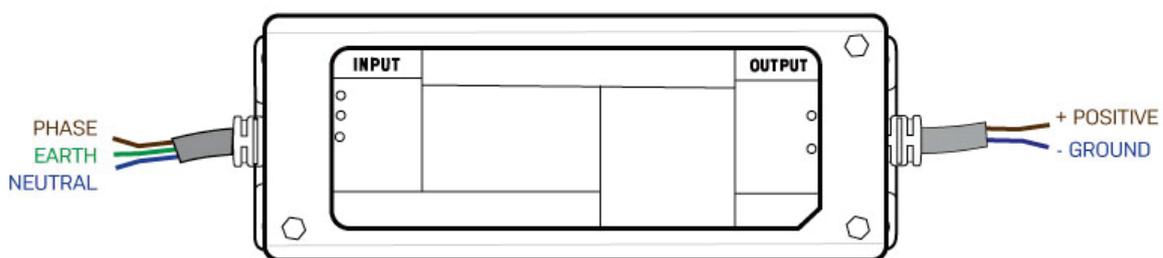


STRIP LIGHT WIRING

LED strip light requires a regulated DC voltage to operate, which is usually 12V DC. When running LED strip light from mains AC power, ensure you install a suitable power supply. Note that a 'transformer' outputs an AC voltage that is not suitable for running LED strip light and similar products.

Power Supplies

A power supply outputs a regulated DC voltage which is required by LED strip light. LEDstuff waterproof power supplies come with flying wires out each end. At one end brown, blue and green wires are available for connecting to mains 230V AC. At the other end, brown/blue, or black/red, wires are available for the regulated DC voltage. The image below shows this power supply wiring. Some power supplies come with a 3-pin plug on the input end, and others have multiple output wires which can be used to power multiple loads (if running a single load, these should be connected in parallel).

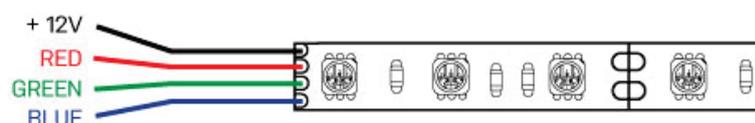


Strip Light

Single colour strip light requires a +12V connection from a power supply. Simply connect the red (+12V) wire to the brown/black (+12V) wire of the power supply, and the black (ground) wire to the blue/red (ground) wire on the power supply.



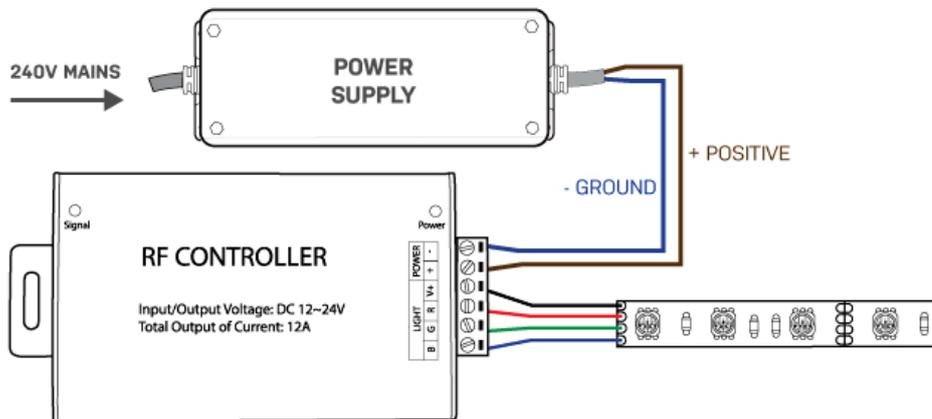
RGB strip light has a 4-wire connection, where green, red and blue are for the green, red and blue LEDs, and the black/white wire is the common +12V connection. These 4 wires are usually wired to an appropriate RGB controller, however to hard wire the strip you can connect the black/white (+12V) wire to the brown/black (+12V) wire on the power supply, and any combination of the green, red and blue wires to the blue/brown (Ground) wire of the power supply.



Note: When running any 12V load the wire length should be kept as short as possible to minimise losses. A rule of thumb when running 0.75mm cable is to run no more than $(500 / \text{Watts})$ in meters. For example, 100W should be less than 5m.

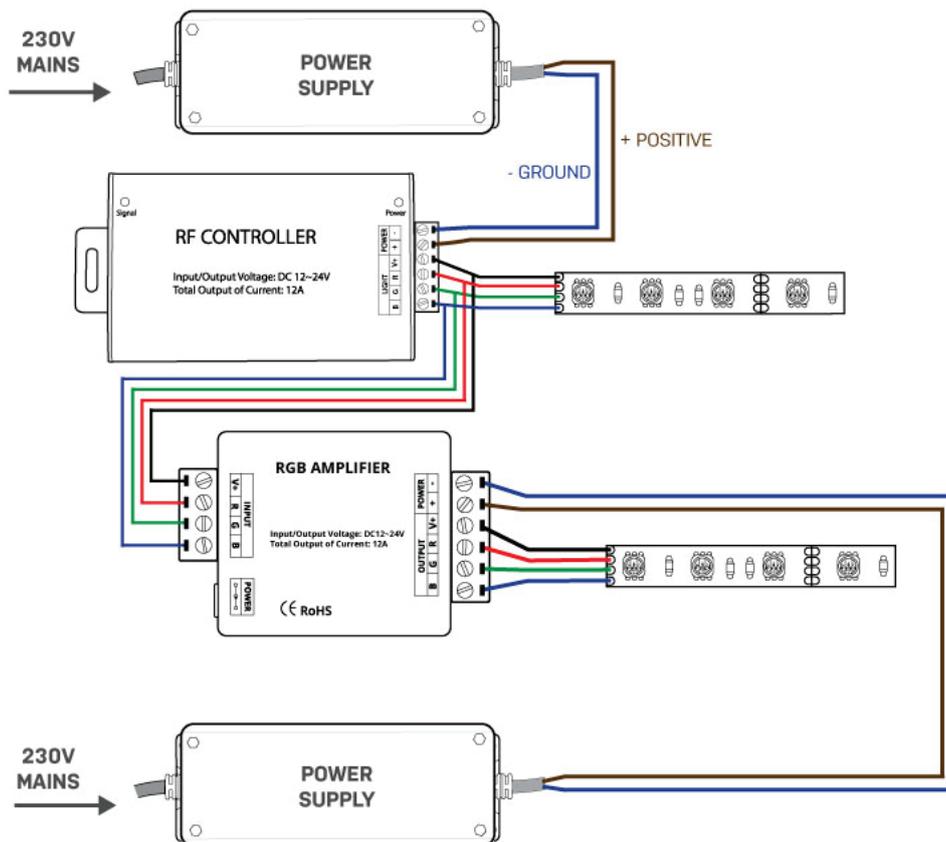
RGB Controllers

An RGB controller is required to run 4-wire RGB strip light and to enable the colours and effects. The following wiring diagram shows how to wire up a power supply, RGB controller and strip light. Note that a standard RGB controller can typically run up to 140W of strip light (see controller specifications for actual limit).



RGB Amplifiers

When you want to control more strip than a single controller can drive, but you do not want to have a second controller, you can install an RGB amplifier. As shown in the wiring diagram below, the amplifier takes the 4-wire signal from the RGB controller and drives a second lot of strip, typically from a second power supply.



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 www.worksafe.govt.nz and search for "ECP 51".