

## INTRODUCTION

Introducing the StripFlexLED™ 12 Volt White LED Strip Light Tape, a premium lighting solution meticulously crafted in the heart of Texas, USA by SIRS-E®. Designed to elevate your custom installations to new heights, this UL Listed LED strip boasts unparalleled quality and versatility.

Experience exceptional brightness with approximately 330 lumens per foot, ensuring every corner of your space is illuminated. With a high Color Rendering Index (CRI) of about 95, expect nothing short of accurate and vibrant color representation across various applications.

Tailor your lighting solutions effortlessly with the ability to cut the tape to specific sizes, offering flexibility and precision like never before. Our thoughtfully included strip connectors seamlessly rejoin cut segments, facilitating easy extension or maneuvering around obstacles.

From accentuating cabinet interiors to illuminating tray ceilings and shelving, the StripFlexLED™ caters to a myriad of lighting needs, enhancing the ambiance of any environment.

## SAFETY

It's important to carefully review these guidelines to understand the operational principles of LED strip illumination. By comprehending its configuration options, sizing adjustments, connection methods, and installation procedures, you can tailor your lighting arrangement effectively. While setting up strip lighting is a manageable DIY endeavor, it necessitates fundamental wiring expertise and tools for wire preparation, splicing, and connection.

## CRUCIAL

- Safely route and secure wires to prevent any potential pinching or damage.
- Refrain from looking directly at the illuminated LED lights.
- The mounting surface should serve as a heat sink for heat dissipation.
- Utilize exclusively low-voltage, constant voltage DC power sources; refrain from directly connecting the LED strip light to a 120-volt household power outlet.
- Avoid powering the LED strip while it remains coiled on the reel to prevent overheating of the LEDs.
- Ensure the strip light is not installed in areas where it may encounter direct contact with water, and minimize prolonged exposure to high-humidity environments.
- Never connect multiple power supplies to a single run of LED lighting.
- Avoid installing low-voltage DC wiring within the same runs as 120-volt AC power lines.
- Use insulated staples and plastic clips exclusively for securing cords and wires.
- Employ certified CL2 or higher-rated cables for wire runs within walls.

**All wiring must adhere to both national and local electrical codes and should be classified as a low-voltage Class 2 circuit. If you are uncertain about the proper installation and wiring procedures for this product, it is advisable to seek guidance from a qualified professional.**

## DESIGNING

- Evaluate the optimal layout configuration for your installation based on factors such as room size, desired lighting effect, and placement of furniture or fixtures.
- Plan how to cut, connect, and conceal the wires effectively, considering techniques like wire channels, cable management systems, or hiding wires behind molding or furniture for a tidy finish.
- Explore various mounting options for the LED strip lighting, such as adhesive backing, clips, or channels, based on the surface material and desired aesthetic.
- Consider the method for switching your LED lighting on and off, whether through a traditional switch, remote control, or smart home automation system.

- Determine if you desire the capability to dim your lighting, which may require compatible dimmer switches.
- Decide on the placement of your power supply, ensuring it is easily accessible yet discreetly positioned to minimize visual clutter.

## SELECTING A POWER SUPPLY

Power supplies, also referred to as transformers, AC/DC adapters, or LED drivers, are available in a range of sizes and wattages. The StripFlexLED™ LED strip operates on low voltage, requiring a power supply to transform standard 120-volt household AC power into 12-volt DC power.



REQUIRED (12-VOLT POWER SUPPLY)  
INCLUDED IF YOU BUY THE KIT

- Avoid direct connection of StripFlexLED™ LED strip lighting to 120-volt household power sources.
- Use a compatible and rated 12V power supply to maintain warranty validity. Check the technical specifications to select the correct power supply.
- Do not combine a 120-volt and low-voltage dimmer within the same circuit.

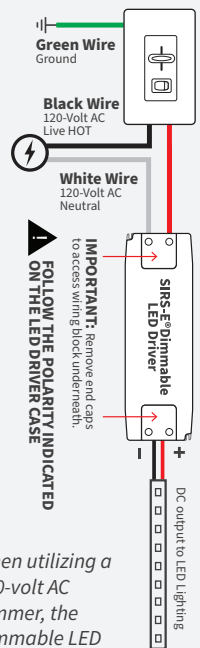
The choice of power supply depends on your preferred method for switching on/off or dimming your lighting.

## UTILIZING CONVENTIONAL 120-VOLT AC DIMMERS

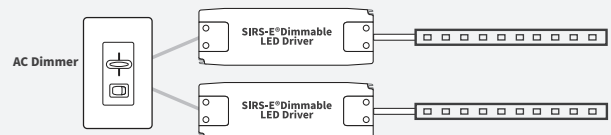
When utilizing standard 120-volt AC dimmers such as Lutron® style, it's essential to ensure compatibility with your SIRS-E® Universal Dimming LED Driver/Power Supply. Look for clear indications on the package and case label confirming dimmability with 120-volt AC dimmers. Using a 120-volt dimmer with a non-dimmable power supply model can result in damage to the power supply unit.

*Standard wiring diagram for use with an AC dimmer. Please refer to the power supply instructions for guidance on compatibility with AC dimmers.*

*For synchronized on/off and brightness control of LED lighting across multiple power supplies in large lighting applications, connect a 120-volt AC dimmer to multiple SIRS-E® Universal Dimming LED Drivers.*

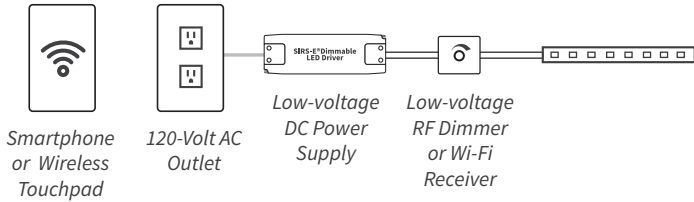


*When utilizing a 120-volt AC dimmer, the Dimmable LED Driver/Power Supply must be directly wired to household current.*



## UTILIZING SIRS-E® LOW-VOLTAGE LED DIMMERS

If installing an in-wall AC dimmer isn't feasible, consider choosing a SIRS-E® low-voltage dimmer instead. These dimmers can be connected on the low-voltage side anywhere between your power supply and LED lighting. Wireless models are available, which are particularly convenient in situations where installing new wiring is challenging. You can choose from RF designer-style touch pads or Wi-Fi® controllers compatible with any smartphone.



For large lighting applications and multi-zone lighting control, utilize multiple SIRS-E® multi-zone or Wi-Fi LED dimmers. For further information, please visit [sirs-e.us](http://sirs-e.us).



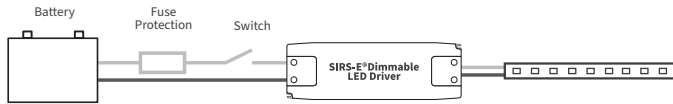
### FOR ON/OFF CONTROL WITH DIMMING

If you don't have an AC outlet controlled by a wall switch available for your power supply, consider using the SIRS-E® wireless switch. This device offers switched outlet convenience without requiring the installation of new wires.



### RV, BOAT, AND SOLAR SYSTEM APPLICATIONS

LED strip lighting has the capability to be directly powered by a battery source.



A low-voltage LED dimmer is compatible and can be used with battery-powered systems as well.

### DIAGRAM & POWER CONSUMPTION

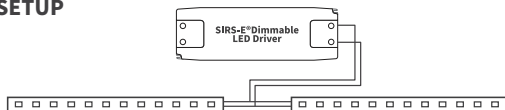
Determining your wattage requirements

LED strip light power requirements are stated in the watts and are based on several factors, including your design configuration. StripFlexLED™ can be installed in single or multiple runs, all connected to a single power supply.

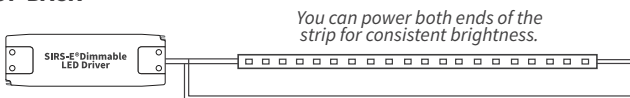
#### STRAIGHT RUN (ONE END ONLY)



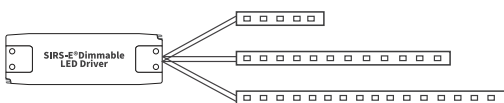
#### CENTER SETUP



#### LOOP BACK



#### MULTI RUNS



Selecting a higher wattage power supply does not necessarily enable the operation of longer lengths of LED strip lights. However, it does allow for the inclusion of more LED strips in a multi-run design. Exceeding the maximum lengths specified in the chart below will result in LEDs furthest from the power supply appearing dimmer at maximum brightness due to voltage drop. Using a higher wattage power supply will not mitigate the impact of voltage drop.

MAXIMUM RECOMMENDED LENGTH		
Setup Options	Length	Watts Used
Straight Run (One end only)	32.8 ft. / 10m	45
Center Setup / Loop Back	32.8 ft. / 10m	60
Multi Runs	Differs depending on the configuration choice and the maximum wattage of the power supply	

POWER CONSUMPTION (W) AT FULL INTENSITY											
Meters	0.5	1	2	3	4	5	6	7	8	9	10
Feet	1.6	3.3	6.6	9.8	13.1	16.4	19.7	23.0	26.2	29.5	32.8
Power Consumption (W)	5.0	9.7	18.2	25.2	30.0	31.0	Not Recommended				

**Notice:** We do not recommend runs longer than 5 meters when power is supplied from one end due to voltage drop. However, you can still have a straight run setup of up to 10 meters with power from one end, but expect a voltage drop after 5 meters.

### VOLTAGE DROP AND POWER SUPPLY LOCATIONS

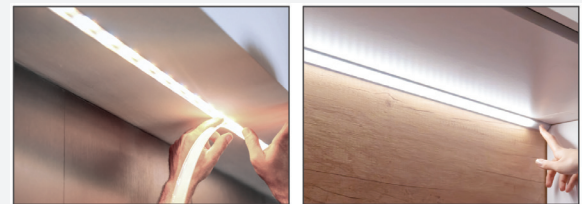
For consistent brightness in LED lighting, keep wire leads between the power supply and LEDs short and avoid coiling excess wire to minimize voltage drop. Test the lights before final installation. If dimming is observed in distant LEDs, consider using thicker wires, dividing power from both ends, or reducing the number of lights. Use an online voltage drop calculator for guidance.

### PREPARATION

Before removing the 3M® adhesive paper backing, test the LED strip in the intended lighting space. Once the backing has been removed and the lighting is fully installed, you cannot reposition the LED strip to another location as it may not adhere securely.

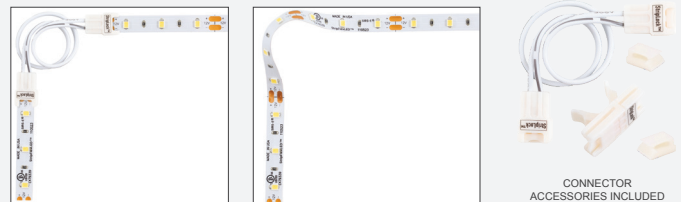
Power the LED strip light and temporarily hold or secure it into position with painter's tape - do not remove the 3M® paper backing. Avoid staring directly into the LEDs.

Experiment with various angles and positions to achieve the desired level of illumination and lighting appearance. If the LEDs produce unwanted bright spots on walls or reflections, try repositioning the strip light farther away from surfaces or experiment with different mounting angles.



### WHEN GOING AROUND CORNERS WITH LED STRIP LIGHTS

While LED strip lighting is thin and flexible, it's not intended to undergo sideways or lateral bends and turns, as this can cause damage. Instead, use a connector to navigate around corners or create soft bends with a loop, allowing the strip lighting to change direction sideways without risking damage.



Make a corner turn using a wire lead StripLock™ connector.

Employ the loop bend technique for coves and above cabinet installations.

- Before installing or adhering the LED strip in place, mounting surfaces should be smooth, clean, completely dry, and free from dust, with temperatures above 60°F (15°C). Clean all mounting surfaces thoroughly with isopropyl alcohol. Avoid using regular rubbing alcohol and household cleaners as they may leave residues behind.

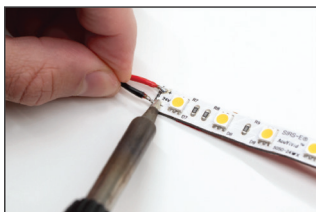
- Support the power wire leads, particularly when mounting under cabinets and shelves.
- For optimal adhesion, lightly sand the surface where you intend to mount the strip lighting using fine grit sandpaper (150-300 grit). Sand in a circular motion rather than a straight-line motion.
- Be cautious not to peel off the 3M® adhesive from the LED strip; only remove the tan paper backing.
- When installing on painted surfaces, ensure the paint is fully cured according to the manufacturer's recommended cure time.
- The 3M® sticky back strip adhesive requires pressure to activate. Starting from one end and moving to the other, firmly press the strip down using your fingers, ensuring not to press directly on the individual LEDs.



## INSTALLATION

**Two options exist for connecting power wires and joining two segments of LED strip lighting: soldering or utilizing SIRS-E® connectors.**

Soldering is a dependable method for creating robust and reliable electrical connections. For guidance on soldering StripFlexLED™, please refer to <https://sirs-e.us/blogs/articles/how-to-solder-led-strips>.



Wire Lead Connection



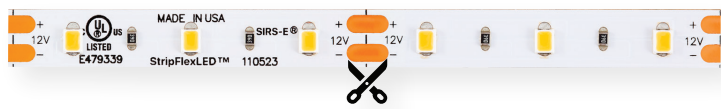
Splice Connection

Soldered connections are essential for marine and RV applications due to the movement and vibrations experienced in vehicles.

Whenever feasible, it's recommended to connect any necessary power wires to your strip lighting before installation.

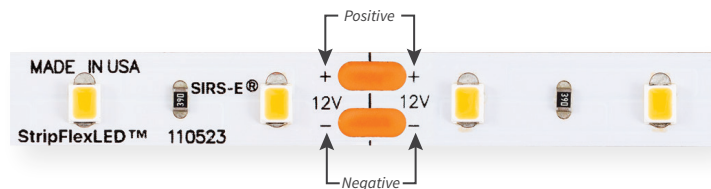
## TO CUT LED STRIP LIGHTS, FOLLOW THESE STEPS:

Whether you're soldering wires or using connectors, cut the LED strip with scissors directly in the center of the copper pad, as illustrated in the LED strip image below. It's also acceptable to cut soldered joints.



Cut the LED strip at the center of the copper pads.

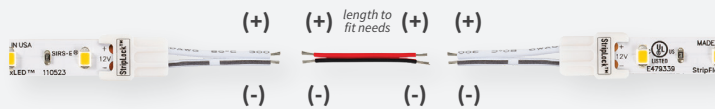
**IMPORTANT:** Always adhere to the + / - indicators printed on the strip light to maintain consistent polarity (+ to + and - to -).



## UTILIZING STRIPLock™ CONNECTORS

StripLock™ wire lead connectors serve multiple purposes, including navigating corners or, when halved, creating two power leads or jumper cables to bridge gaps, enabling lighting to reach other areas.

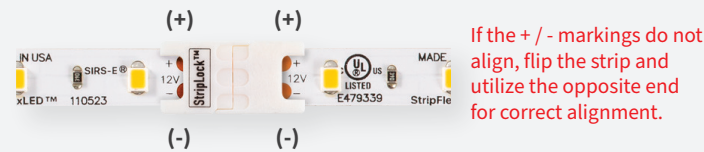
To extend the wire length between two LED strips, cut the connector wire in two and splice in the required length of wire. It's typically advisable to use 18 gauge or heavier wire. Avoid coiling excess wire, as shorter lengths and thicker wire minimize voltage drop and maximize brightness.



Ensure all wire splice connections are securely made and properly sealed. Options for sealing connections include soldering, using electrical tape, crimp connectors, terminal blocks, wire nuts, and more.

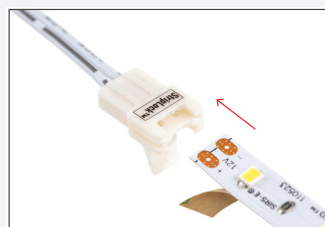
## STRIPLock™ SPLICE CONNECTORS

StripLock™ splice connectors are employed to join two strips, ensuring a continuous run of LED lighting.



## INSTALLING STRIPLock™ CONNECTORS

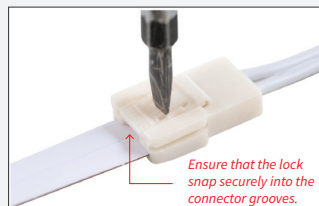
**StripLock™ Connectors, including both the wire lead and splice models, attach to the copper pads on cut sections of LED strip lights. Ensure you connect to clean copper pads and avoid using connectors on soldered joints.**



- Carefully peel back a small section of the 3M® adhesive strip paper backing, ensuring you remove only the paper and not the adhesive underneath.
- With the connector in an upright position (logo facing up), carefully insert the LED strip into the channel grooves as demonstrated.

- Use a gentle, side-to-side motion while inserting to ensure the strip is fully seated inside the connector.

Once the lighting is seated, press to close and securely lock the pressure pad door. If necessary, place the strip and connector upside down on a hard surface and use a flat-head screwdriver to close and lock the door in place.



If needed, you can use a flat-head screwdriver to securely lock the door in place.

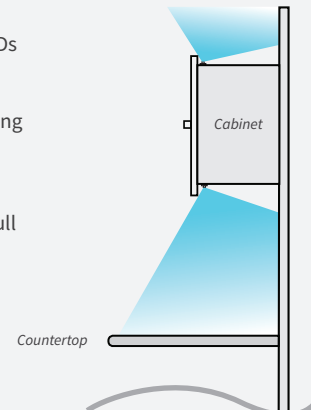


Once the strip is fully inside the connector, close and lock the pressure pad door.

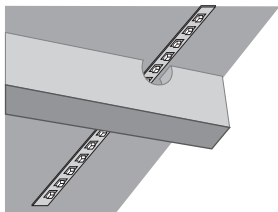
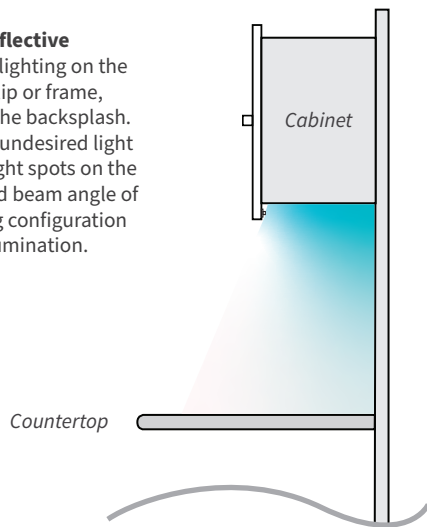
Follow the same basic instructions when using splice connectors.

## PLACEMENT OPTIONS FOR UPPER AND LOWER CABINET LIGHTING

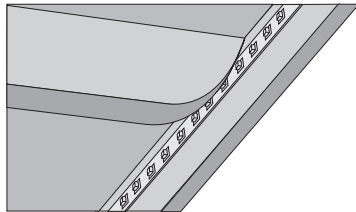
**For optimal light output,** place the LED strip at the front of the cabinet with the LEDs facing downwards or pointing upwards to illuminate the upper cabinets. To concentrate light on the countertop or ceiling while also illuminating your backsplash or wall, position the strip light an inch or two behind the front edge of the cabinet. This mounting position is most effective with dull or matte-finished surfaces.



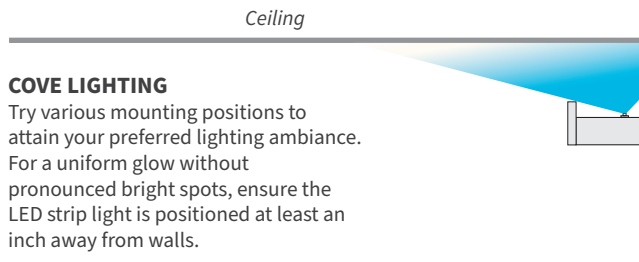
**If your countertop has a reflective surface**, place the LED strip lighting on the inside back of the cabinet's lip or frame, directing the LEDs towards the backsplash. This approach helps reduce undesired light reflections and prevents bright spots on the countertop. Due to the broad beam angle of the strip light, this mounting configuration will still deliver sufficient illumination.



LED lighting can be positioned using a drilled hole for installation.



LED strip lighting can be installed by inserting it through a slot cut into a cabinet divider.



### COVE LIGHTING

Try various mounting positions to attain your preferred lighting ambiance. For a uniform glow without pronounced bright spots, ensure the LED strip light is positioned at least an inch away from walls.

## TROUBLESHOOTING

### IF THE LED STRIP ISN'T FUNCTIONING

- Ensure that your LED power supply is receiving a 120-volt power input. If the power supply is not receiving the correct voltage, the LED strip may not function correctly or at all. Check the power outlet, circuit breaker, or any connections to ensure they are providing the appropriate voltage to the power supply. If the issue persists, consider testing the power supply with a multimeter or consulting a professional electrician to diagnose and resolve the problem.
- Make sure you maintain the correct polarity (+ to + and - to -) when connecting LED strips together and when attaching them to the 12-volt power supply. Incorrect polarity can damage the LED strips or cause them to malfunction. Always double-check the connections to ensure they align with the polarity markings on both the LED strips and the power supply before powering on the system.
- Inspect all connections for the strip light, as well as any switches or dimmers, from the power supply to the LED strip. Using a multimeter can help verify that the light strip is receiving the correct 12-volt power. Ensure all connections are secure, and there are no loose or damaged wires that could be causing the issue.

### ONLY PART OF THE LED STRIP LIGHT STRIP IS LIT

- Inspect the connections leading to the portion of the strip that is not illuminated. Ensure there are no loose, damaged, or improperly connected wires causing the issue. Reconnect or secure any problematic connections to restore proper functionality to the LED strip.

- Ensure that you've maintained the correct polarity when connecting to the unlit section of the LED strip. Proper polarity (+ to + and - to -) is crucial for the strip's functionality. Double-check the connections to make sure they align with the polarity markings and correct any mismatches if necessary.
- StripFlexLED™ features three LEDs connected in a series. If you encounter a partial failure, you can carefully remove the damaged segment and splice in a new section as required for repair. Ensure to maintain proper polarity and secure connections when performing the splice to ensure the strip functions correctly.

### LED STRIP LIGHTS BLINKING ON AND OFF

- The power supply you're using may not be sufficient for the length of the LED strip light you have installed. Consider upgrading to a higher wattage power supply or reducing the wattage by shortening the length of your LED strip lighting to ensure proper and consistent illumination without issues like blinking.

### THE LEDS LOCATED FURTHEST FROM THE POWER SUPPLY APPEAR LESS BRIGHT

- The dimming of LEDs at a distance from the power supply is due to voltage drop. To resolve this, you can either reduce the length of the 12-volt power feed wires or use thicker gauge wires between the 12-volt power supply and the LED strip lighting.
- Consider using shorter lengths of LED strip lighting.

## TECHNICAL INFORMATION

Input Voltage	12 V DC <sup>2</sup>
LED Chip Type	High Power SMD 2835
LED Density	60 LEDs per meter
Beam Angle	120°
Color Rendering Index (CRI)	±95
Light Output	~330 per ft. (~1000+ (lumens) per meter)*
Cuttable Segments	Approx. every 2 inches (50mm)
Segment Width	0.32 in (8mm)
Pre-Soldered Lead Wire	3.28 ft. (1m)
Country of Origin	USA

\*Light output is based on a 1-meter (3.3 ft) length. Voltage drop can affect lumen output for longer lengths. If you need more technical information, please refer to the product datasheet.

## LIMITED THREE-YEAR WARRANTY

Improper installation, misuse, or using this product outside its intended purpose will nullify the warranty. The warranty is valid only when all components, including LED power supplies, are supplied by SIRS-E® Lighting or approved by them for use. Labor and any associated costs or expenses for the removal, installation, repair, or replacement of products are not covered under the warranty.



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