GREEN LED LIGHTING SOLUTIONS

LED Neon
FLEX

Installation Instructions

Table of Contents

⚠ *DANGER*

Indicates imminent danger. Failure to follow this instruction could result in death or serious injury.

⚠ *WARNING*

Indicates a possible impending danger. Failure to follow this instruction can result in death or serious injury.

⚠ *CAUTION*

Indicates a hazardous situation or unsafe practice which, if not avoided, could result in injury or damage to components.

Precautions

Installation Temperature

TABLE A: Installation Temperature Chart

	PVC	Silicone
Ambient Installation Temperature	32º - 113ºF [0º - 45ºC]	-40º - 122ºF [-40º - 50ºC]
Maximum Mounting Surface Temperature*	140ºF [60ºC]	185ºF [85ºC]

*Defined in the fixtures OFF state

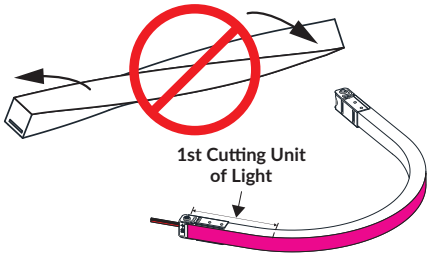
Please Note: Thermal Fluctuation*
Fixtures have an Expansion and Contraction variance of up to:
PVC - 0.5%
Silicone - 0.05%

Minimum Bending Diameter

⚠ *CAUTION*

- *Do not twist, strike, or pull on the fixture.*
- *Do not bend the first cutting unit of the fixture near the connector.*
- *Repeated bending and unbending can weaken the PCB.*

Damage to components can result.



The illustration below provides an example of the minimum bending diameter for the S 270 product between each set of printed bending marks.

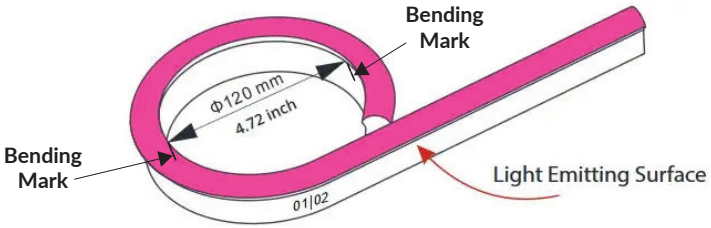
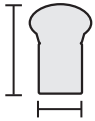
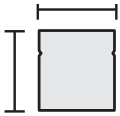
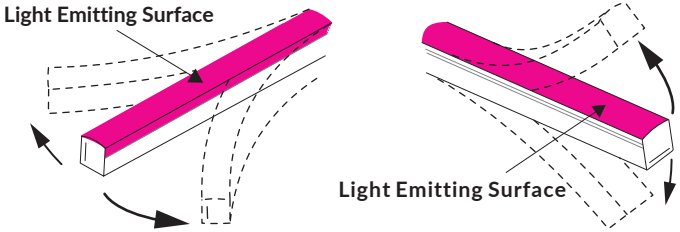


TABLE B: Minimum Bending Diameter

Product Line	Fixture Profile	Dimension W x H	Bending Diameter
Basic		0.45" x 1.02" (11.5mm x 26mm)	4.72" (120mm)
S 270		0.45" x 1.14" (11.5mm x 29mm)	4.72" (120mm)
S 160		0.45" x 0.83" (11.5mm x 21mm)	4.72" (120mm)
Contour		0.35" x 0.71" (9mm x 18mm)	3.54" (90mm)
Wave		0.63" x 0.67" (16mm x 17mm)	11.81" (300mm)
Wave Mini		0.39" x 0.39" (10mm x 10mm)	3.94" (100mm)
Light Strip		0.61" x 0.24" (15.5mm x 6mm)	1.97" (50mm)

Bending Direction

LED Neon Flex comes in two bending profiles: Side Bending and Top Bending. In order to avoid damaging the circuit board and the LEDs, you must only bend the fixture in its specified direction. You can find the bending direction of a fixture by looking at the printing marks on the fixture body. Failure to follow the proper bending direction or over-bending will damage the product and void the product warranty.



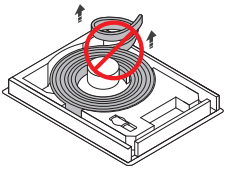
SIDE BENDING

TOP BENDING

Unpacking

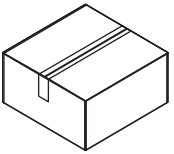
To watch our unpacking video, scan this QR code:

> **⚠ *CAUTION***
>
> *Incorrect unpacking can fracture the PCB. Damage to components can result.*

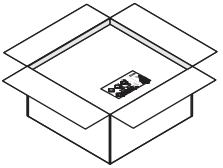


Unpacking the Fixture Kit

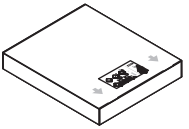
Step 1: Place box on a sturdy, level surface.



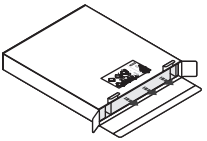
Step 2: Cut the tape and open the box.



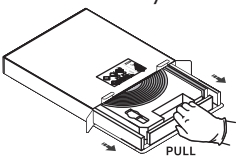
Step 3: Remove the white carton.



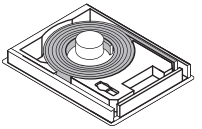
Step 4: Open the white carton.



Step 5: Slide the tray out.

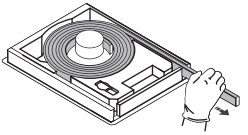


Step 6: Set the tray on a sturdy, level surface.



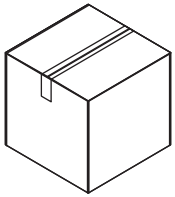
Step 7: Put on the gloves in the tray.

Step 8: Carefully guide the fixture straight out through the track. DO NOT LIFT UPWARD.

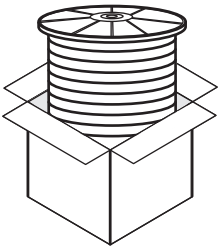


Unpacking the Reel

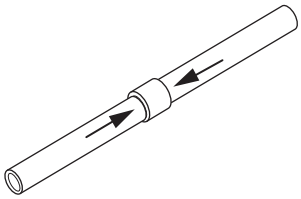
Step 1: Place box on a sturdy, level surface.



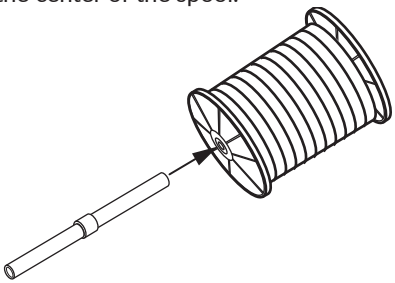
Step 2: Lift the spool out of the box.



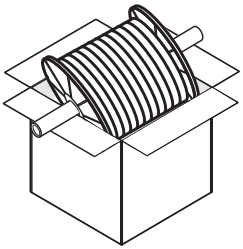
Step 3: Assemble the support tubing with coupling.



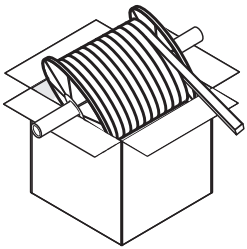
Step 4: Insert the support tubing into the center of the spool.



Step 5: Set the spool assembly into the box with the fixture rolling off the top of the spool. DO NOT ROLL THE FIXTURE OFF THE BOTTOM OF THE SPOOL.



Step 6: Carefully guide the fixture straight outward off the spool. DO NOT BEND OR TWIST THE FIXTURE. TWO PEOPLE SHOULD UNROLL THE REEL TO AVOID PULLING ON THE FIXTURE AND DAMAGING THE PCB.

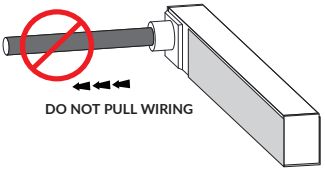


Installation

CABLES

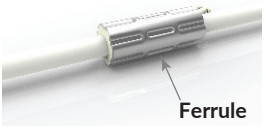
⚠ CAUTION

Do not pull on wiring. Connection damage and water intrusion can result.



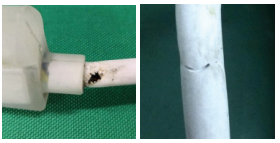
⚠ CAUTION

· Do not submerge ferrules in water during underwater applications.
· Do not remove ferrules. Damage to components can result.

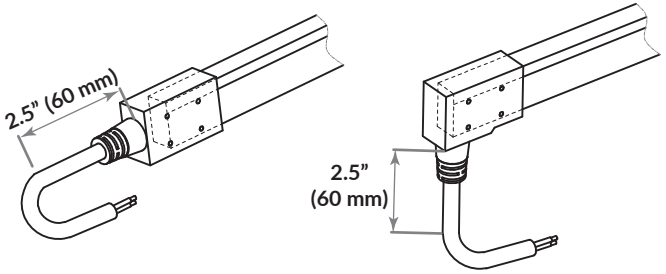


⚠ CAUTION

Do not install fixtures with damaged lead wires or accessories. Water intrusion can result.



Leave the first 2.5” (60 mm) of the lead wire in its natural position.



CONNECTORS

⚠ CAUTION

Do not apply glue to the wiring connection. Damage to components can result.

Choose a suitable IP-rated connector based on the installation environment.

IP20 Protection

Swivel Connector

IP67 Protection

Snap Connector

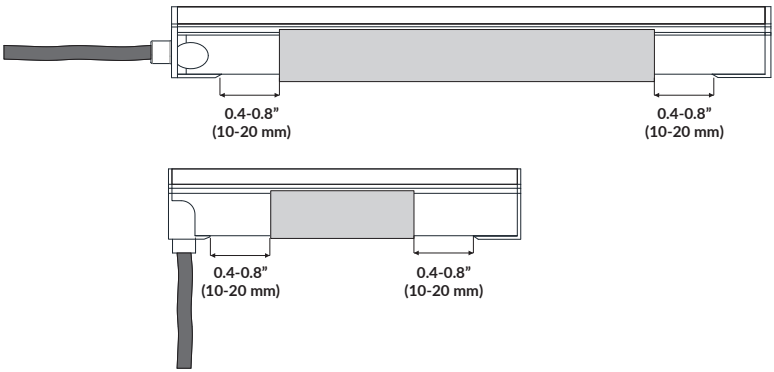
IP68 Protection

PVC Submersible Connector

PVC Seamless Connector

Silicone Seamless Connector

Leave 0.4” to 0.8” (10 - 20 mm) distance between the connector and mounting hardware to allow for expansion and contraction of the fixture as it heats and cools.

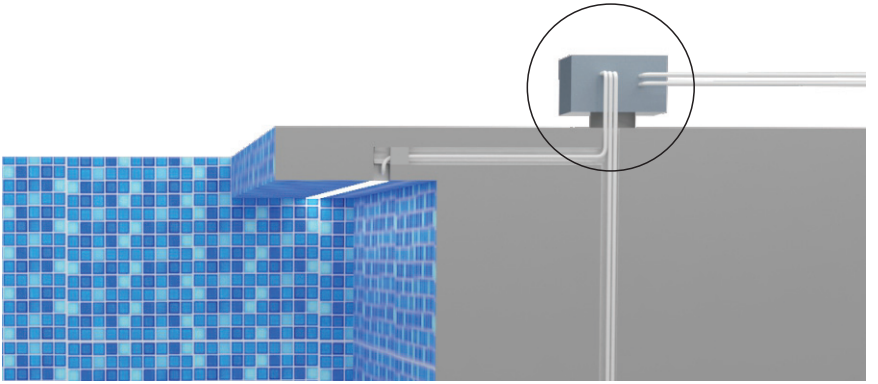


JOINTS

> **⚠ CAUTION**
>
> *Electrical tape will not completely prevent water intrusion. Damage to components can result.*

Use waterproof boxes and connectors for all cable joints.

For all underwater applications, use IP68 rated connectors and keep the cable joints away from the water.

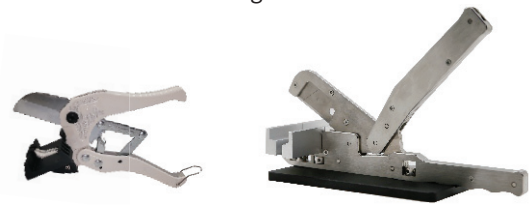


FIXTURE CUTTING

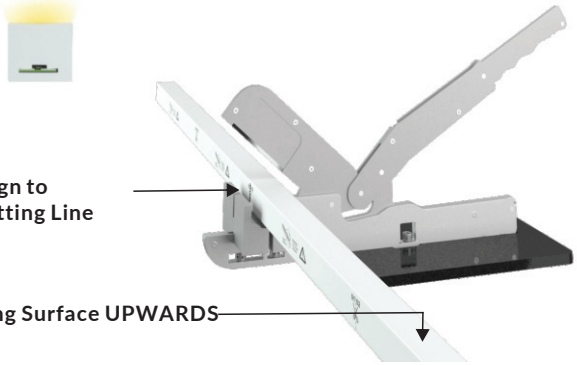
> **⚠ CAUTION**
>
> *Do not use unapproved tools for cutting. Damage to components can result.*

> **⚠ CAUTION**
>
> *Do not install improperly cut **fixtures**. Water intrusion can result.*

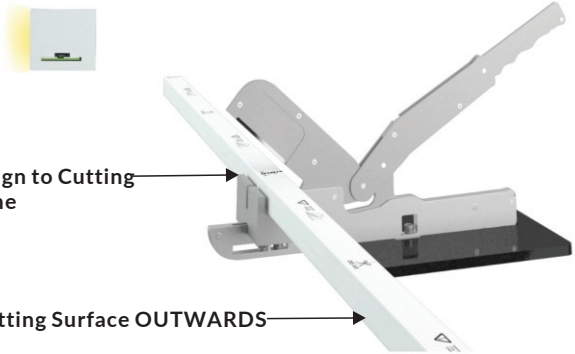
Only use professional tools for cutting fixtures.



To properly cut top bending fixtures:



To properly cut side bending fixtures:



Verify the cut surface is smooth and vertical to ensure proper connection.

CONNECTOR ASSEMBLY

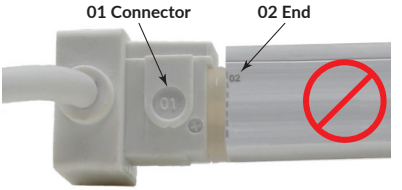
To watch our connector video, scan this QR code:

Contour/ Basic/ S 160/ S 270/ Wave/ Light Strip Modules

⚠ CAUTION

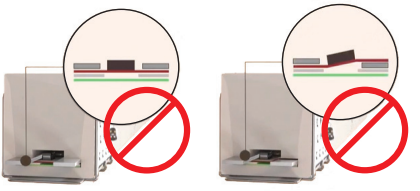
- *Verify the **fixture** and connector type match.*
- *Repeated assembly and disassembly can weaken the silicone gasket.*

Water intrusion can result.



⚠ CAUTION

- *Do not insert the connector pins on the top side of the PCB.*
- *Do not insert the connector pins crooked on the PCB and copper belt. Damage to components can result.*



Step 1: Place the Snap Cover onto the fixture with the snap end toward the assembly end. See Figure 1 for the view of the bottom side of the Snap Cover.

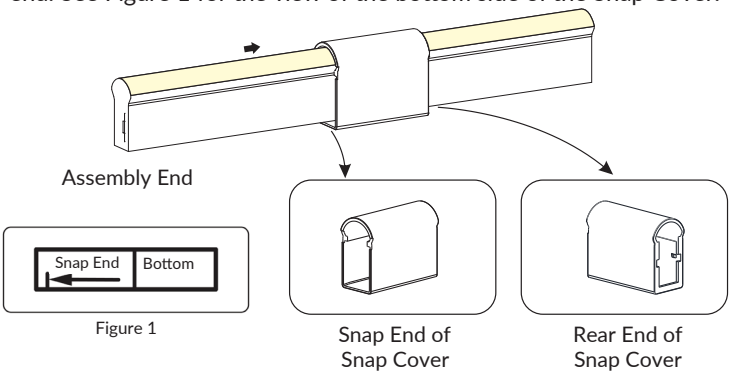
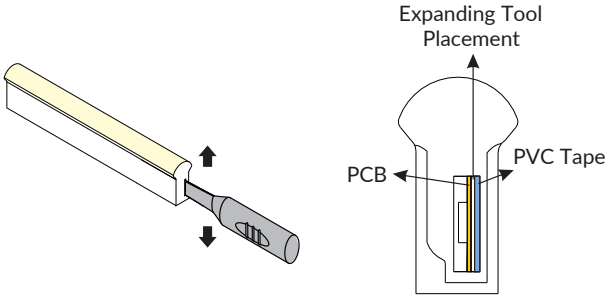


Figure 1

Step 2: Insert the Inducer Tool, between the PC board and copper belt. Move it from back and forth to create an open space for the Connector pins.



Step 3: Insert the Connector pins slowly into the LED Strip between the PC board and copper belt. See Figure 2 for the correct gap after assembly.

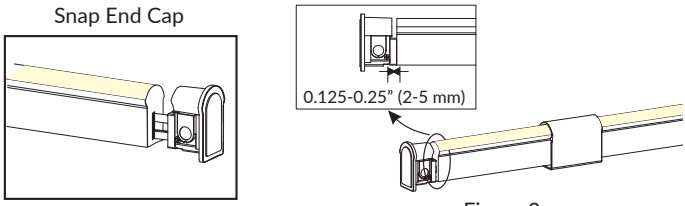
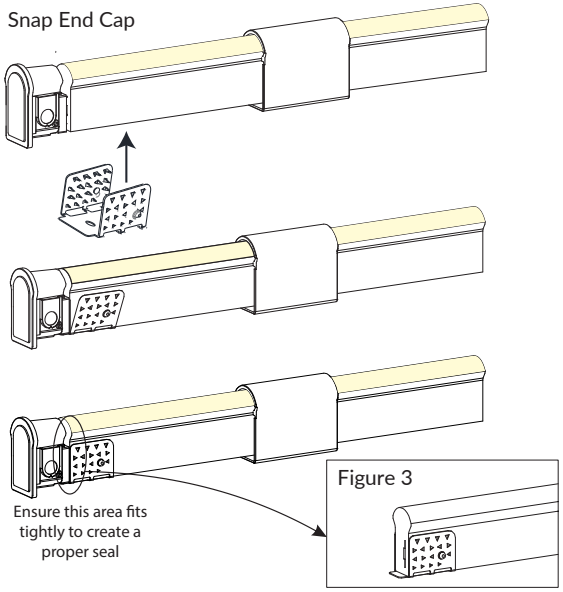


Figure 2

Step 4: Install the Anti-Skidding Clip (with the spacer toward the assembly end) tightly to the bottom of the fixture aligning the side with the edge of the fixture to create a tight seal. Press the sides flat onto the fixture. See Figure 3 to view the edge of the clip lined up with the end of the fixture.



Step 5: Install the U-steel Plate aligning the large notch with the Connector and the small notch with Anti-Skidding Clip. See Figures 4 & 5 for proper alignment views.

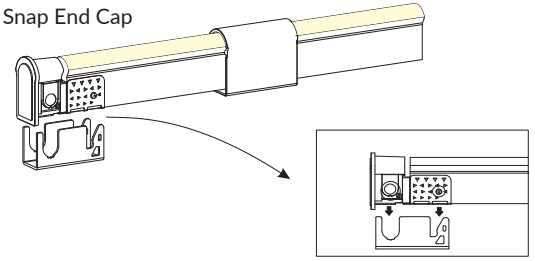


Figure 4

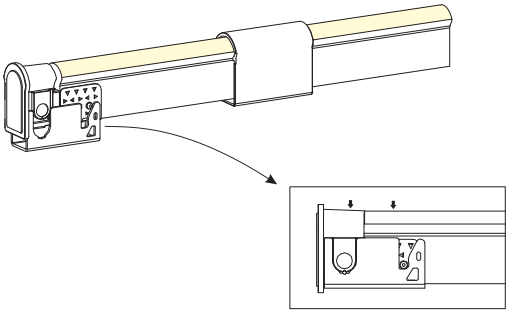
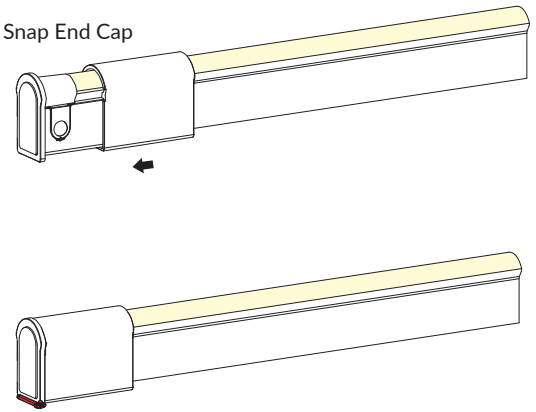


Figure 5

Step 6: Slide the PC Cover all the way up to the Connector to secure all the components together and make a water-tight seal.



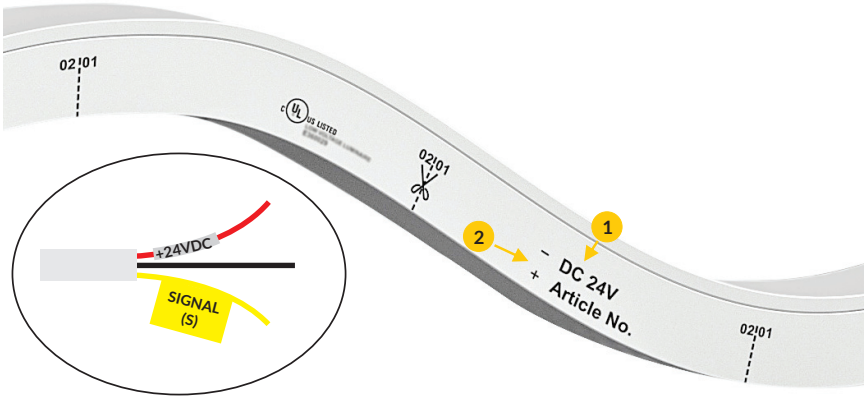
LIGHTING TEST

> **⚠ CAUTION**
>
> *Do not light up coiled product longer than 30 minutes or overheating will occur. For extended periods of light testing, uncoil the **product** to allow for proper heat dissipation.*

Step 1: Check Voltage - Verify the voltage printed on the fixture body is the desired voltage.

Step 2: Check Polarity - Verify the polarity and signal direction printed every 20" on the fixture body. If the wiring is polarity-reversed, it must be changed for proper connection.

NOTE: The signal wire (yellow) must be kept separated from the positive wire (red) to prevent the IC chip from shorting.



Step 3: Test the Lighting - Briefly test the lighting to ensure it is working properly.

NOTE: When testing Pixel light models without the signal wire connected:

- Pixel White models - the brightness will be 1/3 normal levels.
- Pixel RGB or RGBW models - will illuminate blue in color.

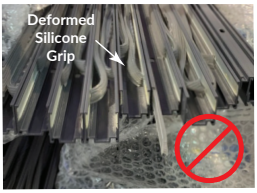
MOUNTING PRECAUTIONS

⚠ WARNING

Wear Personal Protective Equipment (PPE) when handling the mounting hardware. Sharp metal corners can cause serious injury.

⚠ CAUTION

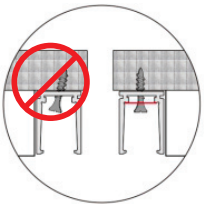
Remove the silicone grip from mounting hardware before exposing to high temperatures. Damage to components can result.



⚠ CAUTION

- *Keep mounting hardware clean.*
- *Do not install bent mounting hardware.*
- *Screws must be installed straight.*
- *Regarding Bendable Mounting Channel, repeated bending and unbending can weaken the mounting hardware.*

Damage to components can result.



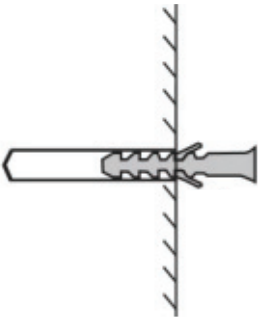
MOUNTING HARDWARE

Step 1: Allow 0.25” (5 mm) overlap where mounting hardware joins for expansion and contraction.

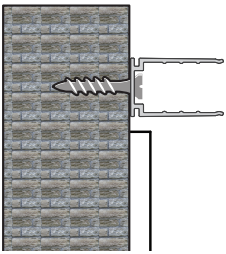
Step 2: Only join mounting hardware at an angle if the fixtures can also be joined at an angle.

Step 3: To curve fixtures, leave enough room for the channels and clips. It is suggested that the bendable channel be used in these instances.

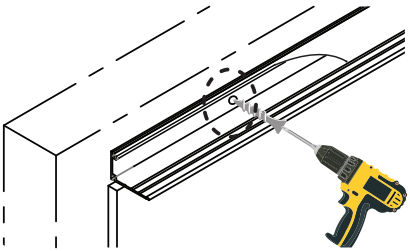
Step 4: Install anchors, if necessary, to create a solid mounting surface to attach screws.



Step 5: Ensure screws are installed perpendicular and in-line with or lower than the base of aluminum profile.



Step 6: Install screws into all the mounting hardware holes working down the entire track until everything is secured.



FIXTURE PRECAUTIONS

⚠ CAUTION

- *Mounting hardware must be aligned properly when joining pieces.*
- *Do not join mounting hardware in the same location as the wall joints. The expansion and contraction of the building surface will pull the lighting connection apart.*

Damage to components can result.

⚠ CAUTION

- *Do not install **fixtures** with coating damage.*
- *Repeated installation and removal can weaken the PCB.*
- *Two people are required for any **fixtures** longer than 6.5 feet (2 meters).*

Damage to components can result.

⚠ CAUTION

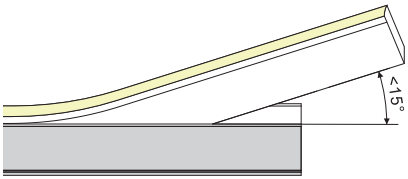
Ensure a continuous section of a fixture goes across all mounting hardware joint locations. Damage to components can result.

FIXTURE INSTALLATION

Step 1: Two people are required for any fixture installation longer than 6.5 feet (2 meters).

Step 2: Ensure the light emitting surface is facing upward and place the fixture into the mounting bracket leaving 1/3" to 1" (10 - 25 mm) of the fixture past the end of the bracket.

Step 3: Ensure the angle between the fixture and the mounting hardware is not larger than 15 degrees to avoid damaging the PCB.



Step 4: Gently press the fixture into the mounting hardware using your palm slowly working down the length of the fixture.

Removal

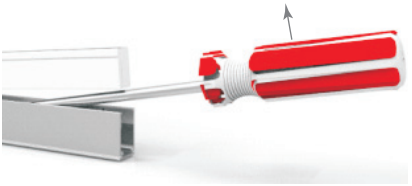
⚠ CAUTION

· Repeated installation and removal can weaken the PCB.
· Two people are required for any fixtures longer than 6.5 feet (2 meters).
Damage to components can result.

Step 1: Two people are required for any fixture removal longer than 6.5 feet (2 meters).

Step 2: Using a standard flat-head screwdriver, gently place it between the fixture and the mounting hardware.

Step 3: Slowly pry the fixture from the mounting hardware ensuring the angle is not larger than 15 degrees to avoid damaging the PCB.



Step 4: Gently pry the fixture from the mounting hardware slowly working down the length of the fixture.

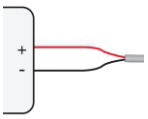
Wiring Diagrams

⚠ DANGER

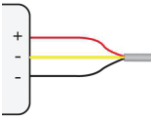
Follow GLLS-approved wiring diagrams and layouts that are specifically drawn for the job site to install the fixtures, power supplies, and other components properly. Failure to follow this instruction could result in death or serious injury.

Static/ Dynamic White/ RGB/ RGBW Series

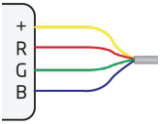
Static



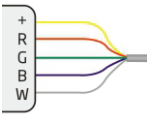
Dynamic White



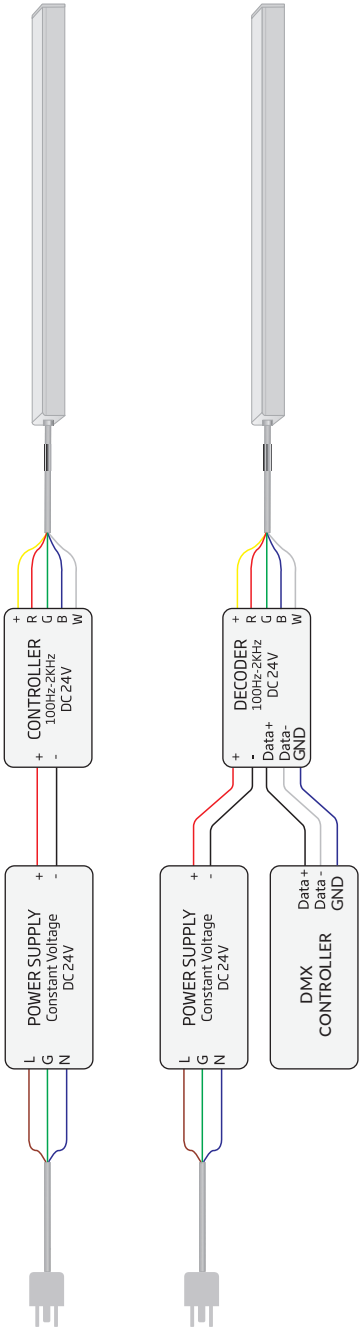
RGB



RGBW



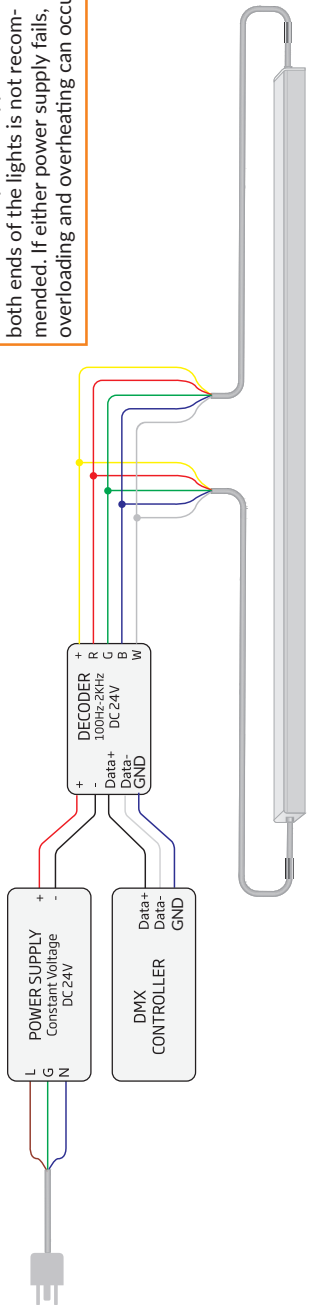
SINGLE-END FEED



DOUBLE-END FEED

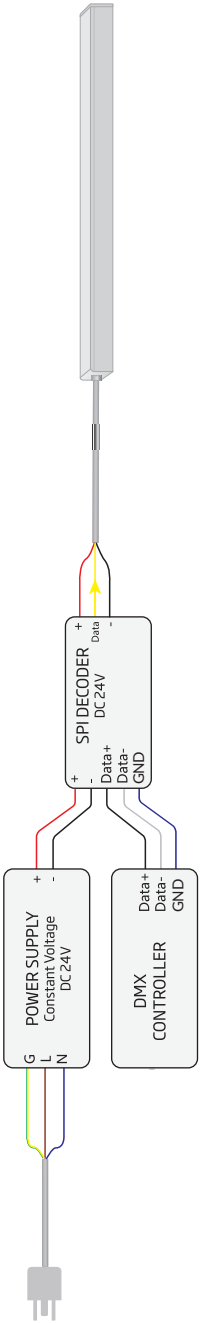
Ensure the polarity is correct on both ends. Reverse polarity can result in short circuits.

The use of two power supplies feeding both ends of the lights is not recommended. If either power supply fails, overloading and overheating can occur.

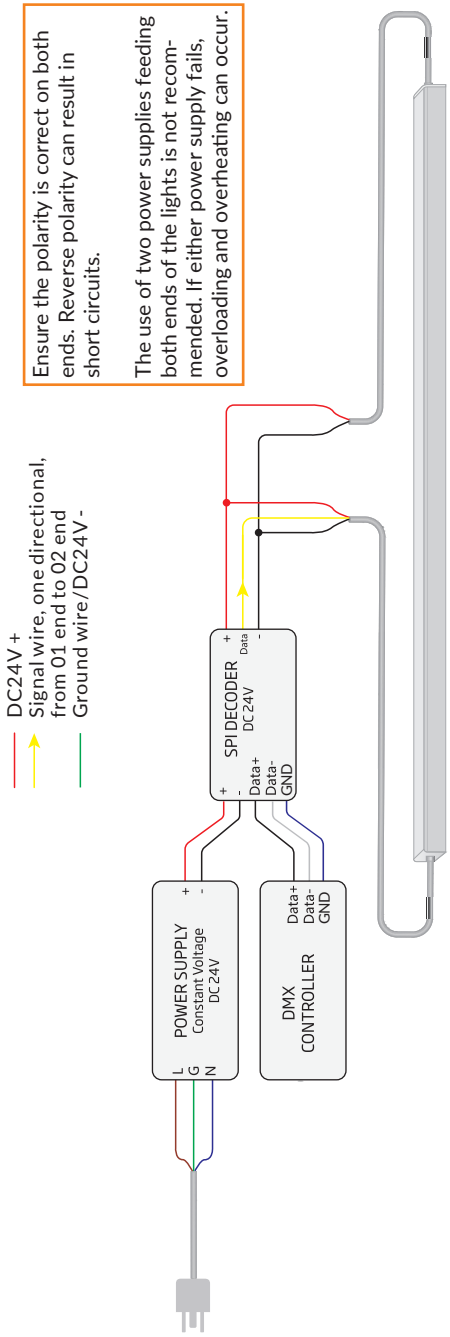


SPI Pixel

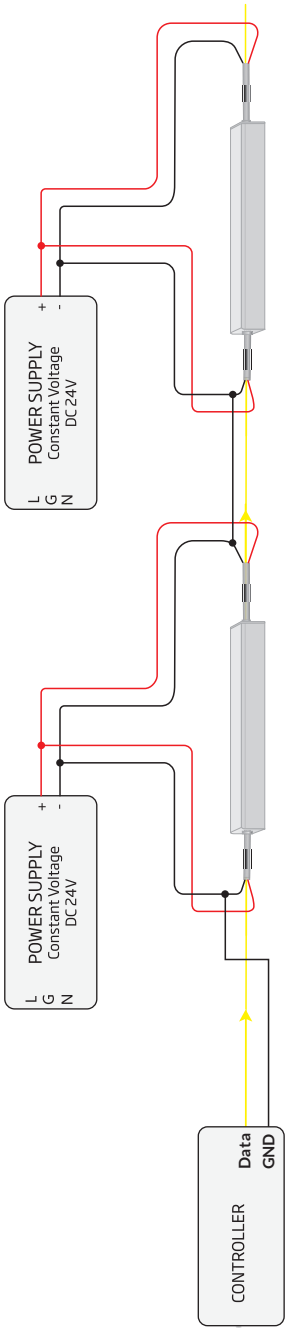
SINGLE-END FEED



DOUBLE-END FEED

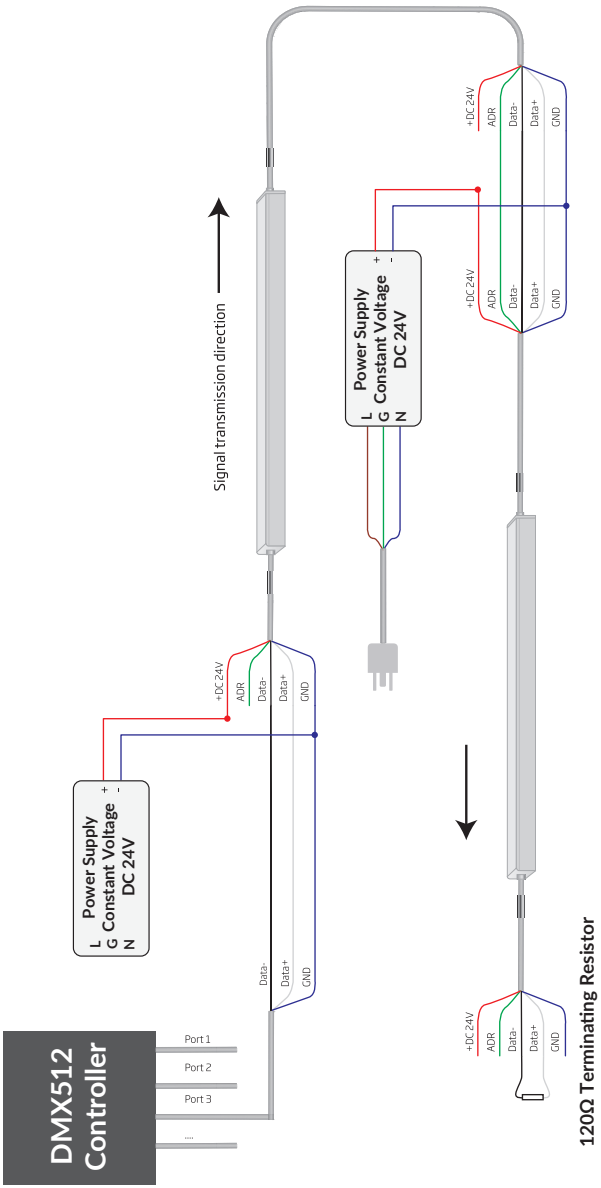


IN SERIES


POWER SUPPLY
Constant Voltage
DC 24V
L
G
N
+
-
POWER SUPPLY
Constant Voltage
DC 24V
L
G
N
+
-
CONTROLLER
Data
GND

Direct DMX

SINGLE-END FEED



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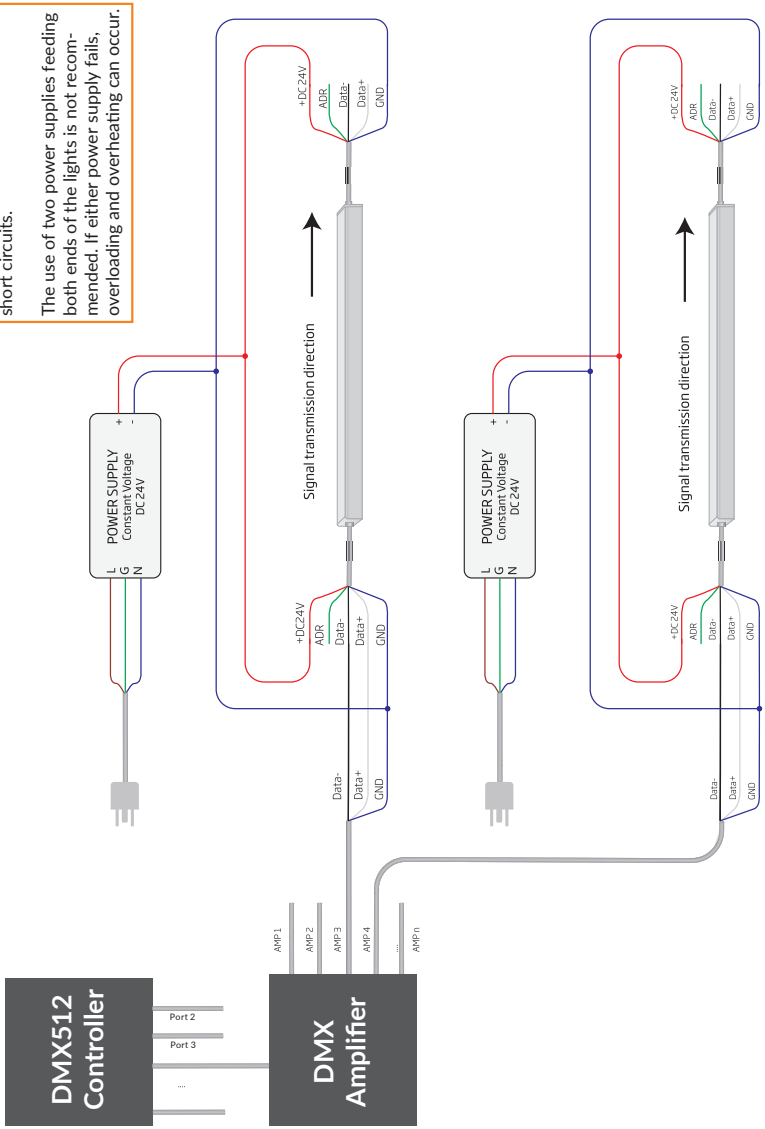

GREEN LED LIGHTING SOLUTIONS

UNITED STATES

1075 American Pacific Dr.
Suite A, Henderson, NV
89074, United States

CANADA

Suite 200, 264 Botsford St.,
Moncton, New Brunswick,
Canada E1C 4X7

UNITED KINGDOM

Unit 21, The Old Rectory,
Northfleet, Gravesend DA11
8HN, United Kingdom

Phone

+1 (888) 580-6366

UK Phone
+01322-838080

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