

LED Rope Light: Determining Maximum Run

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Overview

The maximum run of LED rope light varies dependent on the wattage and voltage of the rope light as well as the amperage of the power source.

Wattage and voltage can be found on the 1000Bulbs.com product listing as well as on the product packaging. Amperage can be found printed on either the rectifier (power cord) or the DC power source.

Please note that all accessories referred to in this document are ½ inch. LED rope lights of other diameters will require different accessories, though maximum run will still be calculated using the same formula.

Formula

$$\frac{\text{Source Amps} \times \text{Rope Light Voltage}}{\text{Watts Per Foot}} = \text{Maximum Run}$$

120 Volt LED Rope Lights

The most common way to operate 120V LED rope lights is to use the rectifier packaged with the spool.

As an example, 1000Bulbs.com stock code SIV-LEDSWW is packaged with a 1.6 Amp rectifier. It is rated at 120 volts and 0.76 watts per foot.

$$\frac{1.6A \times 120V}{0.76W} = 253 \text{ ft. Max Run}$$

To increase maximum run, rectifiers of higher amperage can be used, including SIV-F118 (8.0 Amps), which increases maximum run up to 1,263 ft.

Low Voltage LED Rope Lights

Low voltage LED rope lights are not packaged with a rectifier. Instead the supplied "transformer-ready" power cord should be spliced to an approved transformer that both lowers the voltage and rectifies the current from AC (Alternating Current) to DC (Direct Current), such as 1000Bulbs.com stock code LED-MVB12030M.

Substituting the lower voltage (in the example, 12V) and the amperage of the transformer (in the example, 2.5A) the same formula can be used to determine maximum run for 12 or 24 volt rope lights

Using 1000Bulbs.com stock code SIV-IFL75A (rated at 12 volts and 0.76 watts per foot) as an example:.

$$\frac{2.5A \times 12V}{0.76W} = 39 \text{ ft. Max Run}$$

Low voltage LED rope lights can also be used with a battery or other DC (Direct Current) power source. The same formula determines maximum run; simply substitute the amperage of the power source.
