enclosure
- ☐ Connect ETH cable from the POE switch through to the SwiftReader enclosure
- ☐ Connect ETH cable to the Belkin
- ☐ Be sure network connectivity and power is all working properly to the iPhone.

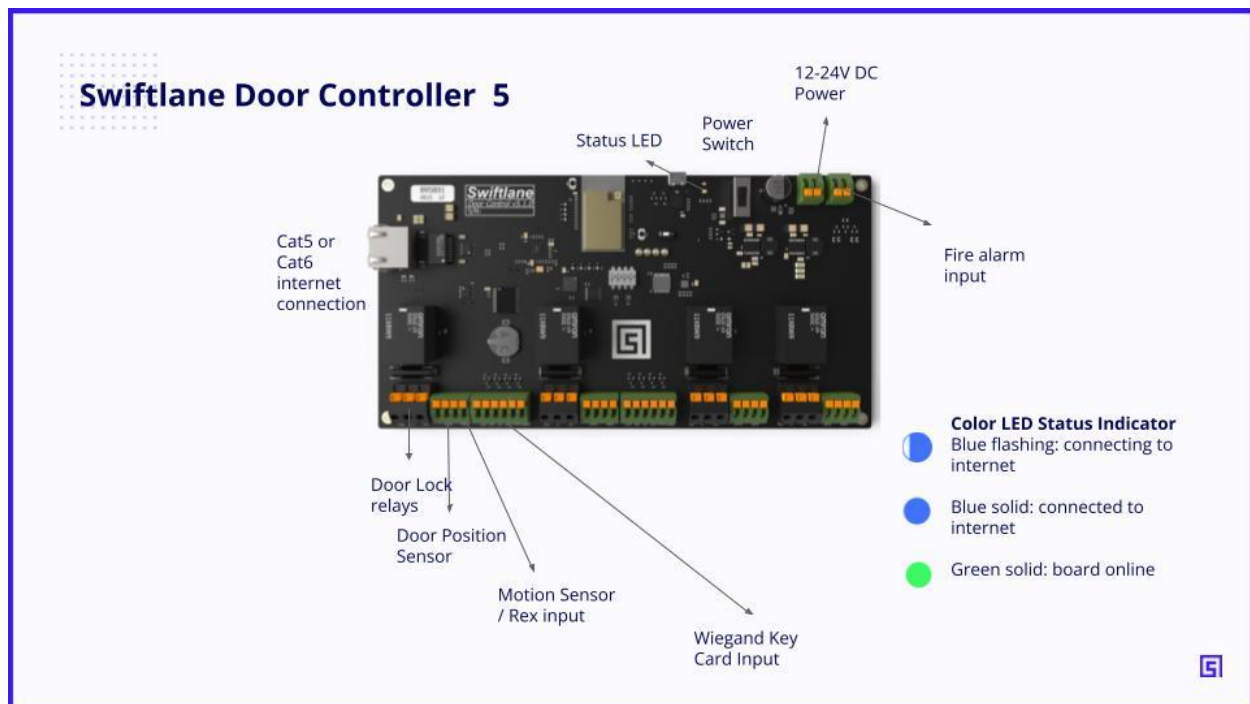


- ☐ Be sure the iPhone volume is up
- ☐ Be sure the iPhone "Do not disturb" is NOT enabled. (if you see red/orange on the left side of the iPhone that means "Do not disturb" is enabled)
- ☐ Login to the workspace and assign Relay(s) - Go to Hardware > Door Controller > click "Edit" button > assign the Access Points to the proper Relays that you had wired at the Door Controller.
- ☐ Check to make sure Access Groups are properly assigned to the Access Points. Sites & Access Points > click on Access Point > scroll to "Grant Access to Access Group" settings and set the proper Access 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 Access Groups assigned to you.
- ☐ Login to your workspace via the Swiftlane app
- ☐ Refer to [Swiftlane Software Provisioning](#) 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:

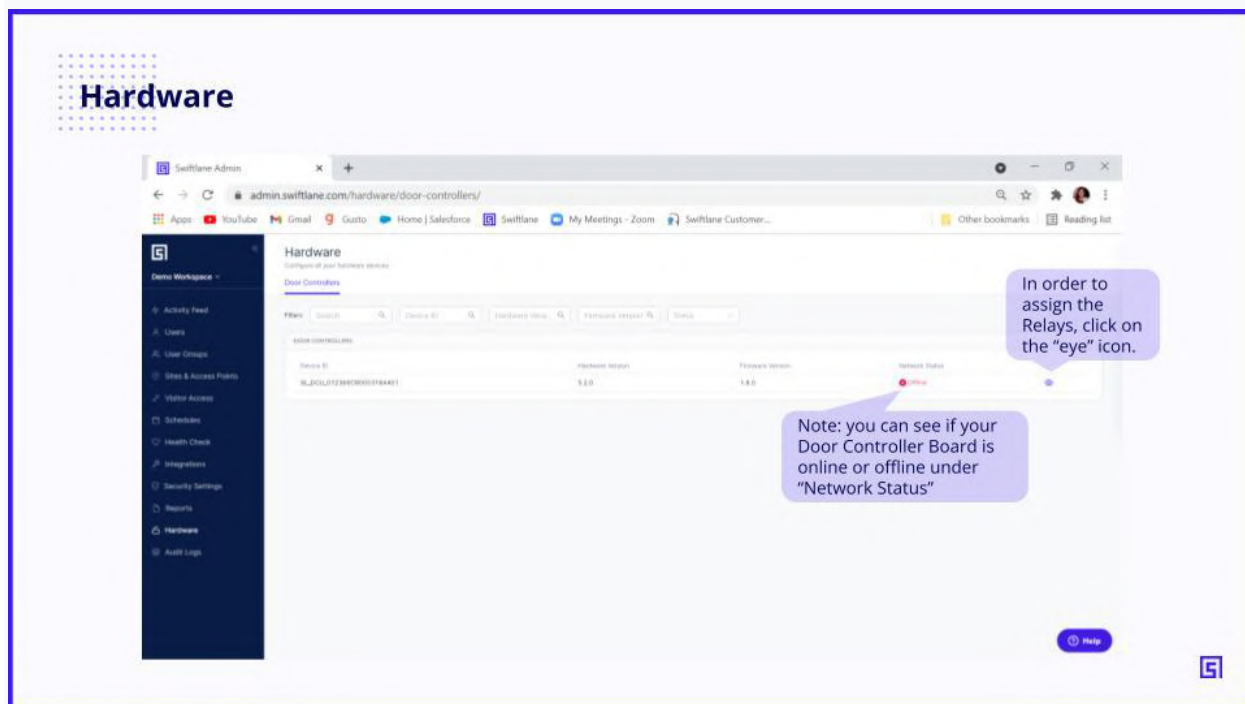
1. First, you want to check that the Door Controller is connected to the power supply and the Power LED light is solid red. (skip to #4 if it is solid red)
2. If the Power led light is not red, make sure that the Power switch is turned "ON".
3. If the Power switch is "ON" then check the wiring. If wiring 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, then blinking blue means it is searching for network connectivity and 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

SwiftReader: Network Connectivity

When your access control (Swiftlane reader) 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 SwiftReader (iPhone). If the internet is down, troubleshoot the router to get your network back up and running OR work with your internet provider.
2. If the internet is running fine, the next step would be to look for the PoE switch, most likely located in the IT room. Make sure the PoE switch has power and



connectivity. If the port is solid orange then that means connectivity is blocked or low connectivity and will require your network provider to take a look at the modem. If it is not connected, conduct a power cycle to see if it reconnects to the network.

3. If the PoE switch is working appropriately, then inspect the Ethernet Cable. Make sure the ETH cable is connected appropriately to the PoE switch and the Belkin. Check the ETH cable to make sure it is good. If not, switch ETH cable(s).
4. If the ETH cable is connected correctly on both ends, inspect the Belkin adapter.
5. Lastly, if all else fails, doing a hard reboot on the SwiftReader (iPhone) can get it back online and connected. iPhone Hard Reboot instructions:
<https://support.swiftlane.com/hc/en-us/articles/4410165951501>. If rebooting the phone does not work it can most likely be due to the Belkin adapter no longer functioning at which point it should be replaced.

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

Remotely Reboot the SwiftReader

Site & Access Points - Access Point Settings can't

KEY CARD READERS

Select Card Readers:

Select Reader

ASSIGNED DOOR CONTROLLERS

Device

Relays

Relay 3 (7%)

Edit/Assign Device(s)

SWIFTRADER HARDWARE

Device name: Saurabh's Testing Phone 1

Kiosk Mode: ☒ On ☐ Off

Reboot

Delete door

Help

You can assign the relay associated with the Access Point by clicking here. Or you can access this via the Hardware menu.

Kiosk Mode On: will lock the SwiftReader App so no one can swipe out of the Access Point app. We recommend this setting once everything is installed. Troubleshooting would be the only time it would be toggled off.

Reboot the device remotely should there be any issues.

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

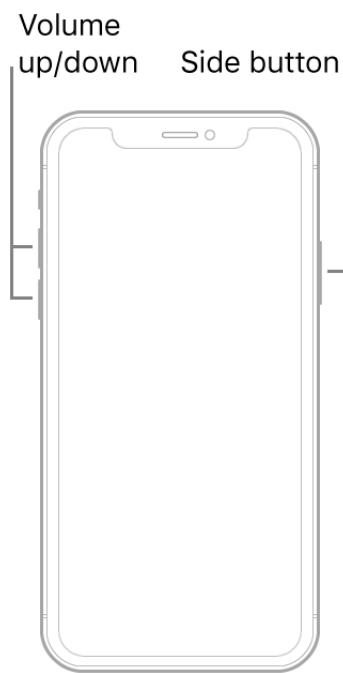


If you are noticing the SwiftReader isn't taking any of the changes in the settings or not responding correctly, it is strongly encouraged to reboot the device first.

iPhone Hard Reboot

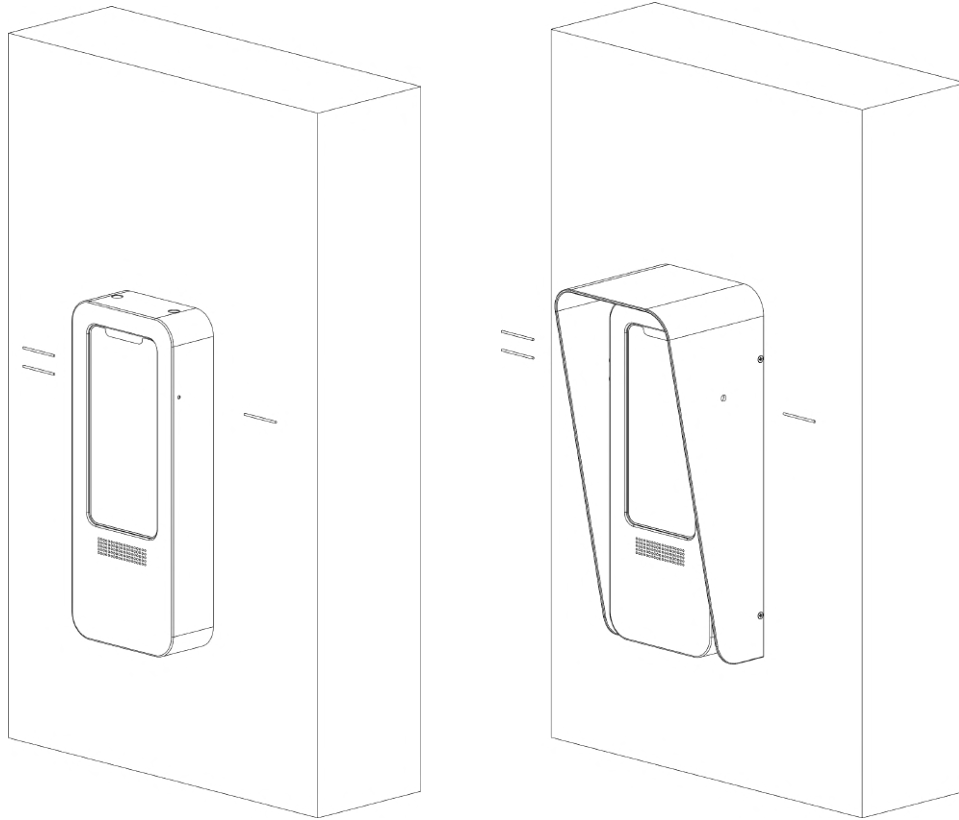
Force restart iPhone X, iPhone XS, iPhone XR, iPhone 11, or iPhone 12

Press and quickly release the volume up button, press and quickly release the volume down button, then press and hold the side button. When the Apple logo appears, release the button.



If you have the SwiftReader latest enclosure, you will have pins included in your hardware order that will allow you to do the hard reset by pressing on the pins that are located on the sides of the enclosures. You will perform the above steps but by pressing on the pins on the outside of the enclosure. This assists without taking the iPhone out of the enclosure. See images below for pin placement.





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

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.

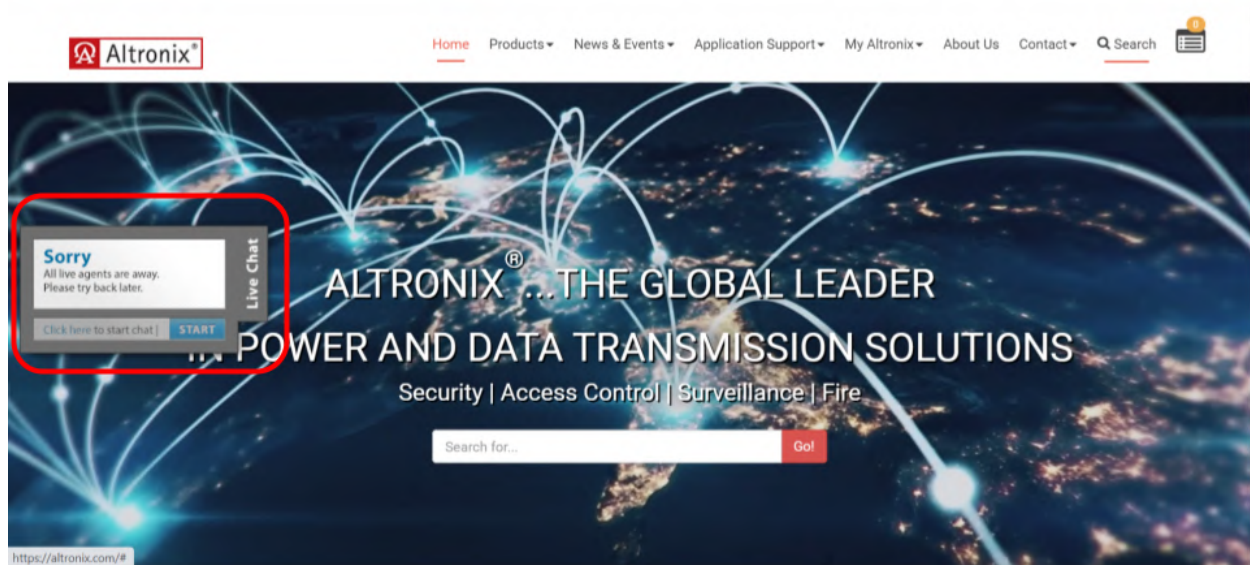
Here is Altronix contact information:

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 as well 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.

