

POWER SUPPLY SELECTION GUIDE

Low voltage LED lighting products such as strip light must be run from a regulated DC voltage power supply. This differs from a transformer which outputs an unregulated AC voltage, which may damage some LED products.

Information

There are two factors that determine the power supply to use for your lighting project:

- The voltage to run the LED product from (usually 12V or 24V)
- The total wattage of the load (the power supply must be rated higher than the load wattage)

The following is a table of common LED products and their relevant information:

Product	Part Number	Voltage	Wattage
3528 Strip Light	LED-SL3528XXX	12V	4.5W per meter
5050 Strip Light	LED-SL5050XXX	12V	14.4W per meter
5050 Strip Light (24V)	LED-SL5050X24XX	24V	14.4W per meter
5050 Strip Light RGBW	LED-SL5050NXXRGBW	12V or 24V	19.2W per meter
COB Strip Light (24V)	LED-SLCOBN24XX	24V	14W per meter
LED Neon Flex	LED-NFL12012XX	12V	
12V Rope Light	LED-RL12XX	12V	0.4 – 1.4W per meter
3-LED Modules	LED-MOD312XX	12V	1.2W or 1.5W ea

Calculation

To calculate the total wattage of the load, multiply the wattage per unit (meter or ea) by the total number of units, then select a power supply that has a higher wattage rating than this. This is also shown as the following formula:

$$Power_T = Wattage_u \times Number_u$$

Where $Power_T$ is the total power, $Wattage_u$ is the wattage per unit (meter or each), and $Number_u$ is the number of units (meter or each).

Example

To run 3m of 12V 5050 strip light the total wattage is 14.4W x 3m = 43.2W. The strip requires the next available power supply above this wattage, which is a 12V 60W model (either LED-PS12V060W, LED-PS12V060WMW, LED-PS12V060WPMW).

Safety

It is recommended that any electrical work be performed by a registered electrician. If you will be attempting any work yourself, please review the NZECP 51 - Electrical Code of Practice for Homeowners document on the Energy Safety website. Go to worksafe.govt.nz and search for "ECP 51".