

RGB LED Modules

WARNING

THIS PRODUCT USES HIGH BRIGHTNESS LEDs. DIRECT VIEWING OF THE LED MODULES AT CLOSE RANGE SHOULD BE AVOIDED.

HAVING ISSUED THIS WARNING THE LITEWAVE COMPANY WILL NOT ACCEPT ANY RESPONSIBILITY FOR ISSUES ARISING FROM ANY FAILURE TO COMPLY WITH THIS CLEAR INSTRUCTION.

KEEP AWAY FROM CHILDREN

LITEWAVE WILL NOT ACCEPT RESPONSIBILITY FOR ANY OTHER ISSUES ARISING FROM IMPROPER USE OR FITTING OF THIS PRODUCT AS THESE MATTERS ARE BEYOND OUR CONTROL.

Installation

Prior to Installation we advise that you bench test the RGB LED Modules, they are usually tested prior to dispatch. Connect the end red wire to the negative (-) wire of the power supply (a 9v pp3 will also work), then separately connect the 3 coloured wires to the positive (+) wire of the power supply (or battery) to confirm that each of the primary colours – Red, Green, and Blue are all working.

Ensure that all of the LEDs are fully lit – **AVOID VIEWING THE LEDS DIRECTLY**

Decide where you want to place the LED Modules, using a marker pen mark where the module will start and end. Drill small holes to fit suitably sized screws.

Alternatively the Modules can be fixed into place with double sided adhesive tape/pads, double sided padded tape is available on the roll from most car accessory shops.

Wiring

Without the ICELED Flexidriver:

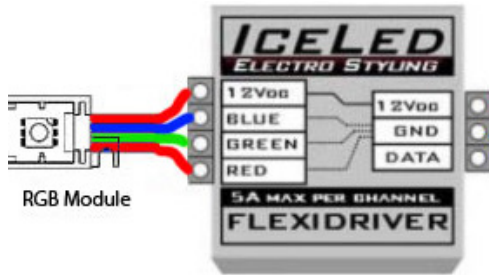
The best way for basic control (although you will only get 7 colours) is to use a switch along each of the coloured wires. The switch in turn should be connected to the negative of the power supply.

However we would advise using our Flexidriver which will give you a colour range of 2.1 million colours by varying the power to each of the 3 colours. For even further control use the Flexidriver in conjunction with a Zap+ or ZEN Controller.

Wiring the RGB LED Modules to the Flexidriver:

Connect the end red wire to the terminal labeled "12VDC", the remaining coloured wires should be connected to the corresponding labels on the Flexidriver as shown below, make sure all the screws are tightened securely onto the wires – being careful not to trap the insulation under the screw as this could cause a poor connection.

Next you will need to connect the output wires from 12vdc power supply to the Flexidriver.



The positive (+) wire from the output of the Power Supply should be connected to the "12VDC" label on the Flexidriver, the remaining wire connects to the "GND" label. Switch on the power to the power supply, the RGB Module/s should now light up if they do not immediately switch off the power and check all fuses and connections.

If a power supply having a significantly greater current capacity than the current requirement of the LED product(s) is to be used then a safety fuse will be required. This is to prevent excess current flowing through the supply wiring and LED product(s) under fault conditions such as accidental damage. Such a fuse must be located as near to the supply or driver to protect the installation wiring and shall have a current rating just higher than the total load anticipated under normal operating conditions.

Note that a fuse may only be omitted from the low voltage side if the power supply provides its own overload protection and is unable to significantly exceed the maximum rating of the wiring and LED product before it trips.

The 4 wires from the RGB Modules can be extended if necessary by using any low-voltage 4-Core cable with a current rating of 3 Amps or greater for every 50 Modules being powered, 100 Modules would require 6A cable. With long cable runs the use of a cable with a higher current rating will ensure minimal voltage-drop in the wiring which could otherwise affect the colour rendering. **100 Modules is the maximum recommended length for a continuous run** (spur) otherwise colours may not appear uniform along the entire length and the Modules may be overloaded. If longer runs are required, and the power supply has adequate capacity, additional lengths should be wired back directly to the supply or driver forming separate spurs. Do not extend the RGB Modules with excess lengths or other types of current load.

If a power supply having a significantly greater current capacity than the current requirement of the LED product(s) is to be used then a safety fuse will be required along the positive input wire to the product. This is to prevent excess current flowing through the supply wiring and LED product(s) under fault conditions such as accidental damage. Such a fuse must be located as near to the supply or driver to protect the installation wiring and shall have a current rating just higher than the total load anticipated under normal operating conditions.

Note that a fuse may only be omitted from the low voltage side if the power supply provides its own overload protection and is unable to significantly exceed the maximum rating of the wiring and LED product before it trips.

If linking the Flexidriver to a ZAP+ or ZEN Controller, the cable or wire should be rated according to the total load, see cable and fuse ratings. **If extending the wire make sure the wire you use is rated for the load.**

If hard-wiring the input of the Power Supply to the AC mains it is essential to use a fused wall switch or outlet. The fuse on the mains side should be 3A or less. Only a qualified electrician should hard-wire the Mains PSU.

Power Supplies should be installed in a dry location.

Warranty

This product is warranted from manufacturing defect only. This warranty is valid for 1 year from the date of purchase. This warranty does not apply to damage caused by user installation or normal wear and tear.

The Litewave Company nor its respective owners does not warranty against damage to any surface due to removing or applying this product.

Please follow instructions and warnings carefully.

Specifications

Nominal supply voltage:	12 Volts DC (±)
Viewing Angle:	120 Degrees
Maximum current drain:	54ma per module (when LEDs showing white light)
LED Type:	RGB SMD
Light Dispersion:	120 degrees
IP Rating:	IP55 (Splashproof)
Operating Temp:	5-55 Degrees C.



Switchmode Power Supply recommended.

Resources

To see the full Litewave product range visit <http://www.litewave.co.uk>

Environmental Information



At the end of this product's usable life it should be disposed of according to WEEE regulations, which means it should be taken to your local municipal site for safe disposal/recycling.

Safety Information:

- Keep away from children
- The product itself and all its components should not be mechanically stressed.
- Installation must not damage or destroy conducting paths or other parts of the product
- Installation of LED product (with power supplies) needs to be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
- Correct electrical polarity needs to be observed. Wrong polarity may damage or destroy the LED product.
- Parallel connection is highly recommended as safe electrical operation mode.
- Serial connection is not recommended. Unbalanced voltage drop can cause hazardous overload and damage the strip.
- Please ensure that the power supply is of sufficient power to operate the total load.
- Only power the LED product with Switchmode Power Supplies (constant voltage). Do not use a constant current Power Supply.
- If fixing on metallic or otherwise conductive surfaces, there should be an electrical insulator between the product and the mounting surface.
- All LEDs are static sensitive.
- Damaged by corrosion will not be honored as a materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
- Identify Positive (+) and negative (-) outputs of the Power Supply by using a multimeter.
- Electrical Connections should be in a dry area unless adequately sealed.

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