

NOVA  FLEX[®]

INSTALLATION GUIDE

LED STRIP LIGHT, NEON & CHANNEL



Want to see how to install these products?

Go to **YouTube** and type in Nova Flex LED to watch our quick installation videos.

ATTENTION: This product should be installed by a professional licensed electrician.

1. TURN POWER OFF AT CIRCUIT BREAKER

SHOCK HAZARD! Turn power OFF at circuit breaker prior to installation to avoid serious injury or death.

2. VERIFY PRODUCT IS CORRECT

Pre-light using the wiring diagrams in this guide to ensure Kelvin temperature (color) is correct. **DO NOT connect max runs yet.**

3. DETERMINE LOCATION TO INSTALL

Dry-fit the lights to the desired location BEFORE removing the adhesive backing (for strip light). Refer to the **CONFIGURATION GUIDE** for a list of products and zone locations.

4. PREP SURFACE PRIOR TO INSTALLING STRIP LIGHT

To ensure lasting bond, use the provided alcohol wipe to prep the surface (wall, channel, etc). For slippery surfaces, pre-sand the area before installing the lights or use the 3M Primer 94.

5. MOUNT THE STRIP LIGHT

Once fit is confirmed, begin peeling the backing and gently press the strip light into place, slowly working your way towards the end. This process will make it easier to handle the strip light, especially in longer runs. In channel, center the strip light starting 1/8" away from the end cap with the hole.

NOTE: Adhesive **MUST BE REMOVED** for proper heat dissipation. Do not let the LEDs hang when installing, as this could add stress to the solder connections.

IF INSTALLING IN CHANNEL

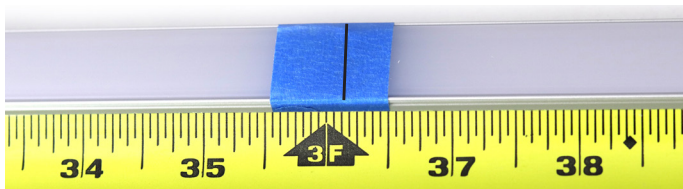
Skip to step #9 for NEON

6. CUT THE CHANNEL FOR STRIP LIGHT

To determine the cut length, place the LED strip light beside the channel, add 1" for the Lead Lock Heat Shrink. Snap the lens and end cap into place and secure with masking tape at the cut mark to protect the lens from cracking. *If installing Surface 1707 or 1919: After cutting channel, remove lens and measure 0.39" from end and cut just the lens to account for the end caps.*

For bendable channel, see step 7g.

Cut using metal rated saw blade. If needed, use a metal file to smooth the edges and wipe away any slivers of metal or plastic to insure a clean install.



7. MOUNT STRIP LIGHT IN CHANNEL

a. Channel without Clips

Install channel directly to the surface with the provided screws. You will need to pre-drill the holes before installation or use self-tapping screws when installing onto metal.

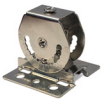
b. Channel with Clips

Screw clips to the surface at the beginning and end of each section and then about every 1.5 ft in between. For certain channels, you can utilize the clips to connect channel (see diagram).



c. Universal Clips

Attach the provided channel clips to the Universal Clips. Then install at least four clips for every 2M of channel, to the surface with screws. Snap your channel into the clips and secure the channel by pinching the clips around the channel.



d. Mud-In Channel

Prep the wall by measuring the channel width and cutting into the drywall. Then, slide the channel in the wall, with the wings resting on the drywall. (Optional: Secure the channel in place by using screws in the mud-in holes.) Then, mud over the wings to secure the channel.

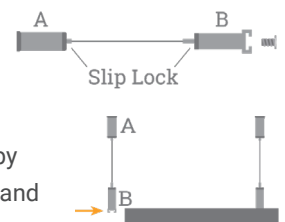
e. Channel with Magnets & Connectors

Slide the round magnets into the bottom of the channel. Plan to place 4 magnets for every 2M of channel. Then simply place it onto a magnetic surface.

To connect channel for longer runs, slide half of the connector into the bottom of the channel and secure using the screw. Slide the second piece of channel up against the other piece of channel and secure with a screw.

f. Suspended Channel

Unscrew Part B to remove the hexagon screw, then put the recessed clip on top and screw back together. Install it to the ceiling by unscrewing Part A and taking the cap and screwing it into place with the long screw provided. Install 3 suspension kits for every 2M.



Once the cables are in place and hanging from the ceiling, slide the recessed clips on Part B into the top of the channel.

g. Bendable Channel

First you must prep the channel for bending, start by marking the center and then 1 foot on each side, if bending symmetrically. Use your bending tool, not bending past the bend radius, which can cause buckling or denting. For best results, bend about 4 degrees at a time and roll 6-12" beyond on each side of the center bend. The longer the roll, the less chance of any indentation on the channel.

Note: 3916 should not be bent more than 38 degrees and 1806 should not be bent more than 25 degrees

Once the channel is bent to the desired shape, measure and mark where to cut, using metal rated saw blade. Use metal file to smooth edges as needed. Then slide the lens into the channel to determine the length to cut. Use tape (as seen in step #6) to prevent the lens from cracking.

h. Channeless Lens

With Adhesive Backing: Once the LEDs are installed, install the lens by removing the adhesive backing and pressing it into place, starting from one end and working your way to the other.

With Screws (optional): Use the screws provided to secure the channeless lens into place.

8. INSTALL LENS

Once the strip light is in place, install the lens by pressing it into place, starting from one end and working your way to the other, then snap the solid end cap onto the open end.

IF INSTALLING NEON

9. CUT THE CHANNEL FOR NEON

Measure the length of the neon and subtract 3.62" to allow room for the end caps (subtract 3.15" for aqueous neon). Then measure the length of the channel and mark on the channel where you plan to cut.

Cut using a metal rated saw blade. If cut is rough, use a metal file to smooth the edges. Clean any remaining slivers of metal to insure a clean install.

10. MOUNT NEON IN CHANNEL OR WITH CLIPS

Install channel or clips directly to the surface with screws. You will need to pre-drill the holes before installation or use self-tapping screws when installing onto metal.

Then gently press neon into the channel/clip, where it will lock into place with the clamps. If you need to remove the neon, use a pliers to gently pinch the clamps to pull the neon out.

For Aqueous Neon: Install channel directly to the surface with screws (required). You will need to pre-drill the holes before installation or cement screws when installing into cement. Can be installed up to 6 feet below water surface. Note: Power supply needs to be mounted a MINIMUM of 12.33 feet from water source.

AFTER INSTALL IS COMPLETE

11. TURN POWER ON AT CIRCUIT BREAKER

Once your strip light or neon is connected, turn the power on at the circuit breaker.

12. CONTROL YOUR STRIP LIGHT OR NEON

If using a controller, refer to the corresponding control instructions for installation and set up.

Do not attempt to make sharp bends. Excessive or exaggerated bending and twisting can damage the circuit.

NOTE: IP65 is water resistant & IP68 is protected against water; power supply is NOT. Cutting Strip Light or Neon in the field may void the UL Certification and Warranty.



THANK YOU, WE APPRECIATE YOUR BUSINESS!

TROUBLESHOOTING: THE LIGHTS...

AREN'T ILLUMINATING THE RIGHT COLOR

To properly address this problem, we'll need to see what you are seeing. Take some pictures of the wiring installation where input and output connections meet and be prepared to e-mail them to us at customerservice@novaflexled.com. Please also have your SO number available, which can be located on the white label of the LED strip light.

Please note if you are seeing color variations, this could be due to color reflection from surrounding surfaces.



ARE DIM

It is important to make sure that the project is not too far away from the power supply. Please reference our [Voltage Drop Chart](#) to assist in determining the proper gauge wire for your project if needing to run over 15 ft. The voltage that the LEDs need is low and can diminish over distance due to voltage drop. Refer to the Bill of Material to make sure you are using the proper light/power combination.

- If you are a licensed electrician and have a voltmeter, inspect the current going through the power supply using appropriate safety measures.
- If you are using a dimmer, make sure the dial on the dimmer is set to the brightest setting.

ARE NOT TURNING ON

The first thing we recommend in this situation is to verify that the lights are hooked up correctly and the polarity is correct. We always indicate our wires by industry standard red=positive and black=negative. If you have hooked up the lights backwards, don't worry - there are built-in safety measures in the lights. If current attempts to run backwards, the LEDs will not turn on.

- If you are a licensed electrician and have a voltmeter, inspect the current going through the power supply using appropriate safety measures.
- If you are using one of our 'quick connect' power supplies, be sure that the barrels are making a proper connection.
- If you are using the RGB strip light series, make sure that the connection has enough wire exposed on the leads going into the controller and they are all the way to the back of the terminals. If there is not enough wire, there won't be a good connection to turn on the lights.

ARE FLICKERING, PULSING AND/OR ODDLY PUTTING OUT LIGHT

If you are using a dimming power supply, make sure your system is wired to a compatible dimmer switch. Refer to our [Spec Sheets](#) for a list of compatible dimming switches. Confirm polarity of wiring, ensuring +/- are connected properly.

- If you are a licensed electrician and have a voltmeter, inspect the current going through the power supply using appropriate safety measures.
- Unplug the project and make sure that the solder connection is secure. Gently wiggle the solder points to make sure that the wires are not falling off of the project. Then plug the project back in and try again.
- If the distance between the power supply and lights is greater than 15 ft, there can be loss of wattage. This can cause flickering.

ARE NOT STICKING SECURELY

Wipe down the surface using the supplied alcohol wipe to ensure you have a clean surface. If you are still not seeing a desired outcome, we recommend applying some 3M Primer 94 to the surface or purchasing our Hard or Soft LED strip light clips. Our durable plastic clips are designed to make sure that the lighting is securely where you want it to be. The clips need to be nailed or screwed into the surface.

If your project has long straight edges with a surface that doesn't take to tape or if you want your project to have a diffused single light effect, we offer aluminum channel. We will supply you with screws and clips to apply to the surface. If none of these options are possible, there's always double-sided tape or silicone to consider.

ARE TOO HOT

If you're a licensed electrician and have a voltmeter, inspect the current going through your power supply using appropriate safety measures. There should be no more than 12 or 24V DC entering the ribbon. While the LED's produce very little heat, it is important to make sure that the ribbon is spaced for proper air movement. LED's have a max operating temp of 140° for IP65 and 175° for IP68.

ARE VERY HOT/MELTING

Turn off the lights and call us immediately at 1-800-595-6302. The lights are never supposed to do this.

If for any reason you are still having issues, please contact your distributor for support.

⚠️ NOVA FLEX LED, INC. WARNINGS AND WAIVER

- Any installation of this product should be completed by a professional licensed electrician pursuant to all applicable governing laws, ordinances, regulations, national and local electrical and building codes.
- This is an electronic product which is susceptible to damage if handled incorrectly. Improper soldering or modification may result in a voided warranty. Warranty cases will be made at Nova Flex's discretion based on multiple factors.
- Do not allow product to be punctured or penetrated by foreign objects; this can result in a short circuit.
- Do not connect product directly to a 120V AC power source. For best performance, do not load the DC power source more than 80% of its labeled rating.
- Any use of this product is entirely at your own risk. Failure to utilize and install this product in its proper manner could result in severe injury and/or property damage.
- Keep out of reach of children.

This product is provided by the manufacturer "as is" "with all faults" without any warranties or representations, express or implied, including, but not limited to the warranties of merchantability or fitness for a particular purpose. In no event shall manufacturer be liable for any special, incidental, punitive indirect or consequential damages of any kind. Manufacturer offers this product and the user accepts it subject to the foregoing conditions, which may only be modified in a writing signed by the manufacturer. See complete Terms & Conditions at novaflexled.com

VOLTAGE DROP CHART & WIRING DIAGRAMS

NOTE: Using the incorrect gauge wire can lead to issues such as flickering, light loss and altered color temp. The chart below shows an approximation of gauge wire needed for a 100W system. *20 gauge NOT used for neon. **View Spec Sheets for power supply compatibility.**

STATIC 24V RIBBON & NEON

| MATERIAL | CONDUCTOR # | AMPS | VOLTAGE | PHASE |
|----------|-------------|------|---------|-------|
| Copper | 2 | 4 | 24 | DC |

| WIRE GAUGE | MAX DISTANCE (FT) | VOLTAGE LOSS |
|------------|-------------------|--------------|
| 20* | 29 | 4.91% |
| 18 | 47 | 5.00% |
| 17 | 59 | 4.98% |
| 16 | 75 | 5.02% |
| 15 | 94 | 4.99% |
| 14 | 119 | 5.01% |
| 13 | 150 | 5.01% |
| 12 | 189 | 5.00% |
| 11 | 238 | 5.00% |
| 10 | 300 | 4.98% |

RGB 24V RIBBON & NEON

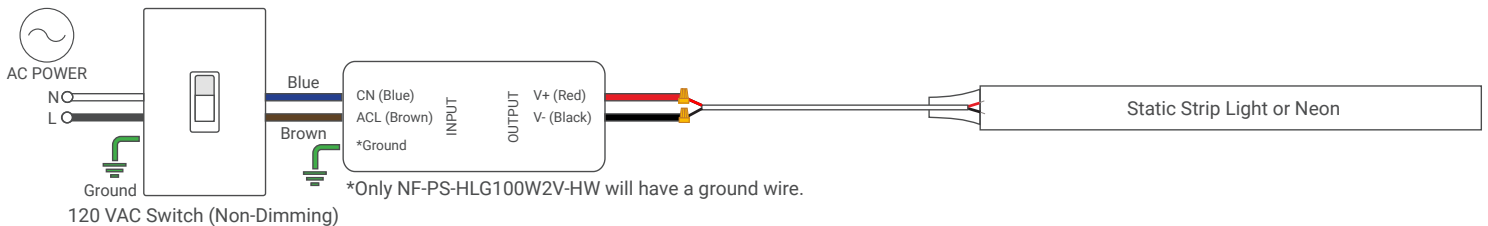
| MATERIAL | CONDUCTOR # | AMPS | VOLTAGE | PHASE |
|----------|-------------|------|---------|-------|
| Copper | 4 | 4 | 24 | DC |

| WIRE GAUGE | MAX DISTANCE (FT) | VOLTAGE LOSS |
|------------|-------------------|--------------|
| 20* | 59 | 4.99% |
| 18 | 86 | 4.52% |
| 17 | 115 | 4.85% |
| 16 | 150 | 5.02% |
| 15 | 185 | 4.91% |
| 14 | 230 | 4.84% |
| 13 | 285 | 4.76% |
| 12 | 360 | 4.76% |
| 11 | 445 | 4.67% |
| 10 | 550 | 4.58% |

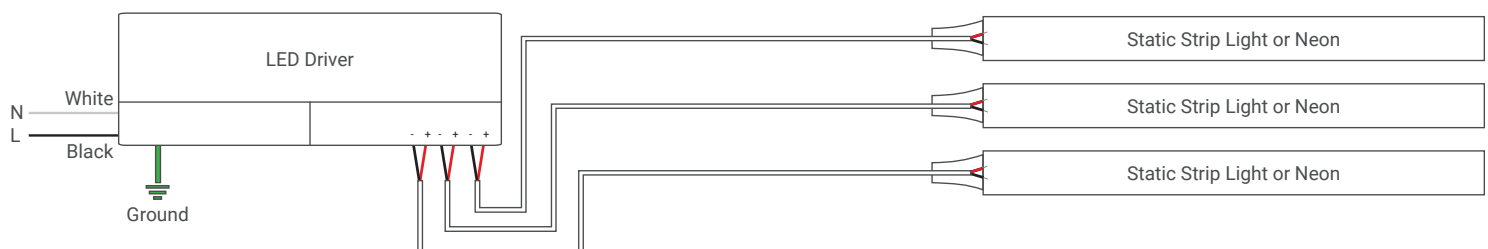
HARDWIRE, NON-DIMMING

Strip Light: 20 Gauge Wire | Neon: 18 Gauge Wire

Electronic Non-Dimming Driver

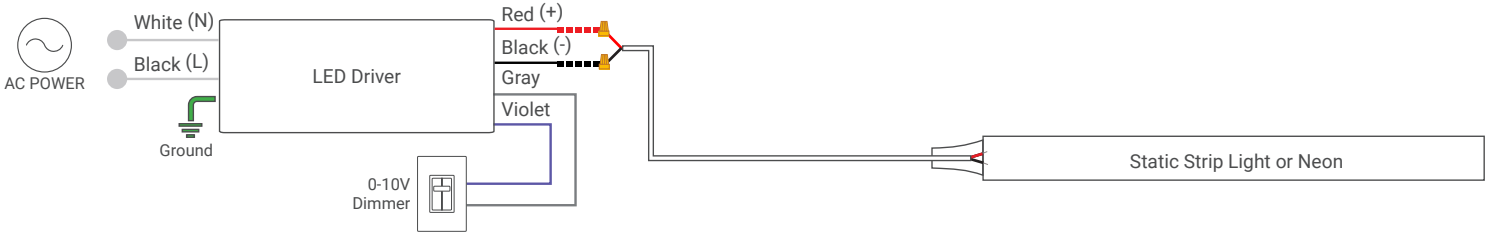


288W Multi-Channel Non-Dimming Driver

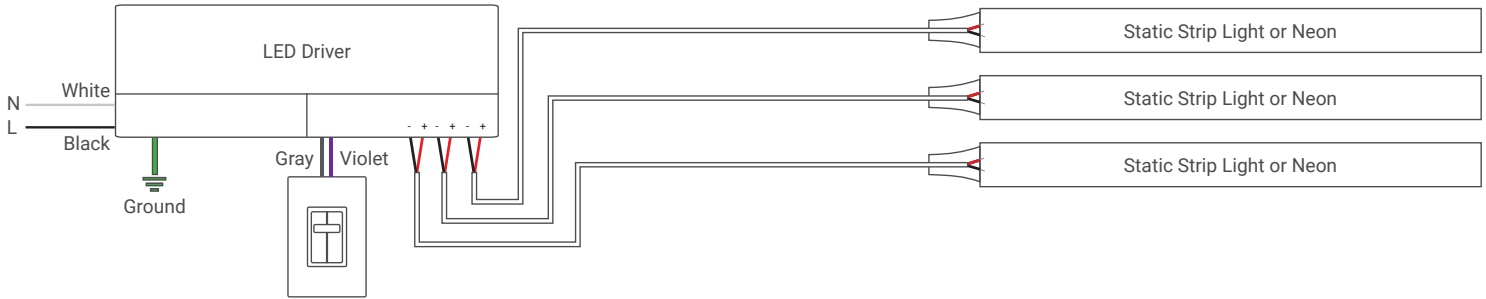


0-10V DIMMABLE with 0-10V dimmers; Strip Light: 20 Gauge Wire | Neon: 18 Gauge Wire

30W or 96W 0-10V Dimmable Driver

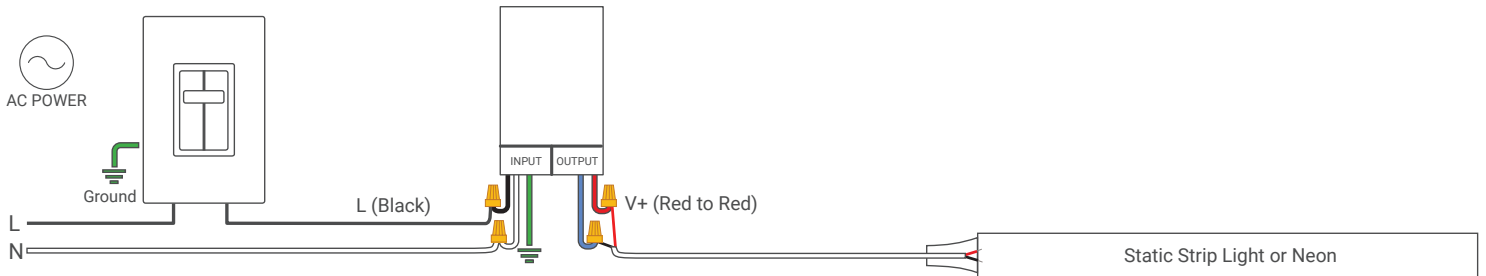


288W 0-10V Multi-Channel Dimmable Driver

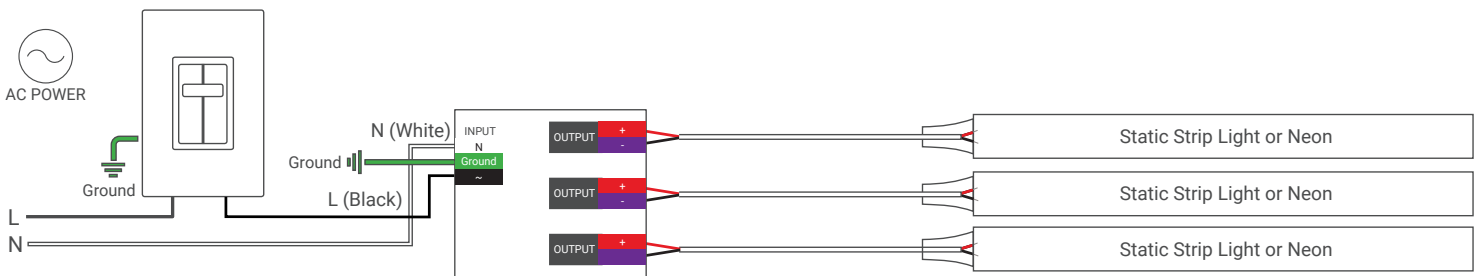


DIMMING Strip Light: 20 Gauge Wire | Neon: 18 Gauge Wire

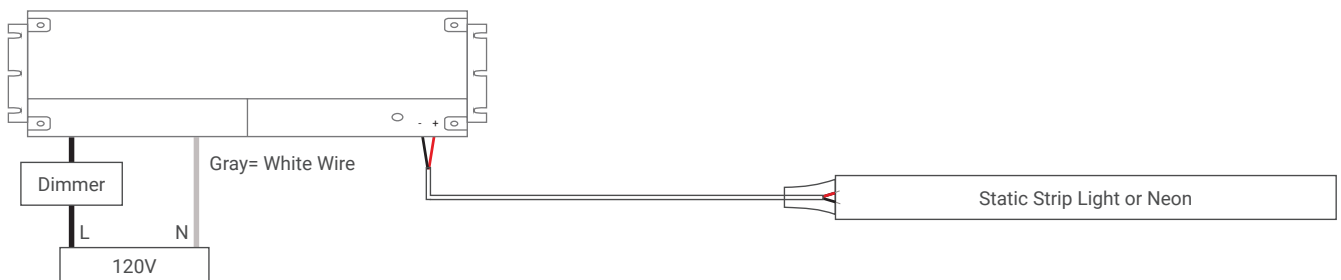
E-Series MLV Dimmable Driver



EZJ MLV Dimmable Driver

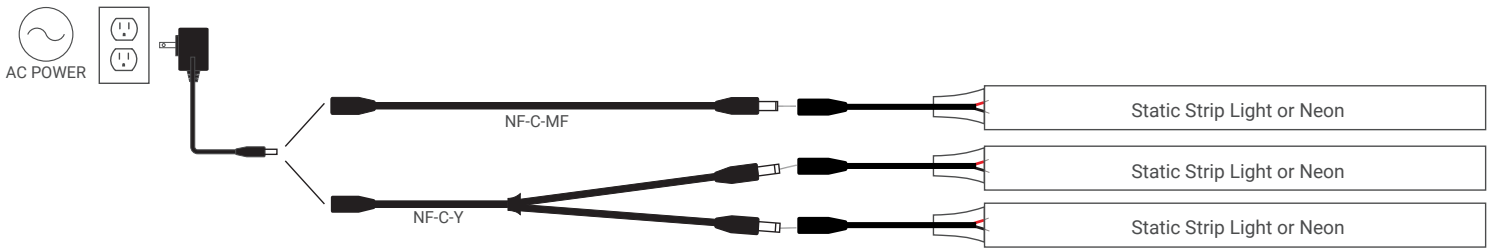


96W ELV Dimmable Driver



PLUG & PLAY

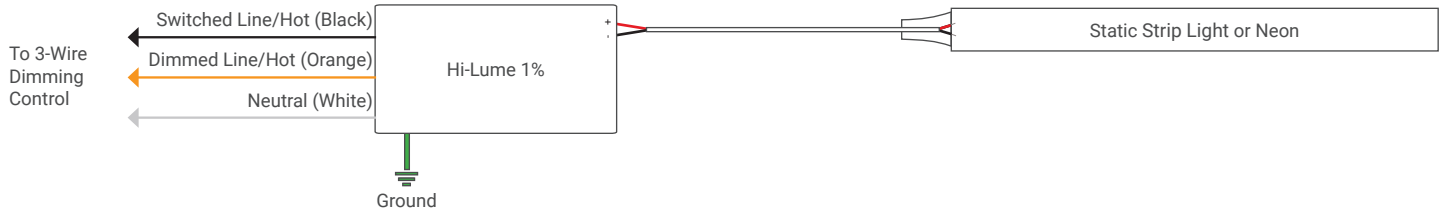
Strip Light: 20 Gauge Wire | Neon: 18 Gauge Wire



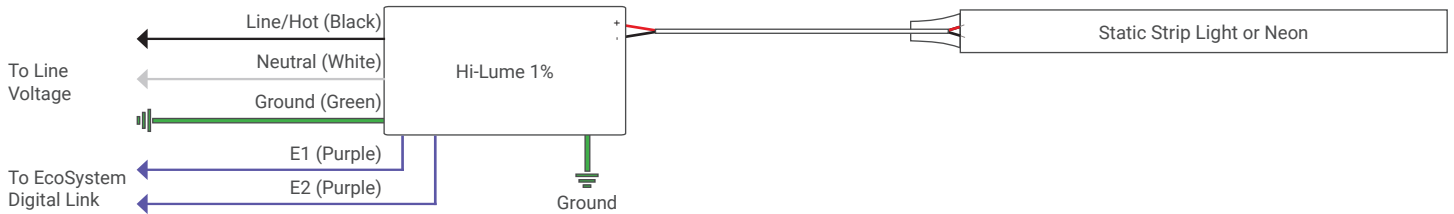
LUTRON

Strip Light: 20 Gauge Wire | Neon: 18 Gauge Wire

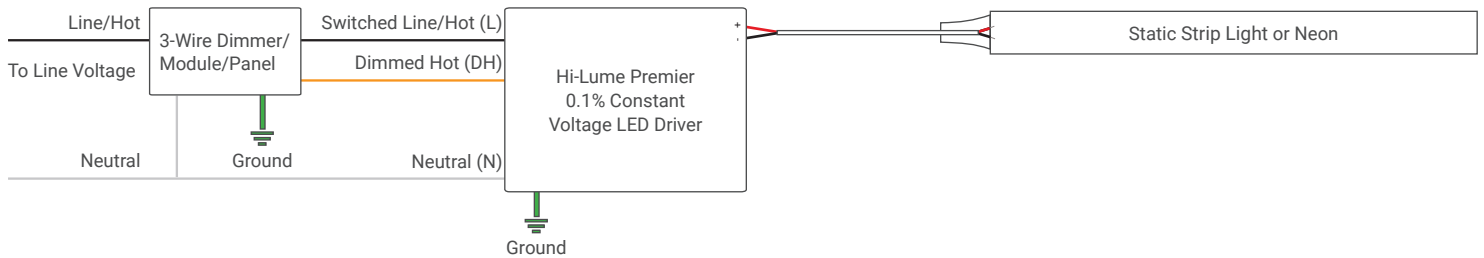
Wiring Diagram for 3-Wire Control



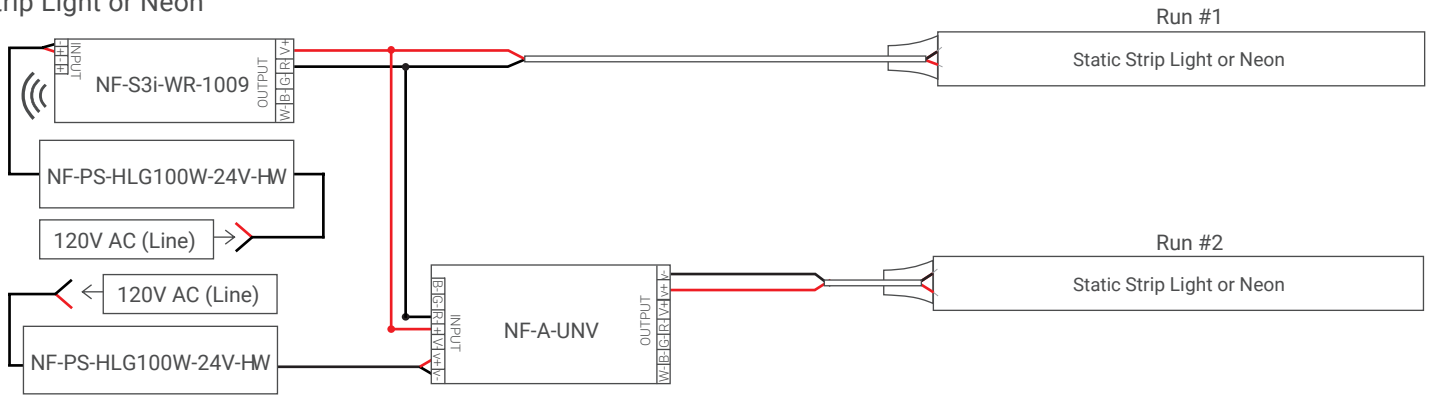
Wiring Diagram for EcoSystem Digital Control



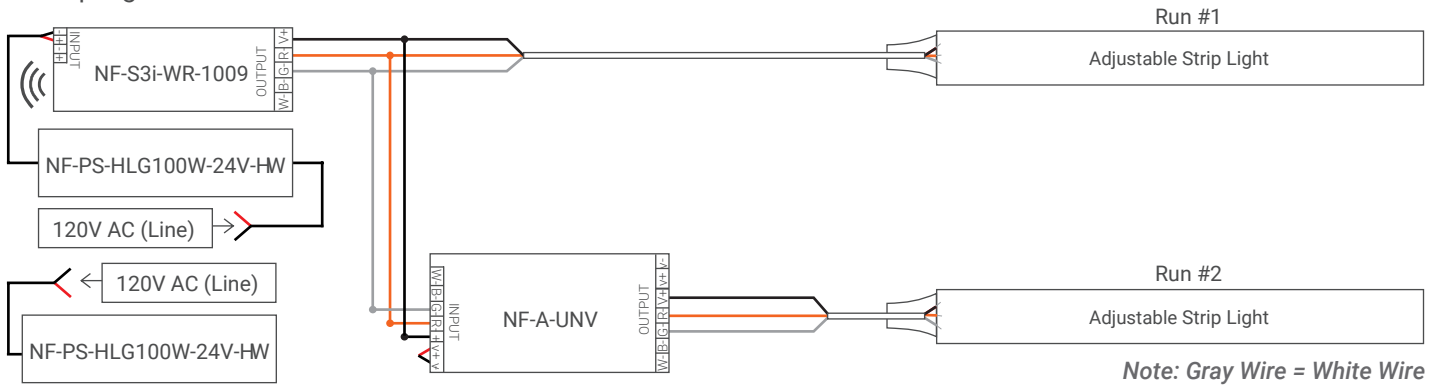
Wiring Diagram for LSD Model



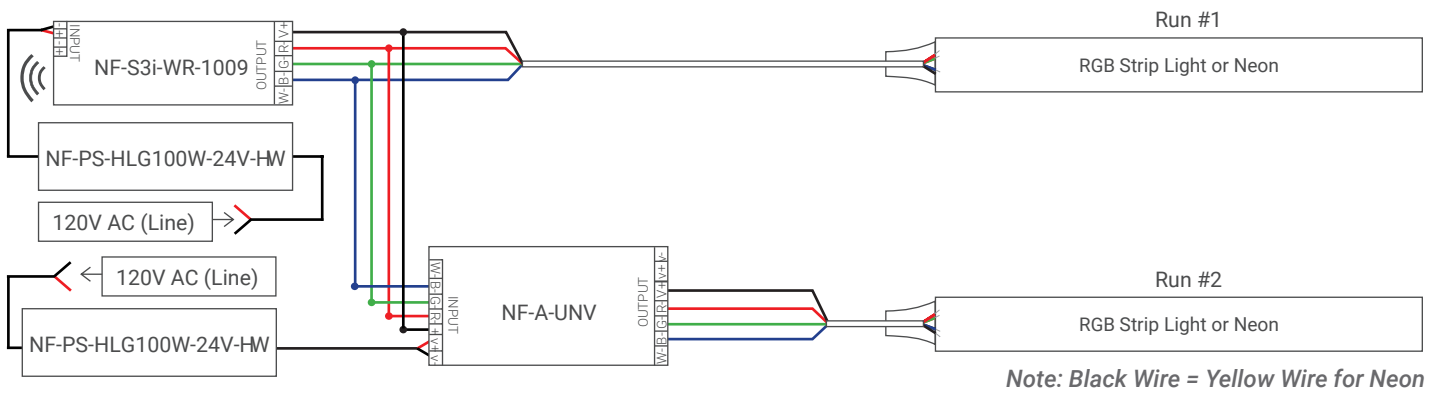
Static Strip Light or Neon



Adjustable Strip Light



RGB Strip Light or Neon



RGBW Strip Light

