

## 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	LEDstuff 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-SL5050S24XX	24V	14.4W per meter
5050 Strip Light RGBW	LED-SL5050NXXRGBW	12V or 24V	19.2W per meter
3020 Strip Light (24V)	LED-SL3020N24XX	24V	22W per meter
LED Neon Flex	LED-NFL8024X	24V	2.2 – 3.0 W per meter
LED 12V Rope Light	LED-RL12XX	12V	0.4 – 1.4W per meter
50cm Bar Light	LED-BAR50XX	12V	6W ea
3-LED Modules	LED-MODI3XX	12V	0.3W ea
4-LED Modules	LED-MODI4XX	12V	1.0W 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).

A list of available power supplies is shown in the following table:

<b>12V Supplies</b>		
<b>LEDstuff Part Number</b>	<b>Wattage</b>	<b>Model Type</b>
LED-PS12V005W	5W 0.4A	Hard Wire Ready
LED-PS12V006W	6W 0.5A	Hard Wire Ready
LED-PSW12V12W	12W 1A	Wall Adapter
LED-PS12V020W	20W 1.6A	Hard Wire Ready
LED-PSW12V24W	24W 2A	Wall Adapter
LED-PS12V030W	30W 2.5A	Hard Wire Ready
LED-PSW12V36W	36W 3A	Wall Adapter
LED-PS12V045W	45W 3.75A	Hard Wire Ready
LED-PS12V060W	60W 5A	Hard Wire Ready
LED-PSW12V60W	60W 5A	Wall Adapter
LED-PS12V100W	100W 8.3A	Hard Wire Ready
LED-PS12V150W	150W 12.5A	Hard Wire Ready
LED-PS12V200W	200W 16.6A	Hard Wire Ready
<b>24V Supplies</b>		
<b>LEDstuff Part Number</b>	<b>Wattage</b>	<b>Model Type</b>
LED-PS24V020W	20W 0.83A	Hard Wire Ready
LED-PS24V030W	30W 1.25A	Hard Wire Ready
LED-PS24V045W	45W 1.875A	Hard Wire Ready
LED-PS24V060W	60W 2.5A	Hard Wire Ready
LED-PS24V080W	80W 3.33A	Hard Wire Ready
LED-PS24V100W	100W 4.16A	Hard Wire Ready
LED-PS24V150W	150W 6.25A	Hard Wire Ready
LED-PS24V200W	200W 8.33A	Hard Wire Ready

### Example

To run 4m of 12V 5050 Strip Light the total wattage is  $14.4W \times 4m = 57.6W$ . The strip requires the next available power supply above this wattage, which is a 12V 60W model (LED-PS12V060W).

### 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](http://worksafe.govt.nz) and search for "ECP 51".