

Q How do you provide power to Lucifer Light Strips?

A All Lucifer Light Strips are low voltage lighting fixtures which require properly sized transformer and wire gauge.

Q Can Lucifer Light Strips be connected in tandem?

A Yes, as long as the total wattage per circuit on a 24v or 12v system does not exceed the wattage limitations described under the heading Power Source.

Q Can Lucifer Light Strips be field cut?

A Yes. The strips can be field cut to size with nippers or a metal cutting saw.

Q If a single lamp burns out, will all other lamps of the same strip remain lit?

A Yes. The Light Strip is a parallel circuit design. All other lamps in the strip will remain lit without loss of light output.

Q Should the power supply be turned off before re-lamping?

A Yes. While the Lucifer Light Strip is low voltage and does not present a shock hazard, incandescent, quartz halogen, and xenon lamps illuminate at high temperatures. Therefore, we recommend that the power be turned off before relamping.

Q Can Lucifer Light Strips be used outdoors?

A The U.L. Class II listing is restricted to dry locations only.

Q Lucifer Light Strip can be used with either a 24v or 12v power supply. Which voltage is recommended?

A Generally, we recommend a 24v system. In an installation, a 24v system will allow for smaller gauge supply wire to be used over long distances from transformer to the strip light relative to 12v. For example, when using 14 gauge wire at 24v and 60 watt load, the transformer can be placed up to 55 feet away from the light strip. At 12v the transformer could not be located over 14 feet. When 12v halogen lamps are being used, 12v circuits must be supplied.

Q How is the correct transformer size calculated?

A Figure the total wattage of the installation by simply adding the total number of lamps times lamp watts per lamp. Derate Class I designated transformer sizes by 20%. Class II designated transformers do not require derating.

Q How many circuits may be run from a single transformer?

A Any number of circuits may be run from a transformer as long as the total wattage does not exceed the power of the transformer less any deration factor of 20%. For example, a TK-500 transformer (500w) may run 4 circuits of 100w each or 1 circuit of 160w, 2 circuits of 80w and 1 circuit of 60w, or any other combination so that the total load of this example does not exceed 400w.

Q Can halogen sources be used on the Light Strips?

A Yes. The optional HS-H1 and HS-R3 sockets can be introduced to series 400-500 only. The HS-H1 is for use with a maximum 12v, 10w, G4 base halogen lamp. The HS-R3 is for use with a maximum 12v, 20w, lensed MR-11 lamp. The introduction of halogen sources will typically dictate a 12 volt system. When using series 400-500 on a 12 volt system, the maximum wattage per circuit is 135 watts.

LIGHT STRIP

SERIES 200-500

INSTALLATION

Before beginning any LIGHT STRIP installation, disconnect electrical power at a main switch or circuit breaker.

SAFETY INSTRUCTIONS. To reduce the risk of fire, electric shock, or injury to persons:

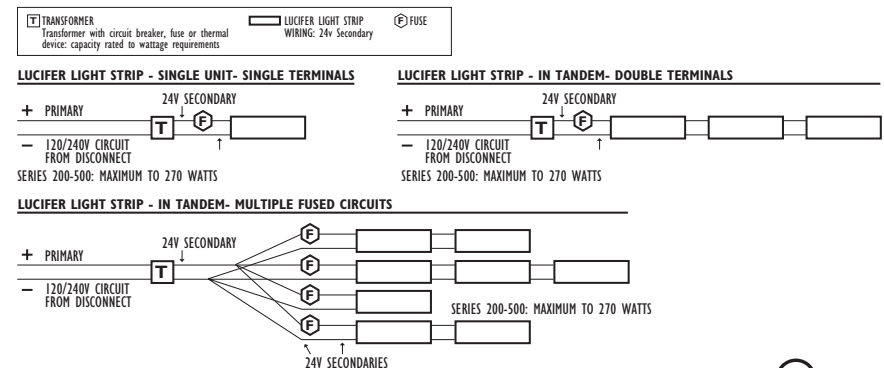
1. Read and save all instructions.
2. Turn off fixture and allow to cool before re-lamping.
3. Do not look directly at or touch the lamps when lit.
4. Keep away from materials that may burn, including fabrics, paper goods, and the like.
5. Mount only on a surface that is mechanically sound.

POWER SOURCE. Series 200, 300, 400, and 500 are designed to operate with a 24 volt or 12 volt power supply only. Light Strips do not have built-in transform-

ers. A remote 24v or 12v transformer is required to power Light Strips. Each low voltage circuit from the power supply must be protected with an in-line circuit breaker or fuse that is properly sized to the load. Series 200-500 are rated for a maximum load of 11.25 amps. This is equivalent to 270 watts at 24 volts or 135 watts at 12 volts.

WARNING: No Series 200-500 circuit shall exceed 270 watts in a 24 volt system or 135 watts in a 12 volt system.

CONNECTING & FUSING. Follow Diagram for Connecting and Fusing below. The illustrations are based on a 24v secondary. When a 12v secondary is used, divide the wattage capacity in half.



Illustrations based on 24v secondary. When a 12v secondary is used, maximum wattage shall be 135w per circuit for Series 200-500.

SAVE THESE INSTRUCTIONS. LIGHT STRIPS 200-500 ARE U.L. LISTED.

WIRING. Although 12 volt or 24 volt systems operate at 'low voltage,' they require higher amperage for a specified wattage. The current is 10 times greater for a 12 volt system than for a 120 volt system of the same wattage. The result is that larger wire sizes are required for 12 volt or 24 volt systems than for 120 volt systems to minimize voltage drop on the line.

Extended runs of secondary wiring from a remote transformer to the Light Strip

should be limited to avoid drop in voltage and lumen output. Voltage drop should be limited to 2 volts between the transformer and the last lamp to insure proper voltage at the end of the line.

WARNING: Secondary wire size and wire length from transformer should not exceed figures set forth in table below.

RECOMMENDED WIRE SIZE AND WIRE LENGTH (IN FEET) FROM SECONDARY TRANSFORMER

Watts/Circuit	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300
Amps/24v Circuit	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3	9.2	10.0	10.8	11.7	12.5
14 AWG	164.0	82.0	55.0	41.0	33.0	27.0	23.0	21.0	18.0	16.0	15.0	14.0	13.0	12.0	11.0
12 AWG	261.0	131.0	87.0	65.0	52.0	44.0	37.0	33.0	29.0	26.0	24.0	22.0	20.0	19.0	17.0
10 AWG	416.0	208.0	139.0	104.0	83.0	69.0	59.0	52.0	46.0	42.0	38.0	35.0	32.0	30.0	28.0
8 AWG	660.0	330.0	220.0	165.0	132.0	110.0	94.0	83.0	73.0	66.0	60.0	55.0	51.0	47.0	44.0
6 AWG	1052.0	526.0	351.0	263.0	210.0	175.0	150.0	132.0	112.0	105.0	96.0	88.0	81.0	75.0	70.0

Amps/12v Circuit	1.7	3.3	5.0	6.7	8.3	10.0	11.7	13.3	15.0	16.7	18.3	20.0	21.7	23.3	25.0
14 AWG	41.0	21.0	14.0	10.0	10.0	8.0	7.0	6.0	5.0	-	-	-	-	-	-
12 AWG	65.0	33.0	22.0	16.0	13.0	11.0	9.0	8.0	7.0	6.0	5.0	-	-	-	-
10 AWG	104.0	52.0	35.0	26.0	21.0	17.0	15.0	13.0	12.0	10.0	9.0	8.0	7.0	7.0	7.0
8 AWG	165.0	83.0	55.0	41.0	33.0	28.0	24.0	21.0	18.0	17.0	15.0	14.0	13.0	12.0	11.0
6 AWG	263.0	132.0	88.0	66.0	53.0	44.0	38.0	33.0	29.0	26.0	24.0	22.0	20.0	19.0	18.0

TRANSFORMER INSTALLATION.

The recommended transformer installation locations are next to power panels, in utility rooms or service areas which are easily accessible. Transformers should NOT be installed in locations where they would be subject to high ambient heat, or in areas with no ventilation. It is best to locate the transformer in the center of the load with the shortest possible wire runs to the Light Strips.

Class I transformers are not internally protected on the secondary side, therefore each fixture run should be protected for safety by a circuit breaker or fuse no larger than the wire amp capacity.

Class II transformers have their own built-in circuit breakers, and must never be 'ganged' together on their secondaries. Class II transformers must be located in readily accessible areas to allow circuit breaker resetting. Do NOT install Class II

transformers in attic areas or in any location where the ambient temperature may exceed 115°F (46°C), because the circuit breakers will nuisance-trip due to excessive heat.

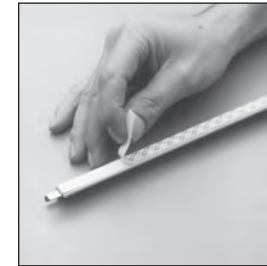
DIMMING. Light Strips may be dimmed through use of appropriate dimmer controls installed in the primary circuit of the transformer. All transformers must have clean voltage wave shapes applied to them to prevent overheating and burnout. Standard household-type dimmers which phase clip the voltage wave will burn out both the transformer and the dimmer.

WARNING: Do not use incandescent or fluorescent dimmers! Use only dimmers expressly identified for dimming transformers.

INSTALLATION

MOUNTING

Mounting is simple and practical by means of double-sided foam tape for easy installation. Simply peel away the tape liner and press the strip onto the clean, dry mounting surface.



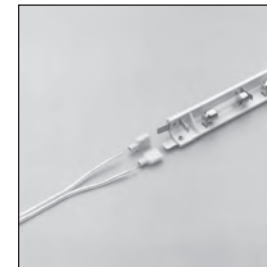
ATTACHMENT

Additional attachment should be made with #4 screws installed only through the pilot holes provided. Additional pilot holes may be made at any point along the spine of the strip.



POWER CONNECTION

Easy power connection by crimp-on spade connectors.



CUTTING

Light strips can be ordered to specified lengths or cut by use of a small saw at project site by the installer. Burrs should be removed by filing after cutting product. In instances where cut strips are installed end-to-end, allow sufficient space between strips to eliminate the possibility of shorting.



TANDEM CONNECTION

Model RBT crimp-on spade connector is used to connect two strips in tandem where change of direction or radius lighting is required.

