# UltraBright™ Valor Diffusion Series LED Strip Light

## Installation Guide

UL LISTED

RoHS COMPLIANT

FLEXFIRE

www.flexfireleds.com

## UL Listing and Compliance Information

Our LED Strip Lights are UL-listed in the USA and Canada. This means they are safe to use and free from any hazardous substances. To comply with UL standards and inspections, please keep in mind that:

- A Class 2 power supply must be used with each run of lights.
- Each installation of LED strip lights in series should consume no more than 100W max.

**Español**

- Debe utilizarse un transformador de Clase 2 cuando sea necesario ajustarse a las normas de seguridad UL.
- La instalación no debe exceder un máximo de 100W cuando se conecten en serie las cintas LED.

**Francais**

- Pour être conforme aux règles de sécurité, une source d'alimentation de Classe 2 doit être utilisée.
- L'installation ne doit pas dépasser un total de 100W lorsque les rubans LED sont montés en série.

**Tools Needed**

Screwdriver

Industrial Shears

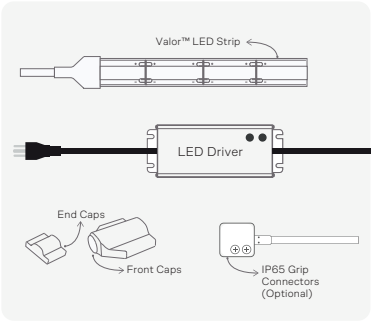
Pliers

Silicone Sealant*

*Neutral-based, electronic-grade silicone sealant

# Installation Instructions

**IMPORTANT:** Please ensure that the portion of the product that has not yet been installed is supported during the entire installation process. Otherwise, the weight of the product could result in damaged or broken segments.

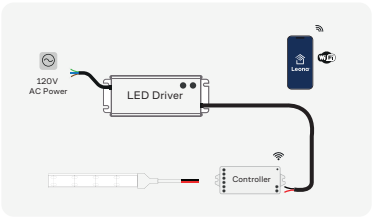



## 1. Component Check

On a clean surface, gently unroll the LED strip light from the plastic reel and lay out all components. Make sure you have everything you need to complete the installation.

Double-check that your power supply matches the voltage of your LED strip and can handle the entire load of the LEDs.

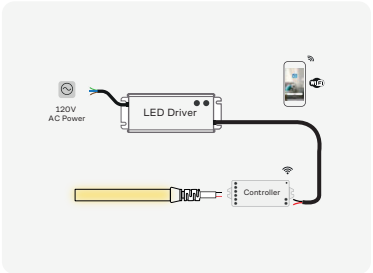
For longer runs of LED strip, be mindful of the strip's maximum run length. If you need a longer run than the maximum, you may need to install the strip in parallel from the power source.




## 2. Mock Installation

Before installing or modifying the strip, complete a mock installation to test and turn on your lights. Connect your strip light to your dimmer and power supply.

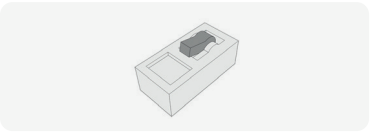
**Note:** In this example, we are using a Leona® Smart Controller.




## 3. Troubleshoot if Needed

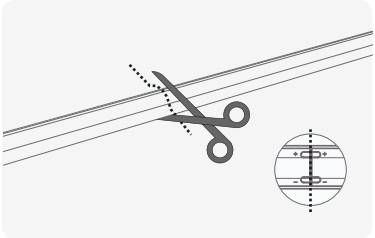
The strip should light up after connecting it to your dimmer and power supply. If it doesn't, please check your connections and make sure the polarity matches all the way through from the power supply to the LED strip (positive to positive, negative to negative).

Before installing your lights, check to see if the brightness level and color temperature you chose for your project look as you envisioned. After testing your lights and components, you will be ready to proceed with the installation.



## 4. Turn the Power Off at the Circuit Breaker

Turn the power off at the circuit breaker to avoid any possible injury.



**5. Cut the LED Strip Light to the Required Length**

Measure the strip light to the required length and locate the nearest cutting point. Cut through the strip light in a straight line using sharp scissors. A straight cut line will ensure a proper seal when using end caps or connectors.

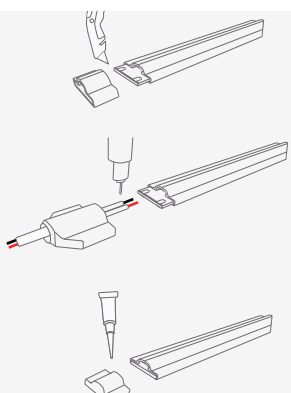
**Note:** Cutting the strip will void its IP67 rating, as any modifications cannot guarantee the integrity of the IP protection.

**6. Make Sure Polarities Are Matched Throughout the Setup**

Always match the + and - markings when joining LED strip segments, whether you're soldering or using connectors.

## Connect Your LED Strip

**7.** Choose one of the following two steps depending on whether you'll be soldering your connections (step a) or using solderless IP65 grip connectors (step b) during installation:

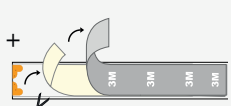


**a. Solder Wire and Add End Caps to Your Strip**

Cut 3 mm off the silicone cover.

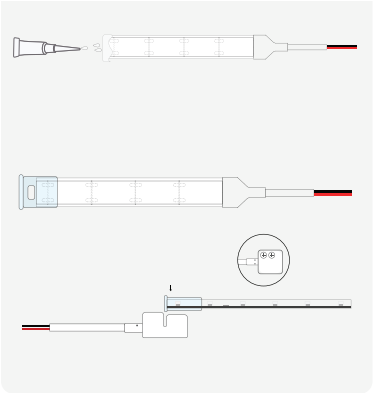
Grab the front cap and slide it through the wire. Then, solder the wire to the solder pads on the strip and test your connection. Fill the front cap with silicone sealant and ensure it is properly adjusted before allowing the sealant to cure according to its instructions.

When using an end cap, simply fill it with silicone sealant and ensure it is properly adjusted before allowing the sealant to cure according to its instructions.




**b. Use IP65 Grip Connectors**

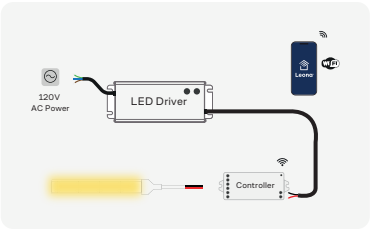
If you don't want to solder, you can also use IP65 connectors (sold separately). Carefully peel off 2" of the strip's adhesive backing and push it back to make room for the connector. This will allow the silicone to seal properly and prevent water from being pulled into the seal.



Coat the open end of the strip and approximately 1" of its top in silicone sealant (due to the dome-shaped nature of the strip, sealant does need to be applied to the top to fill in the gaps on the sides).

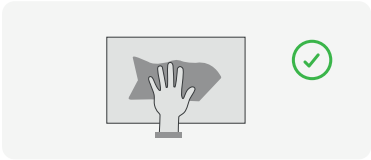
Slide the transparent case of your outdoor IP65 grip connector into the sleeve until the strip makes proper contact with the end of the clear plastic. Then, grab the white plastic part of your connector and push the metal contacts through the window of the transparent case. Adjust it with pliers until you hear a click, and then let the sealant cure according to its instructions.

Apply additional silicone sealant generously around the end of the connector to ensure that any gaps are filled between the strip and the connector, creating a watertight seal.



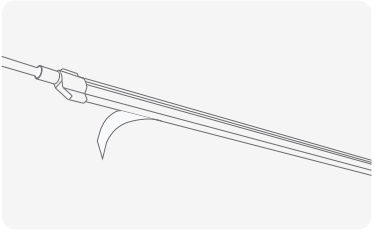

## 8. Retest the Setup

Test the strip again to make sure it lights up and functions properly before the final installation. Once you have verified all segments are working, you're ready to install them.



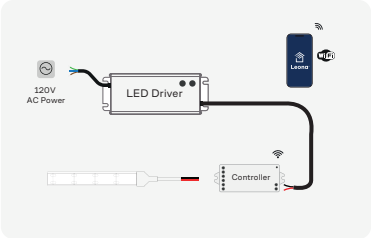
## 9. Prepare Your Surface for Installation

Thoroughly clean any surface where you will be attaching your LED strip lights. The adhesive backing is strong, but it will not stick to dirty or dusty surfaces.

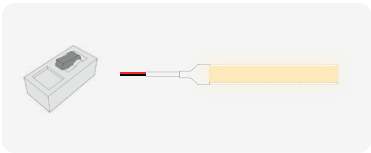


## 10. Attach the Strip Light

Peel the remaining backing from the 3M tape a few inches at a time, gently pressing the strip onto the installation surface. Make sure the strip is firmly attached. If needed, use the silicone mounting brackets for extra support—one bracket per foot is recommended.



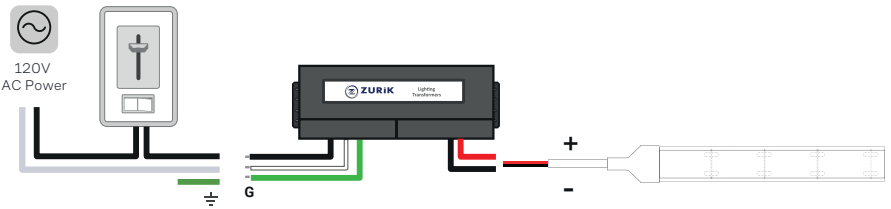

**11. Cut the LED Strip Light to the Required Length**
Complete the connections and wiring between your power supply, dimmers, or controllers.



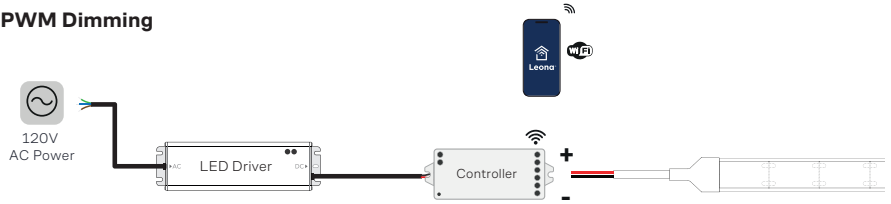
**12. Turn the Power On at the Circuit Breaker**
Turn on the power to your setup. Your UltraBright™ Valor Diffusion Series LED Strip Lights should light up and work properly.

# Wiring Diagrams

## ELV/MLV Dimming




## PWM Dimming



## Safety & Disclosures

**1.** To meet UL requirements, only install with a Class 2 DC Constant Voltage LED driver.
**2.** Do not turn on your LED strip while still in the plastic reel. Doing so will cause heat buildup that can damage the LEDs.
**3.** Installation must comply with local and national electrical codes. A qualified, licensed electrician should install your strip to ensure safety and proper performance.
**4.** Do not connect the DC strip directly to an AC wall outlet.
**5.** Do not twist, fold, or crease the LED strip.
**6.** Do not bend LED strips sideways. They are only intended to bend vertically.
**7.** Do not place excessive pressure on the LED surface.
**8.** Pay attention to the input voltage of the LED strip light and never exceed it, not even briefly.
**9.** Only cut the LED strip on the designated cut markings or as specified on the spec sheet.
**10.** UltraBright™ Valor Diffusion Series LED Strip Lights are IP67-rated. Please note that cutting the strip voids the IP rating.

## Warranty

**We've got you with our industry-leading coverage!**
We use the highest-quality components in our LED strip lights, drivers, controllers, and accessories. We know you don't run your lights 24/7, so we've shaped our warranty to reflect your day-to-day use and long-lasting performance.

For that reason, we offer industry-leading 7-year coverage on most of our LED strip lighting products and prolonged warranties on drivers, controllers, dimmers, and accessories. Please read our warranty policy at www.flexfireleds.com/warranties to learn about timeframes and exceptions.