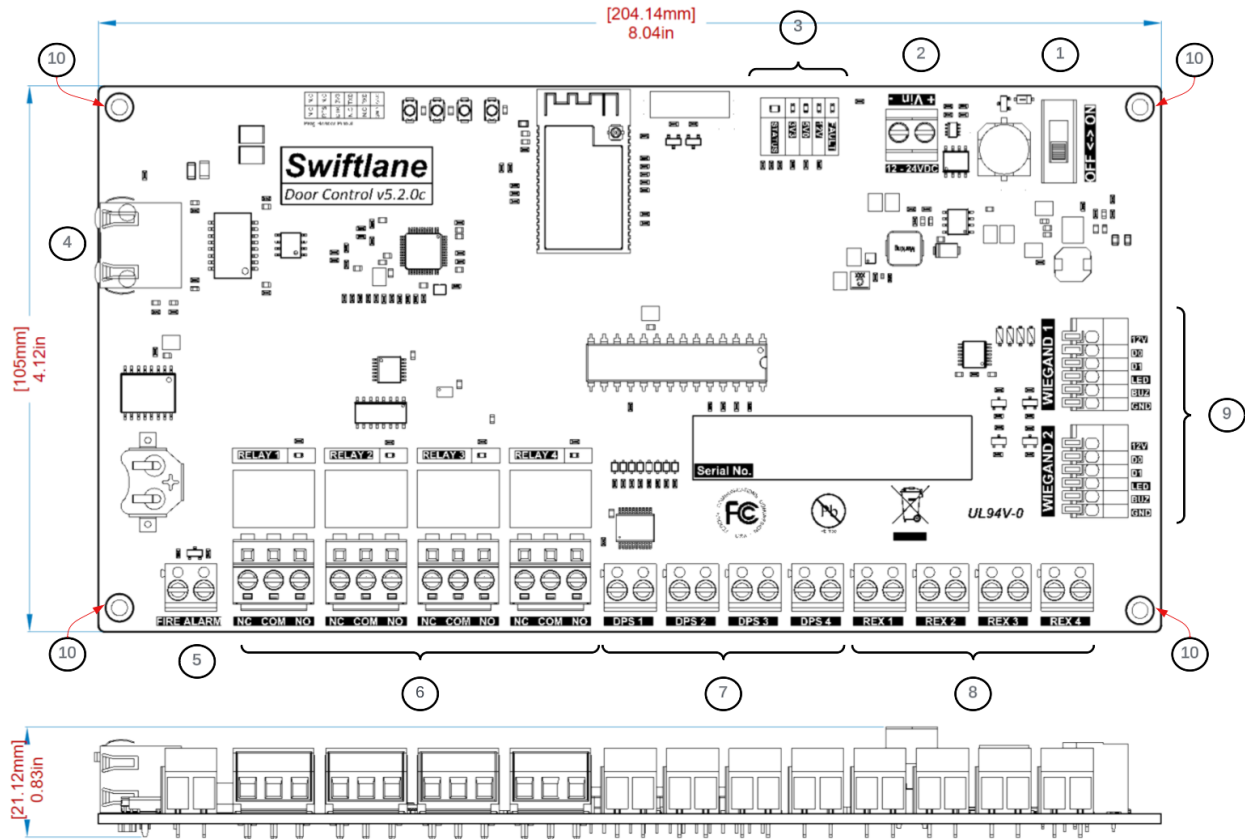


1.DCU v5.2.0c Specifications

1.1.Overview



1. Power Switch
2. Input Voltage Terminal
3. Device Status LEDs
4. Ethernet Port
5. Fire Alarm Input (Dry Contact Only)
6. Relay Outputs (Dry)
7. DPS Inputs (Dry)
8. REX Inputs (Dry)
9. Wiegand Terminals
10. Mounting Holes (M3)

2.Electrical Characteristics

Operating Voltage	12-24 VDC
Current Requirement	0.2 A Average Current with No card readers connected. 0.6 A Average Current with card readers connected. 1.2 A Maximum current when using high power readers (e.g. Spectre Nano).
Output voltage (Wiegand Terminals)	12 VDC
Max Output Current (Wiegand Terminals)	1 A (combined)
Relay Rating	5A at 30 VDC 5A at 125 VAC
Operating Temperature	22 °F to 140 °F
Humidity	10-90%

3.Wire Recommendations

	AWG	Twister Pair?	Conductor s	Shielded ?	Max Length
Power (22 gauge)	22	No	2	No	300 ft.
Power (18 gauge)	18	No	2	No	250 ft.
RJ45-Ethernet	N/A	Yes	Cat5	No	328 ft.
REX	22/18	No	No	2	500 ft.
DPS (Door Contact)	22/18	No	No	2	500 ft.
Wiegand Option 1 (22 AWG)	22	No	6	Yes	250 ft.
Wiegand Option 2 (20 AWG)	20	No	6	Yes	300 ft.
Wiegand Option 3 (18 AWG)	22	No	6	Yes	400 ft.

4.Mounting the DCU

The DCU should be mounted in a secure cabinet to ensure that it is not affected by environmental disturbances. Swiftlane can provide pre-configured cabinets with all the required components mounted in it. If you are using your own cabinet/chassis please make sure that the DCU is mounted properly to avoid any issues.

Here is general checklist for mounting the DCU:

- Make sure that the chassis/cabinet is mounted firmly on the wall.
- Make sure that the chassis/cabinet door can swing open easily to allow the installer free access after installation is complete.
- Ensure that the chassis is properly grounded.
- Ensure that the backside of the DCU is at a distance from the chassis, otherwise the DCU board can have a short circuit.
 - If mounting on a metallic chassis, use the magnetic mounts provided by Swiftlane.
- Ensure that the DCU is at a distance of no more than 300 ft. from the DC Power supply.

5.Powering Up and Testing the DCU

Note for installers: It is recommended that you power and test the board at your location before you start the installation to avoid unnecessary issues.

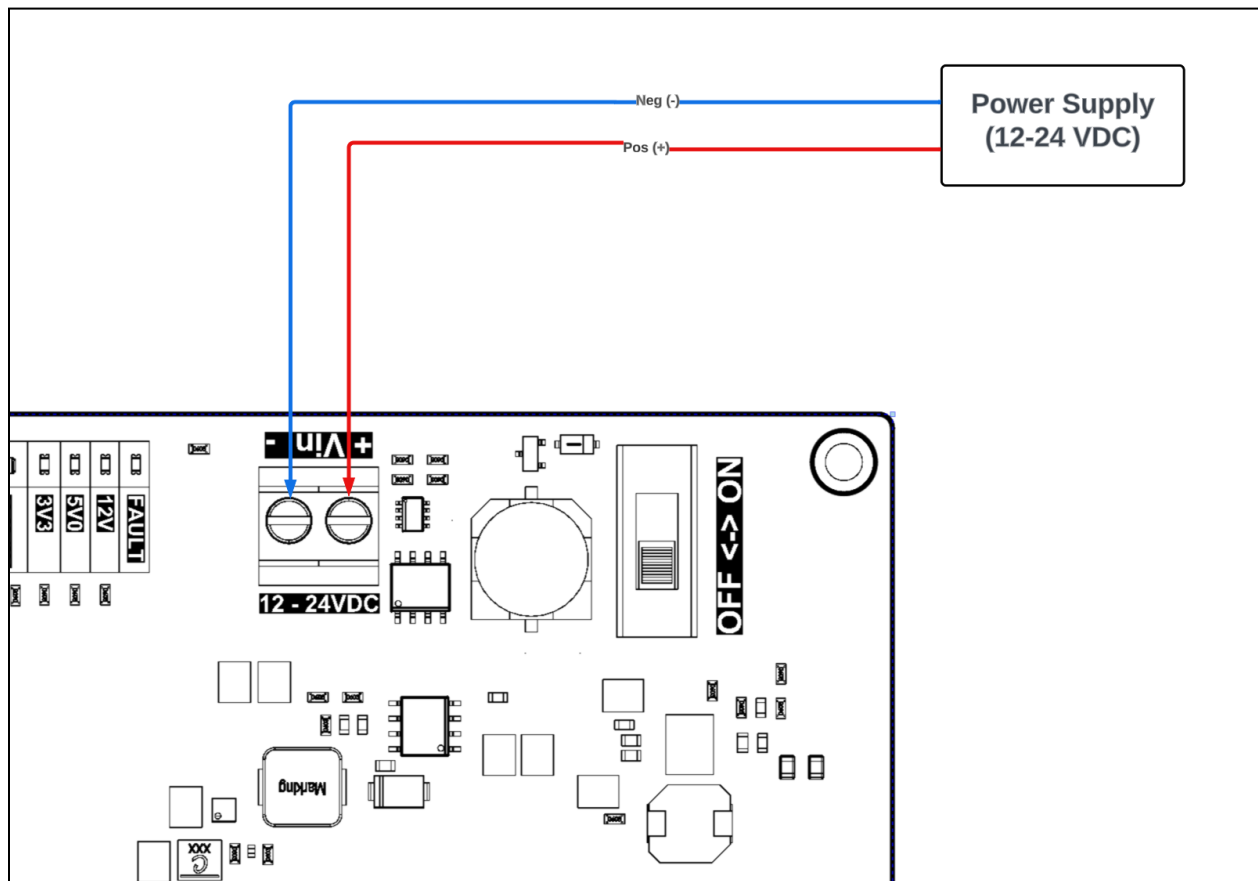
5.1.Power Precaution

Before powering the DCU make sure:

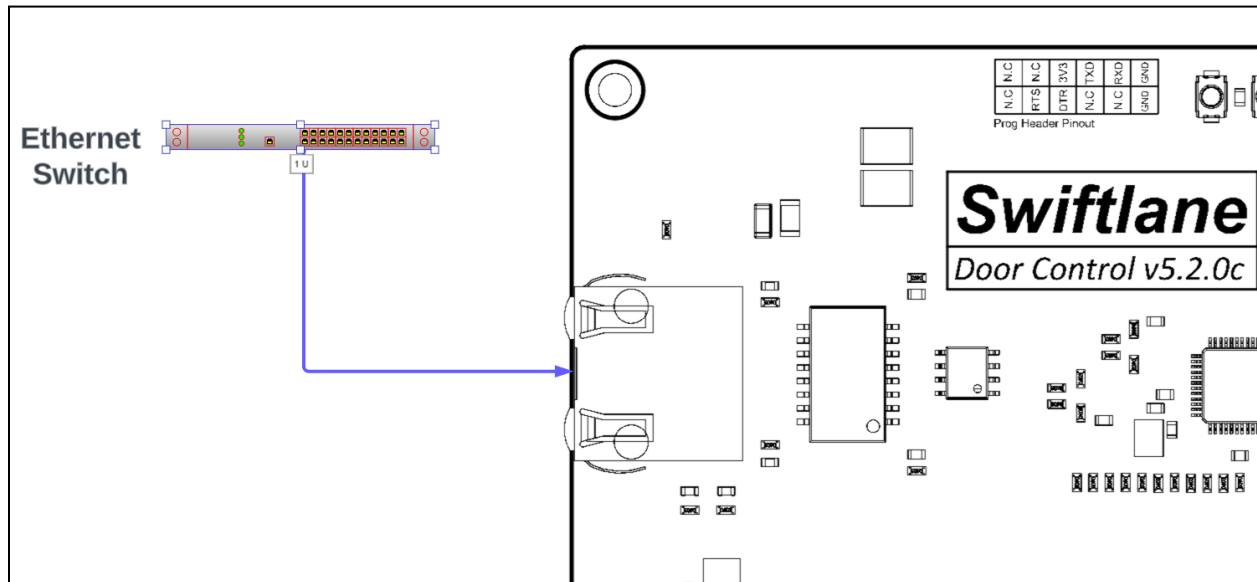
- The power supply or power adapter is not plugged into the power 120 VAC outlet.
- The power supply meets the voltage and current requirements.

5.2.Wiring DC Power supply to the DCU.

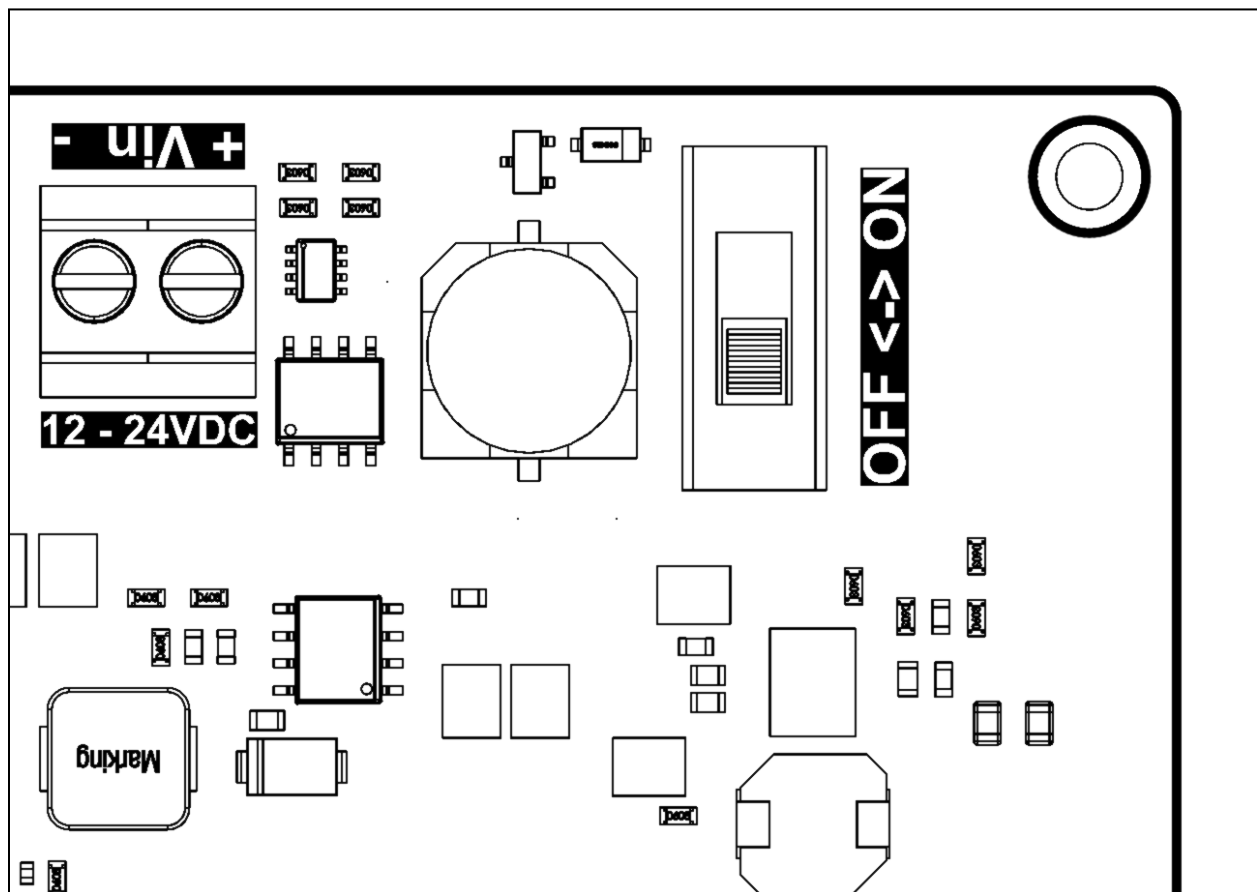
5.2.1.Connect the power supply's positive and negative terminals to the "Input Voltage Terminal" of the DCU as shown.



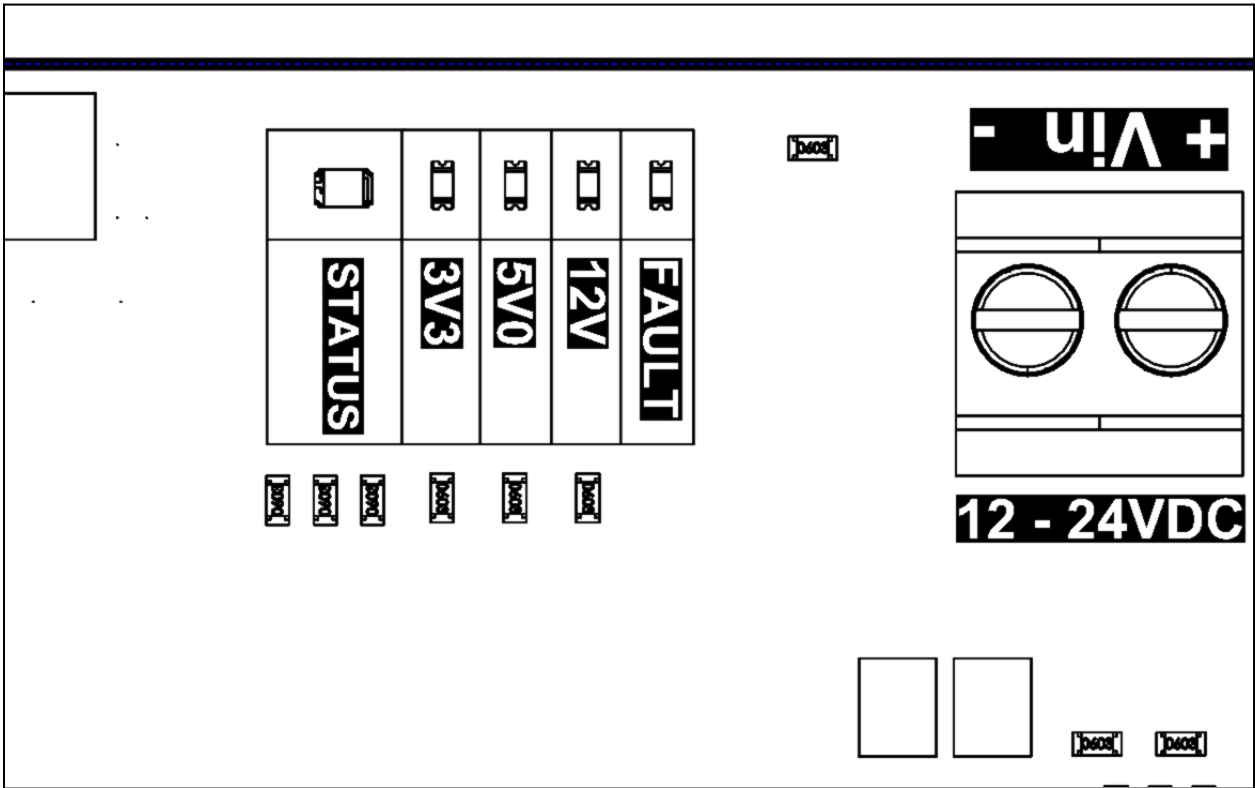
5.2.2. Connect the Ethernet cable to DCU. Please make sure that the ethernet cable is coming from an internet connected source.



5.2.3. Connect the power supply to the AC voltage and turn on the power switch on the board (labeled "1") in the first diagram.



5.2.4. Inspect the LED cluster. Follow the following steps in a sequence, as each LED is dependent on the other.

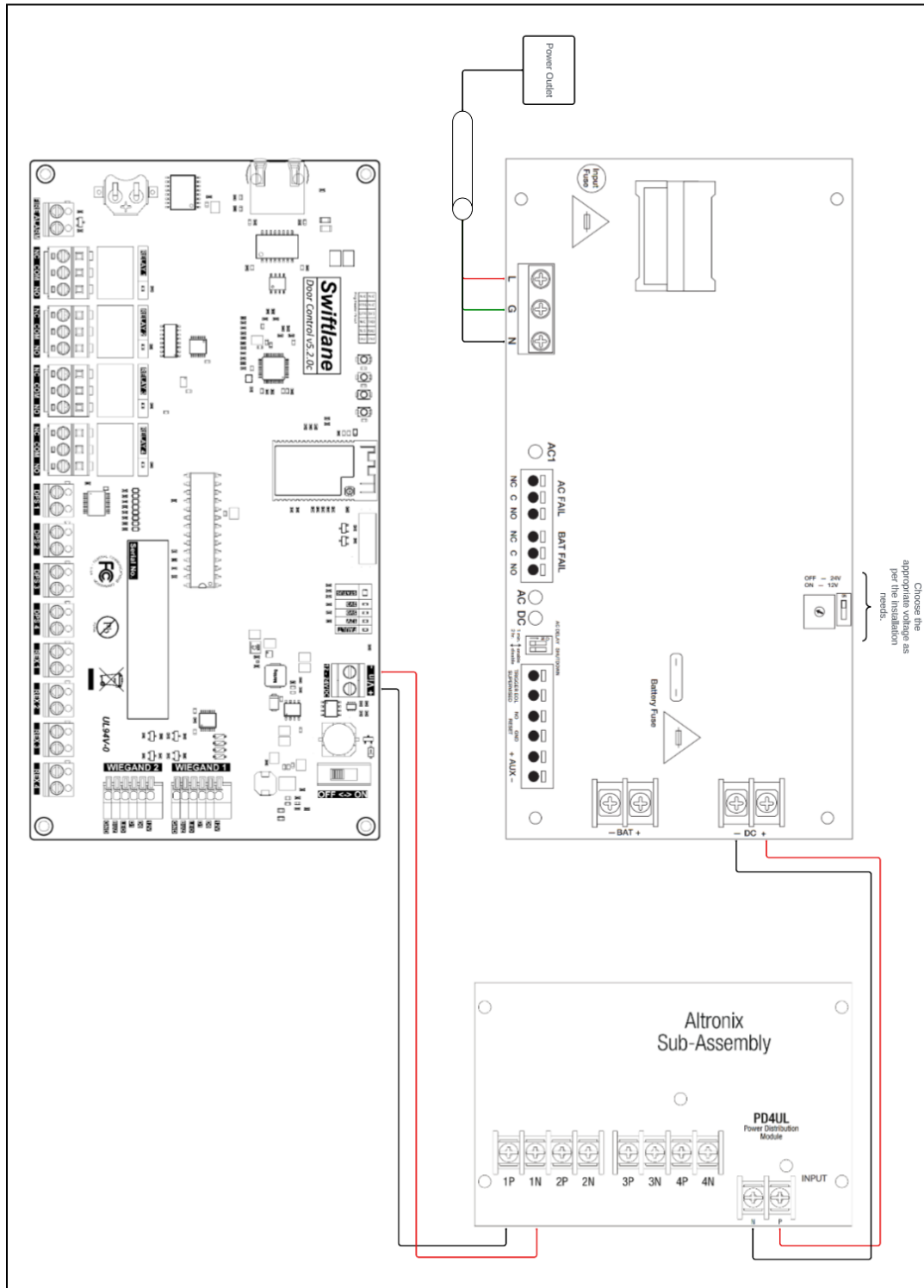


- 5.2.4.1. Ensure that the FAULT LED is not lighting up. If it is, look at the section “Common Issues” to see what might be causing the problem.
- 5.2.4.2. Ensure that the “12V0” LED is on, this shows that the 12V rail on the DCU is working.
- 5.2.4.3. Ensure that the “5V0” LED is on, this shows that the 5V rail on the DCU is working.
- 5.2.4.4. Ensure that the “3V3” LED is on, this shows that the 3.3V rail on the DCU is working.
- 5.2.4.5. Check the pattern of the status LED.

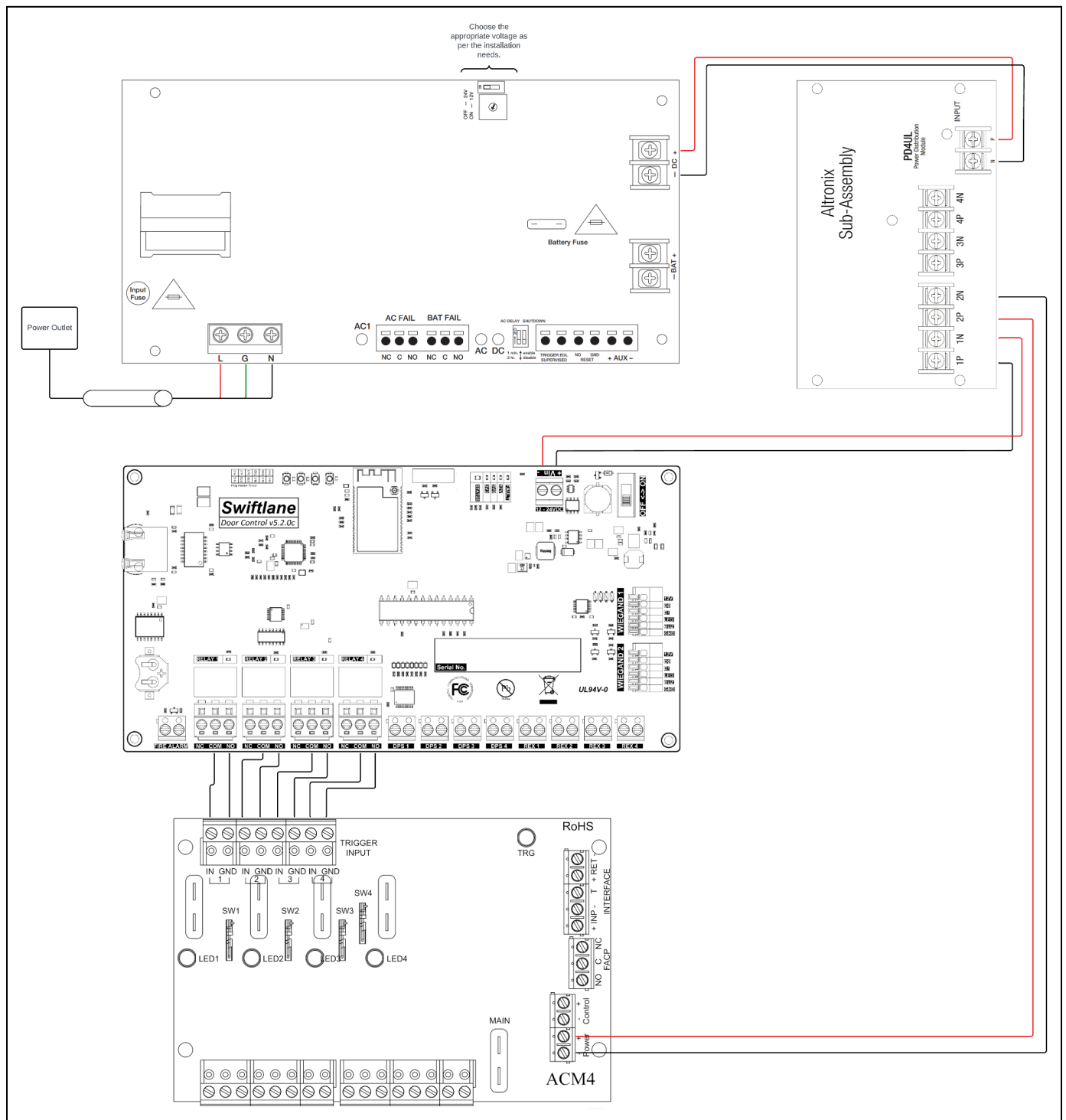
Color	Pattern	Status
Blue	Fast Blinking	Trying to connect to network
Blue	Solid	Connected to the network
Green	Solid	Connected to Swiftlane servers
Yellow	Fast Blinking	Firmware update in progress
Purple	Slow Blinking	Lost connection to Swiftlane servers, reconnecting.
Red	Slow Blinking	General System Error

6.Wiring Examples

6.1.Wiring DCU to Altronix Power Supply (eFflow) with PD4 board.



6.2.Wiring DCU to Altronix Power Supply (eFflow), PD4 and ACM4 Board

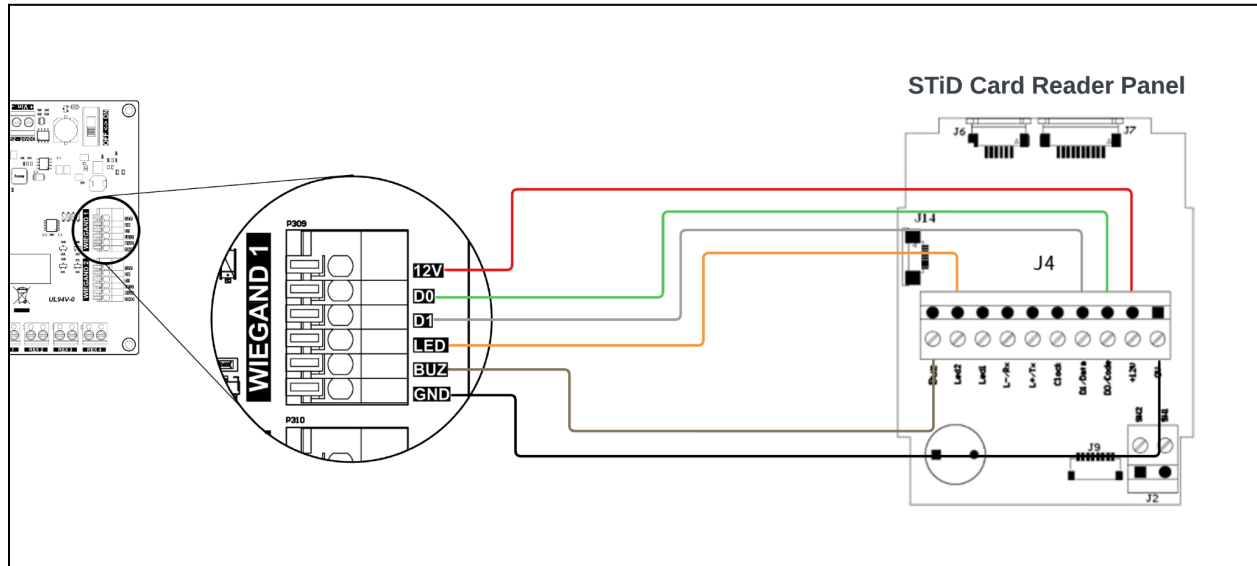


6.3.Connecting DCU to STiD Architect Card Readers

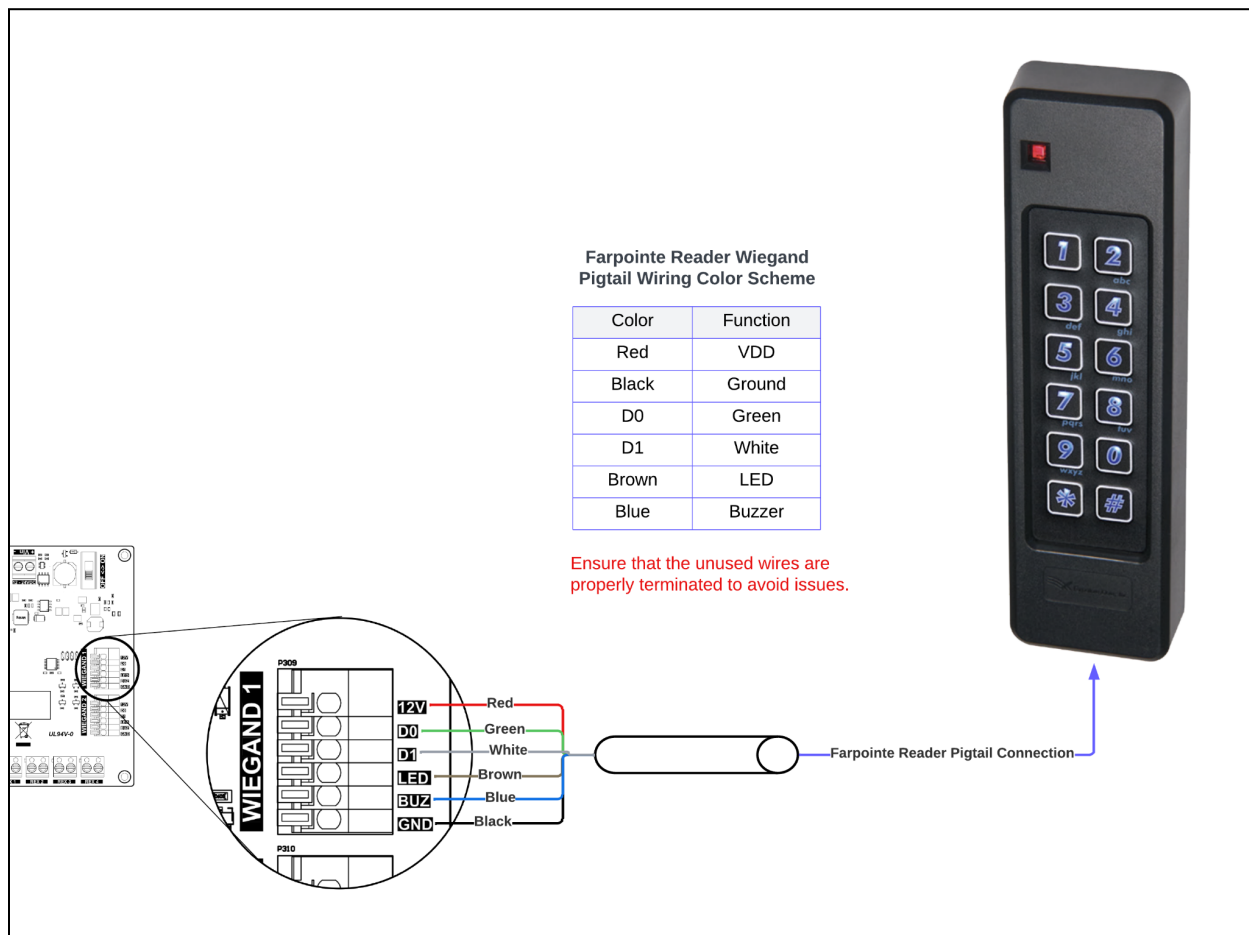
Resources:

[STiD Architect Reader - Install Manual](#)

[STiD Architect Reader - Dimensions](#)



6.4.Connecting DCU to Farpointe Card Readers



6.4.1.Configuring Farpointe Readers (only keypad) with 8-bit burst mode.

This procedure is only applicable if the reader is previously in 26 bit Wiegand mode.

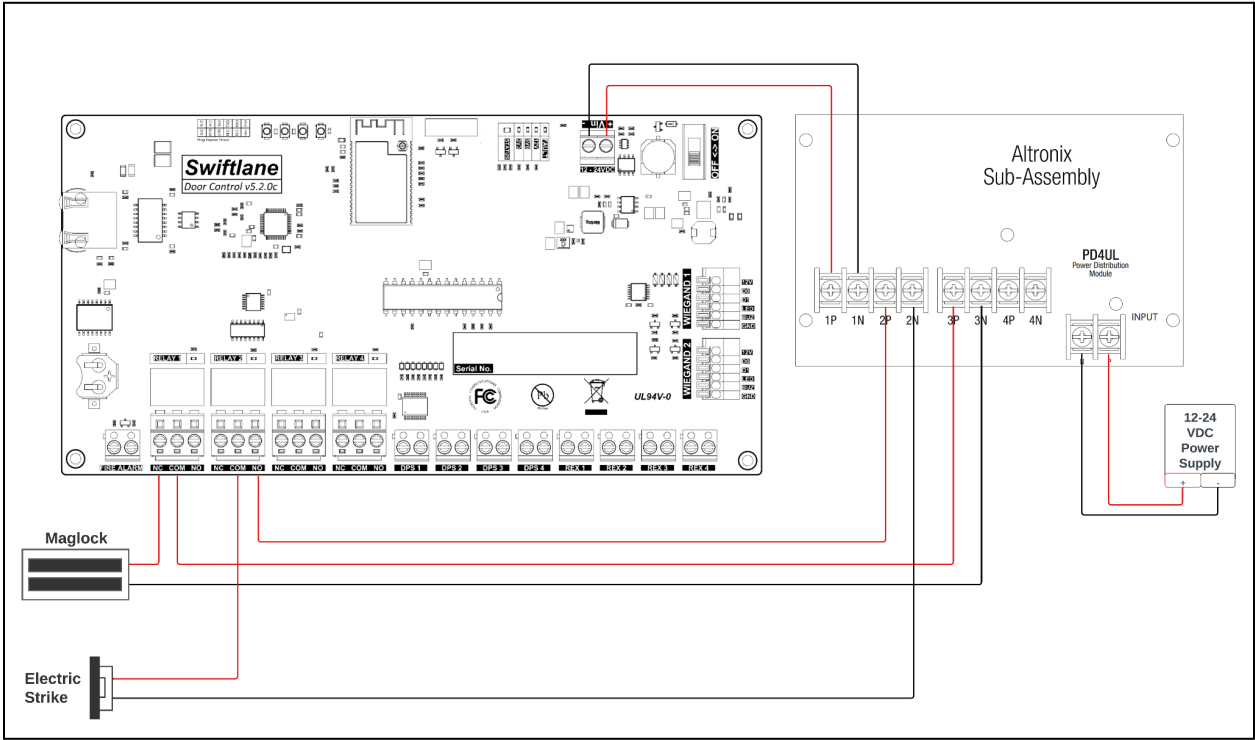
6.4.1.1.Power cycle the reader.

6.4.1.2.Present the Wiegand Keypad Data Mode control card to the reader (beeps four times). This ships in the box with the card reader

6.4.1.3.Press the “#” key (reader beeps four times to indicate success).

6.4.1.4.Press “*” key (should beep once to indicate 8-Bit Burst is enabled).

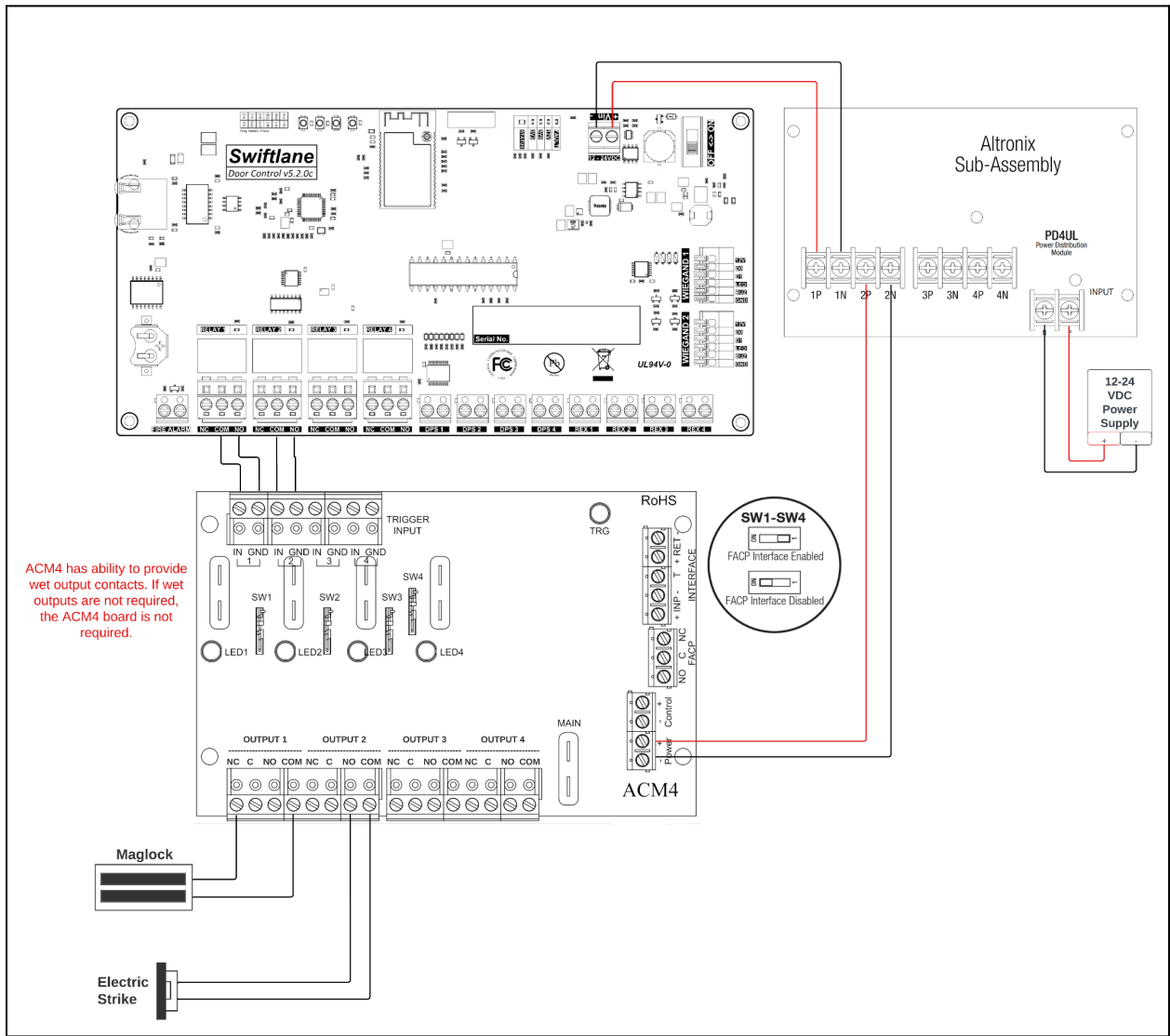
6.5.Connecting DCU to locks using PD4UL boards from Altronix



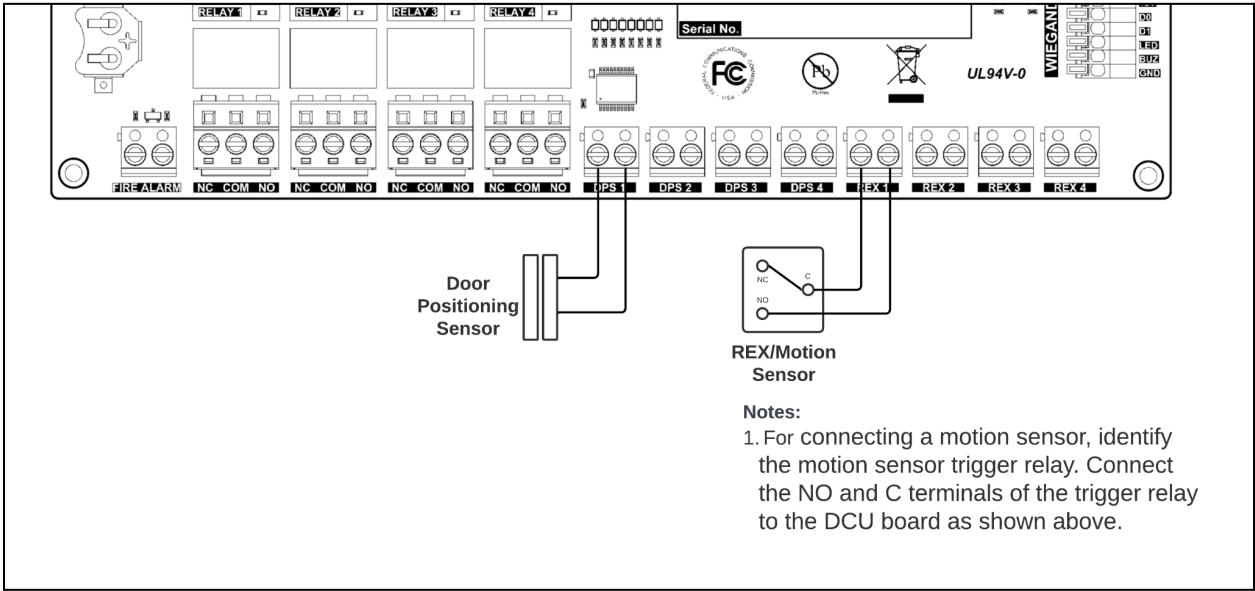
6.6.Connecting DCU to locks using PD4UL and ACM4 board from Altronix

Resources

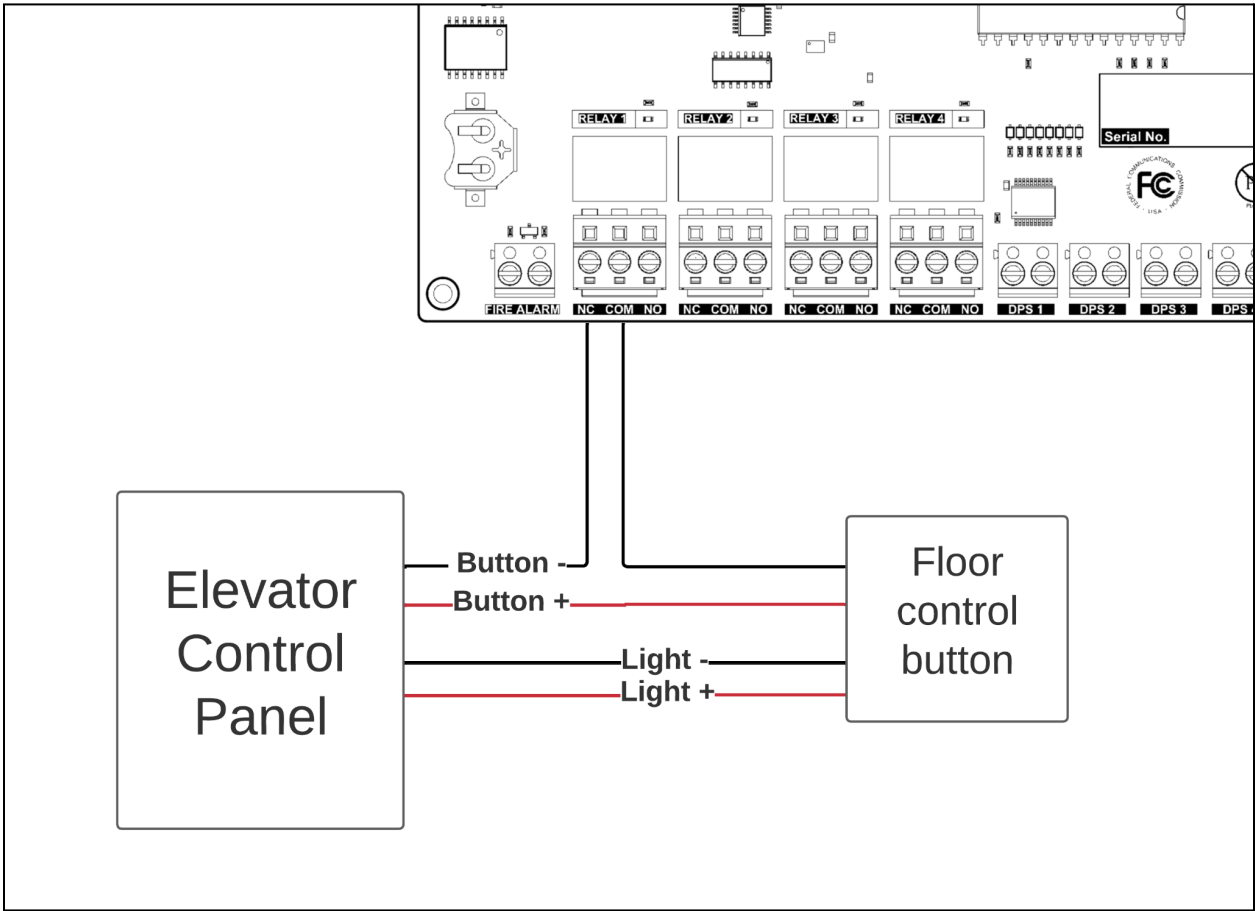
[ACM4 Install Manual](#)



6.7.Connecting DCU to Request to Exit (REX) and Door Positioning Sensor (DPS)



6.8.Connecting DCU to Elevator Control Panel

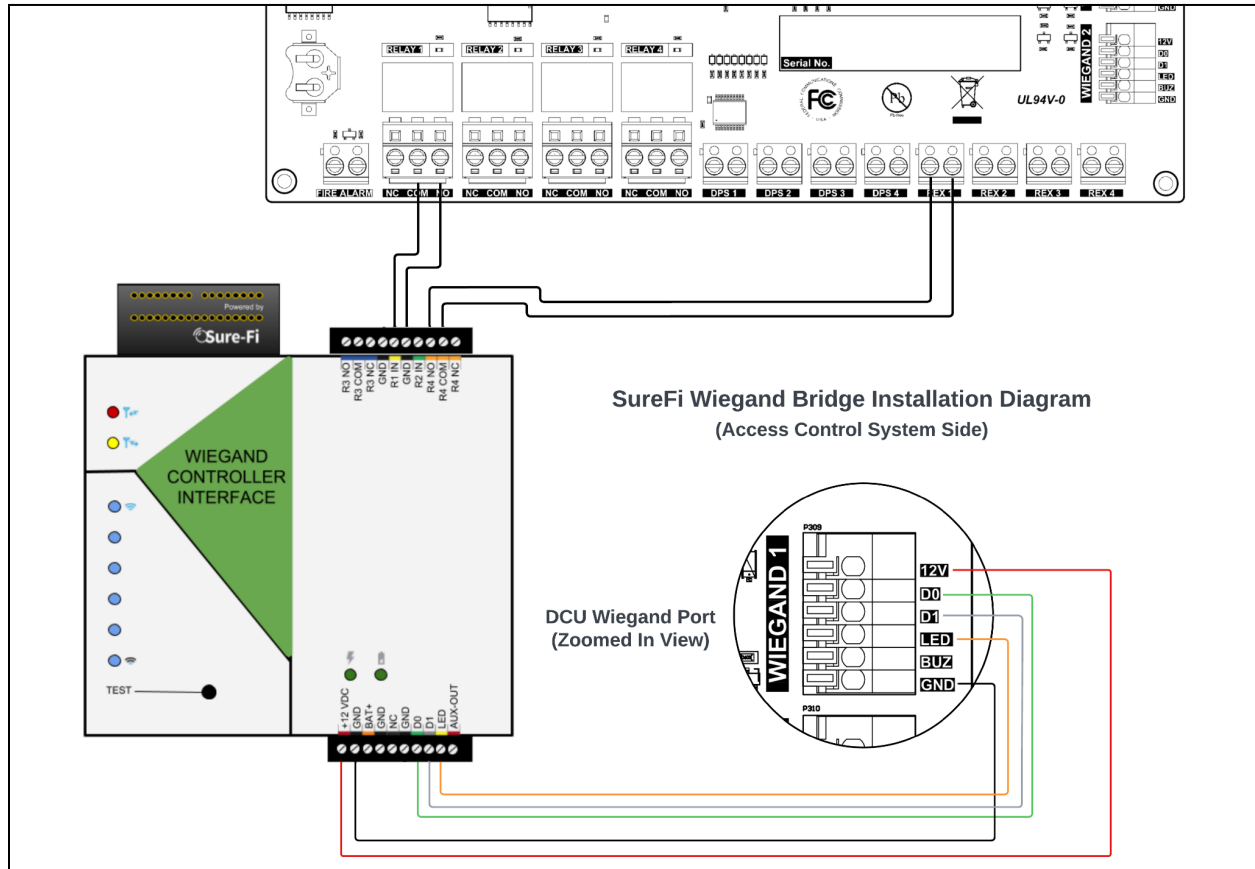


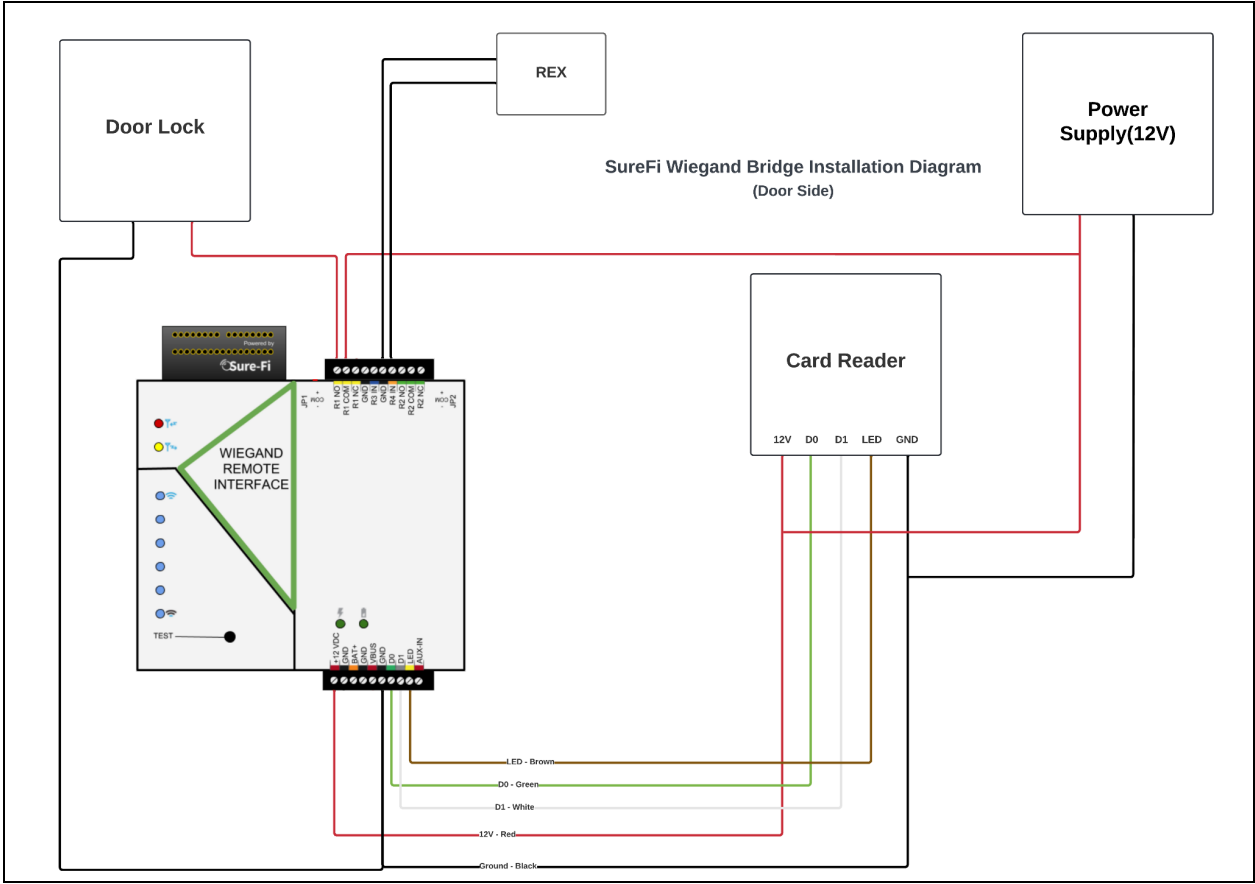
7.Installation Configurations

7.1.Installing a DCU board with a SureFi Wiegand Wireless Bridge

Resources

[SureFi Install Manual](#)





8.DCU Common Issues

8.1.Power Issues

DCU is not turning on.

- Check that the power supply is turned on. Ensure that you are using a DC power supply.
DO NOT CONNECT DCU TO AC POWER SUPPLY AS IT CAN CAUSE IRREPARABLE DAMAGE TO DEVICE.
- Check if the Switch (labeled 1 in Overview Section) is turned on.
- Check that the DCU Fault light is off.
- If the power supply has any fuses, ensure that the fuses are not blown.
- Check using a voltmeter that the DCU is getting the appropriate voltage (12-24 V DC) at the input voltage terminal (labeled 2 in Overview Section).
- Ensure that the power supply is capable of providing at least 0.2 A @ 12V (or 1.2A) if readers are connected to DCU.
- If multiple things are connected to the power supply, ensure that the entire system is within the power budget of the power supply.

Fault light is turned “ON” the DCU.

- Check if the polarity of the wires is correct on the DCU input voltage terminal.
- Check if the power supply is providing adequate voltage. Ideal range is between 12-24V. DCU has under-voltage and over-voltage protection, which can turn on the Fault light if the voltage is less than 10.8V or higher than 26.8V.

3V3, 5V0 or 12V0 LED is turned off.

- If either of the LEDs mentioned above are turned off, then it is possible that you have a faulty board. Revisit the section “Powering up and Testing the DCU”, if this doesn’t resolve the problem, contact Swiftlane and request a replacement DCU board.

Wiegand Readers are not getting powered up.

- If the readers are being powered via the Wiegand port of the DCU, ensure that the reader is getting sufficient voltage (12V DC) at the reader input voltage terminal.
- Verify the reader’s required voltage and current rating. DCU can supply a maximum of 1A current (combined) through the 2 Wiegand ports. If your reader requires a higher current, try powering the reader with a separate power supply.
- Ensure that the distance between the readers and the DCU is not greater than the distance mentioned in the “Wire Recommendations” section.

8.2.Network Issues

Unlock requests return “Unlock Action Failed”

Check if DCU is powered on connected to the Swiftlane servers. To check if the DCU is powered on and connected to Swiftlane servers check the section “Powering up and Testing the DCU”.

DCU is not connecting to the local network (status LED never turns solid blue)

- Check if the ethernet switch is turned on.
- Consult with the IT department to check if a managed switch is being used and the port connected to the DCU is active.
- Consult with the IT department to check if the host’s network supports DHCP.

- Consult with the IT department to check if there are enough available IP addresses in the DHCP pool.
- Try replacing the ethernet patch cable connecting DCU to the ethernet switch.

DCU is connecting to local network (solid blue LED) but not connecting to Swiftlane servers

- Ensure that the switch is connected to the internet.
- Check with the IT department of the install location to see if the DCU needs to be whitelisted for accessing the internet.
- Consult with the IT department to see if there are any firewall restrictions in place.
- Try replacing the ethernet patch cable connecting DCU to the ethernet switch.

DCU is dropping Internet connection Intermittently

- Check if the host internet connection is working fine.
- Try replacing the ethernet patch cable connecting DCU to the ethernet switch.

8.3.Card/Vehicle Reader Issues

Reader sending getting faulty/invalid or random keycard/pins

- If you are using a SureFi Wiegand Wireless Bridge, please review section “Installing a DCU board with a SureFi Wiegand Wireless Bridge” and validate the connections.
- If the reader is using a separate power supply, ensure that the reader ground is connected to the ground on the Wiegand terminal on the DCU.
- Try connecting the reader directly to the DCU port. If the issue goes away it is possible that the cable used to connect the DCU to the reader is faulty.
- If the issue doesn't go away after connecting the DCU to the reader it is possible that either the DCU or the reader is faulty.
 - Try changing the reader from one Wiegand port to another and see if it resolves the issues. If it does, then it is possible that you have a faulty Wiegand port on the DCU.
 - Try connecting the reader to different DCU, if the issue goes away it is an indication that the Wiegand port on the DCU is faulty.