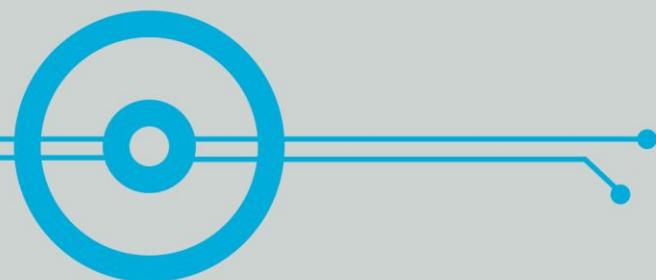


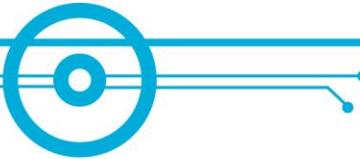
emp designs

# LV5 User Guide



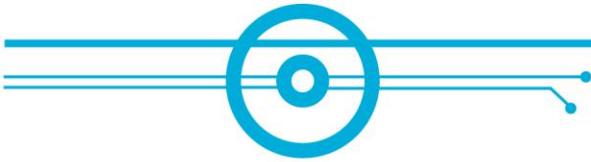
**DATE**  
28/1/2025

**PREPARED BY**  
Kate Stanton



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## IMPORTANT SAFETY NOTICE

Read this user guide in full before you attempt to use the LV5.

On receipt of the LV5, check no damage has occurred whilst in transit. If you suspect any damage, do not use the controller until you have discussed the issue with EMP Designs Ltd.

If you do not fully understand anything contained in the user guide, contact the manufacturer by email before use ([info@empdesigns.co.uk](mailto:info@empdesigns.co.uk)).

Ensure that all electrical connections and interconnections between external LED's are properly made in accordance with the manufacturers' instructions and no short circuits between channels are made.

All external wiring remains the responsibility of the user.

Whilst EMP Designs Ltd. has made every effort to ensure the LV5 is safe to use and meets the client's specification, the client, prior to each application, should always complete on-site testing.

All external connections should only be made while the power is turned off.

Do not attempt to disassemble the controller in any way. Please return the controller to EMP Designs Ltd. if any servicing is required.

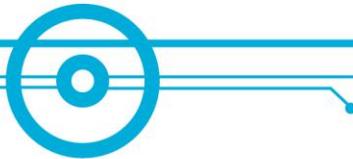
Damage may occur if the controller outputs are continually overloaded or short circuited.

Damage may occur if the power in polarity is incorrect.

Ensure a fuse is fitted to the input supply of the controller.

Avoid places subject to extremely high temperatures or humidity.

EMP Designs Ltd  
LV5 User Guide 28/1/2025



## Power Specification

Power Specification	
Output Channels	5
Current per channel max	4A
Voltage input	12-24Vdc
Voltage output	12-24Vdc



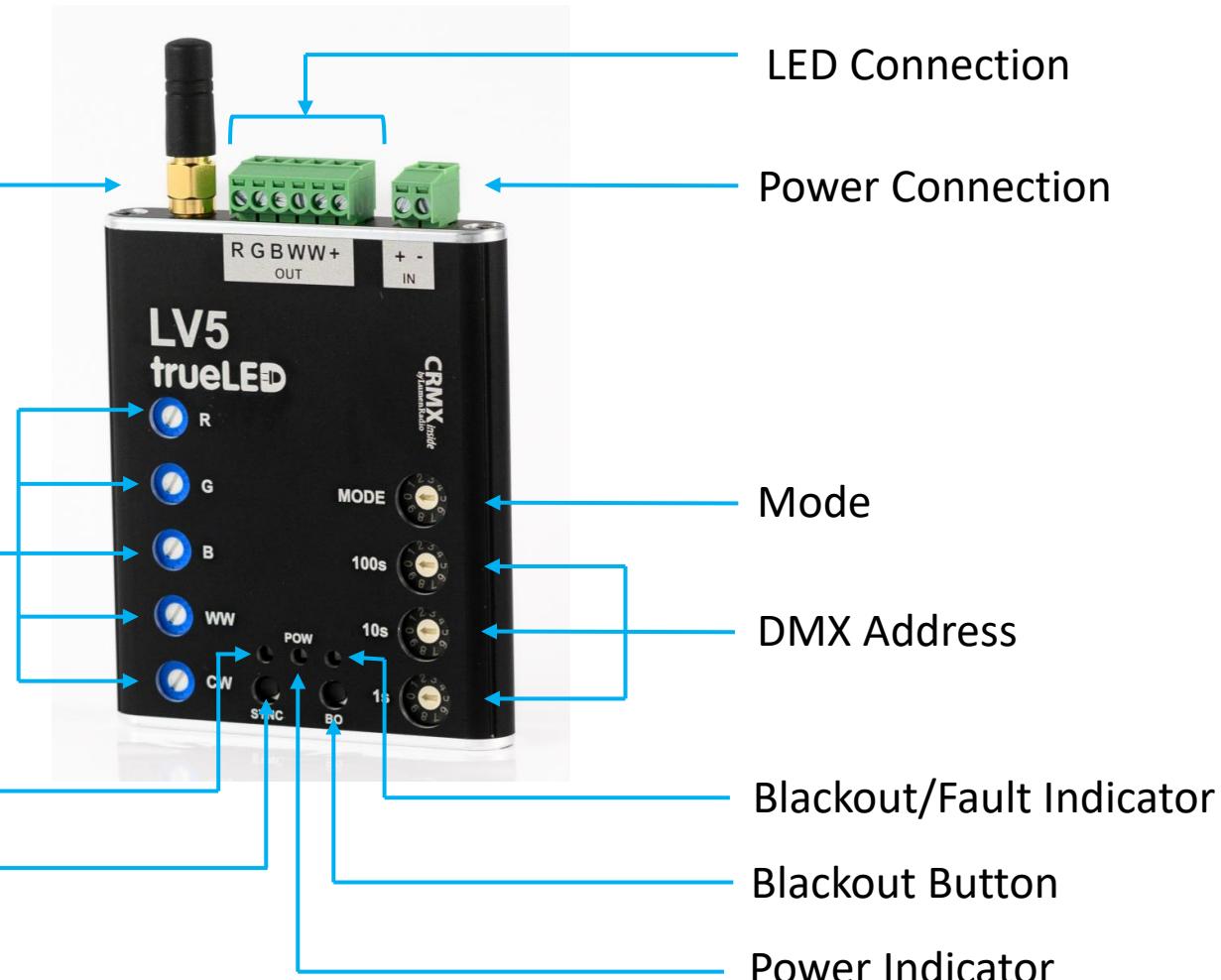
## User Controls Guide

Antenna

Manual Input Dials

Sync Indicator

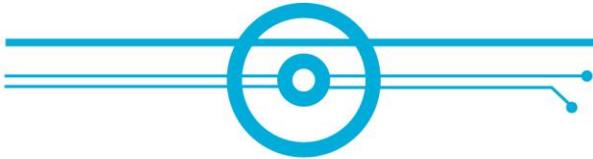
Sync Button





## Mode Table

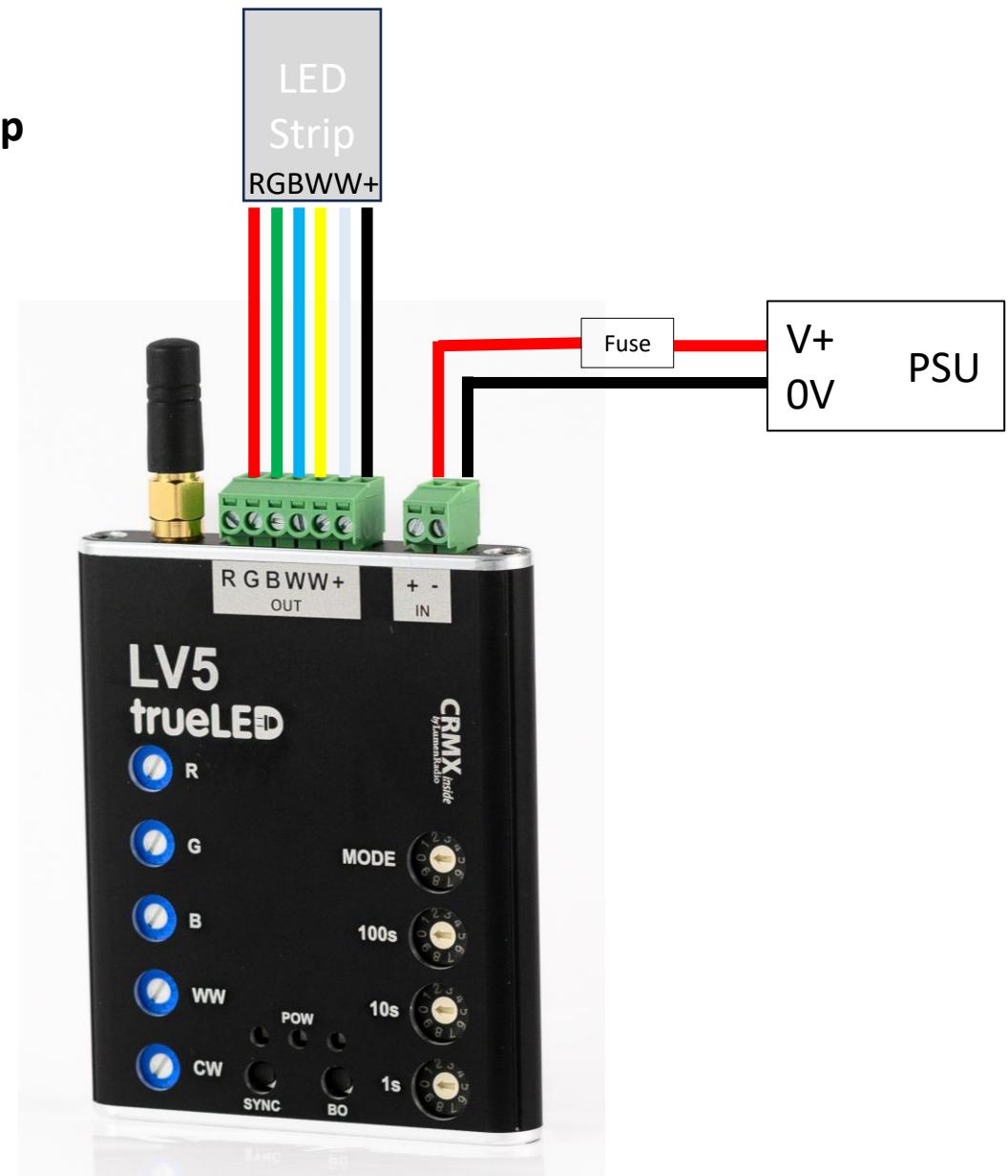
Mode	Description	DMX Channels Required
Mode 0	Manual individual control of 5 channels	0
Mode 1	Radio individual control of 5 channels	5
Mode 2	Manual Bicolour control	0
Mode 3	Radio Bicolour control	4

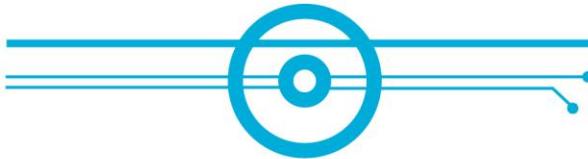


## Typical Application Wiring Diagram for RGBWW Strip (for reference only)

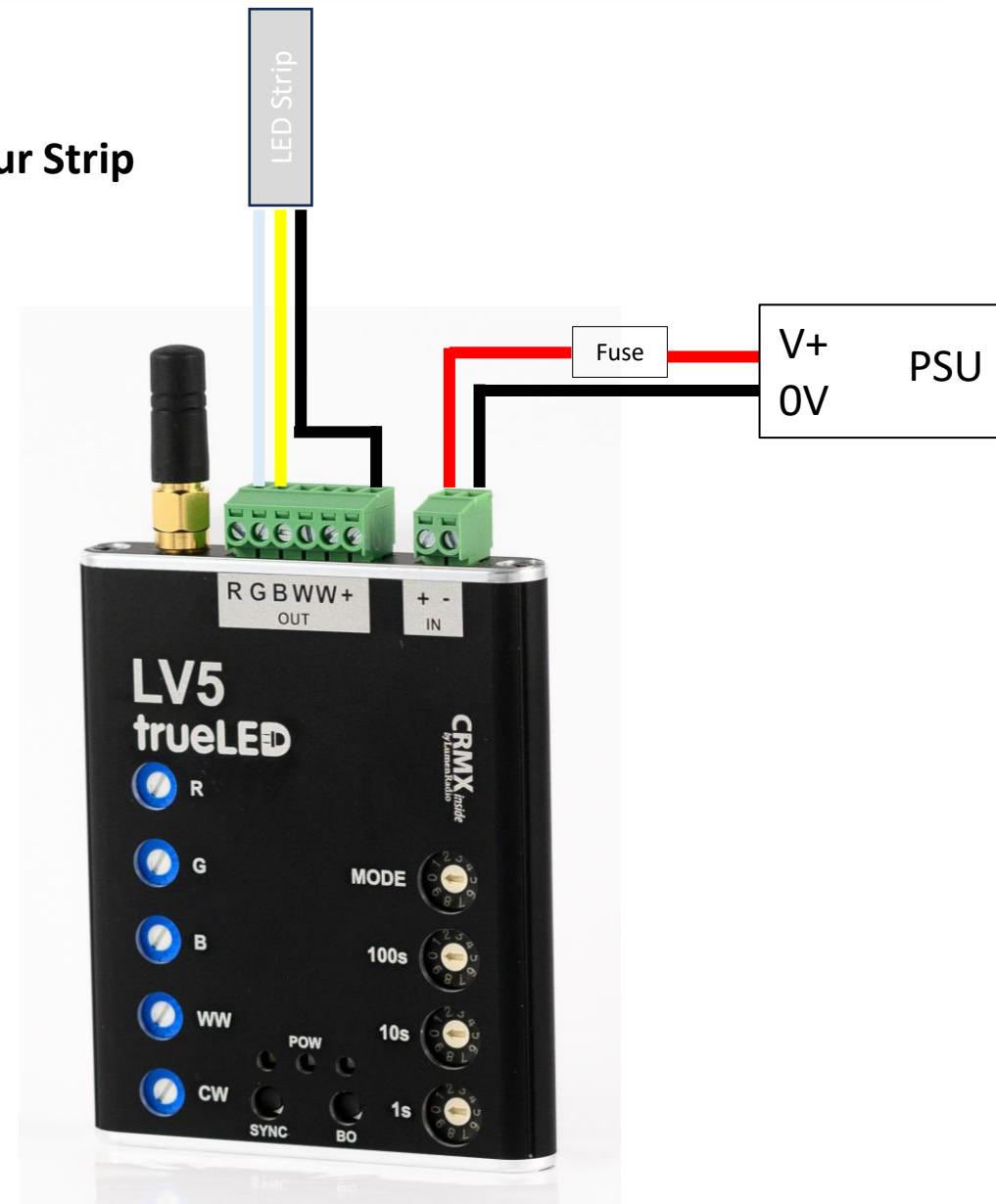
Strip back approx. 5mm of insulation to expose the wire on the LED strip.

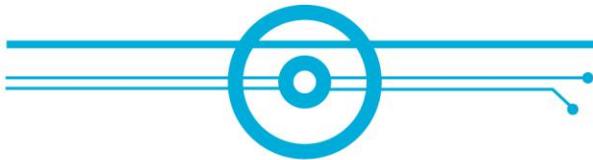
Make sure the wire is clamped securely in the connector with no uninsulated wire exposed outside of the connector block.





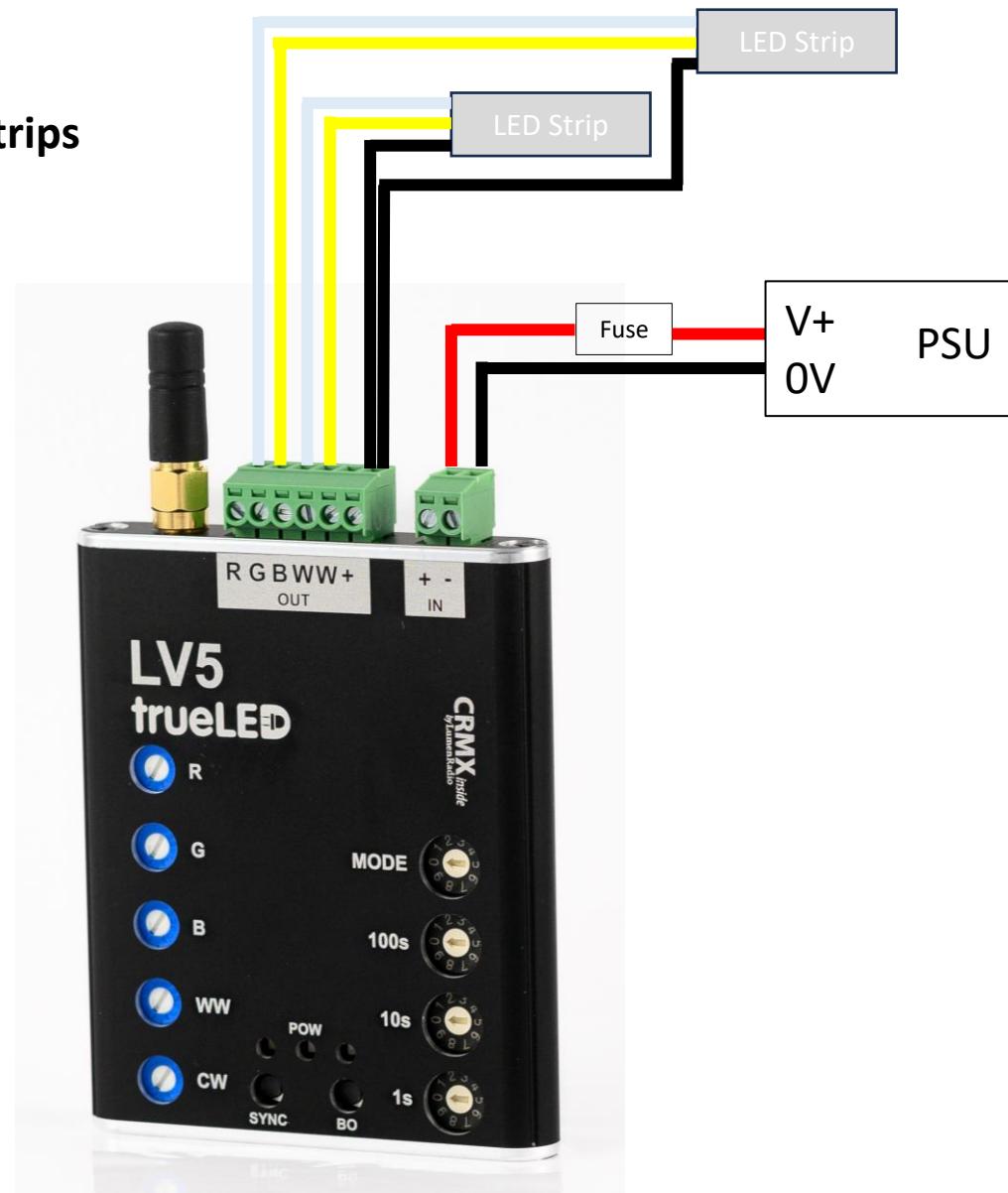
## Typical Application Wiring Diagram for a single Bi-Colour Strip (for reference only)

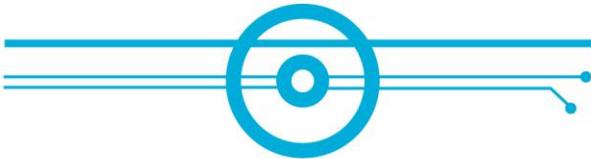




## Typical Application Wiring Diagram for two Bi-Colour Strips (for reference only)

It is possible to connect 2 bi-colour strips to one LV5 if required by using the available channels on the controller.





## Synchronising your LV5

To link the controller to a new transmitter press and hold the recessed sync switch for more than 3 seconds or until the status LED is off, then on your transmitter press the sync button. The Radio status LED on the controller will start to blink and once the transmitter has finished syncing, the controller will be connected to your transmitter.

## Radio Status LED

The radio status LED indicates the following

### Receiver



Constant off (0V): Not linked to any transmitter



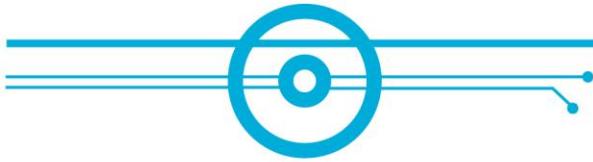
Flashing: off (0V) 100 ms / on (V<sub>DD</sub>) 100 ms: linked to a transmitter but no active radio



Flashing: off (0V) 900 ms / on (V<sub>DD</sub>) 100 ms: Active radio link, no DMX present

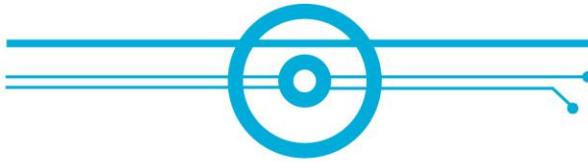


Constant on (V<sub>DD</sub>): Active radio link, DMX data present



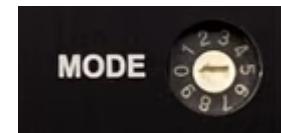
## How to use the LV5

1. Connect the LED strip to the controller in accordance with the wiring diagram. The wiring diagram required can be found on either pages 6,7 or 8.
2. Switch the power supply on ensuring that the voltage is set in accordance with the voltage of the LED strip.



## Using Mode 0: Manual Individual Control of 5 Channels

1. Turn the arrow on the mode dial to point at 0.



2. As you turn the colour dials, you will observe the colour of your LED strip change. Adjust the dials to achieve the colour you would like on the strip.



Red

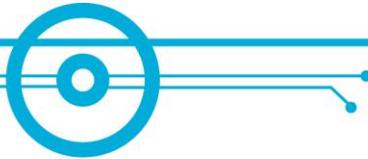
Green

Blue

Warm White

Cold White



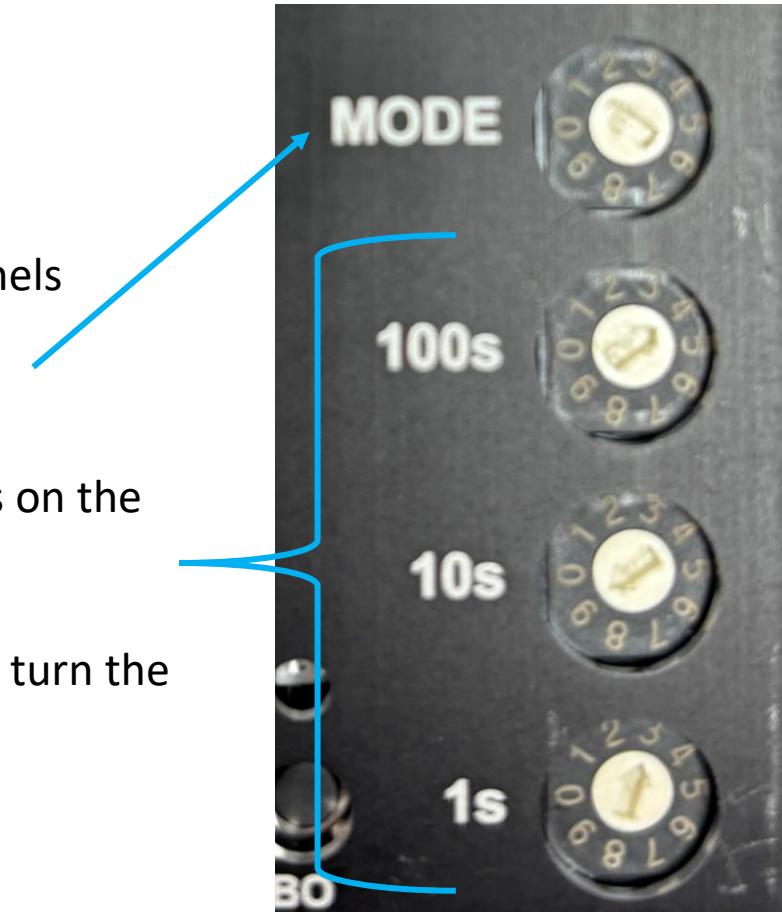


## How to use the LV5

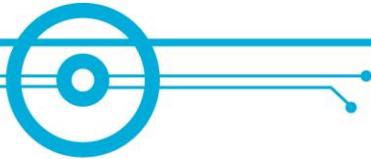
### Using Mode 1: Radio Individual Control of 5 Channels

- 1.1. Turn the arrow on the mode dial to point at 1.
- 1.2. Now alter the DMX dials to match the address on the radio desk.

For example, if the radio desk has the address 493 turn the dials as shown in the photo on the right.



4  
Four hundred  
9  
Ninety  
3  
Three



## How to use the LV5

### Using Mode 1: Radio Individual Control of 5 Channels

1.3. Press sync on the radio transmitter. The blue indicator light will flash whilst it is synchronising. Once it stops flashing it has synchronised. The LV5 can now be controlled via a radio transmitter.

1.4 To desynchronise the LV5 controller from the radio transmitter, simply press and hold the sync button on the LV5 until the blue LED turns off.



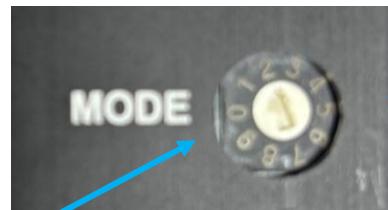


## How to use the LV5

### Using Mode 2: Manual Bi-Colour Control.

2.1. Turn the arrow on the mode dial to point at 2.

2.2. As you turn the colour dials you will observe the colour of your LED strip change. Adjust the dials to achieve the colour you would like on the strip.

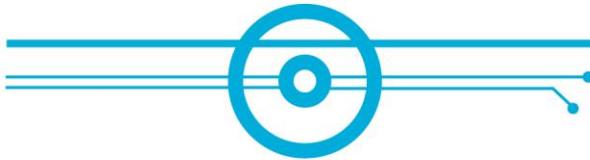


MODE

R  
G  
B  
WW  
CW

Intensity

Colour Temperature

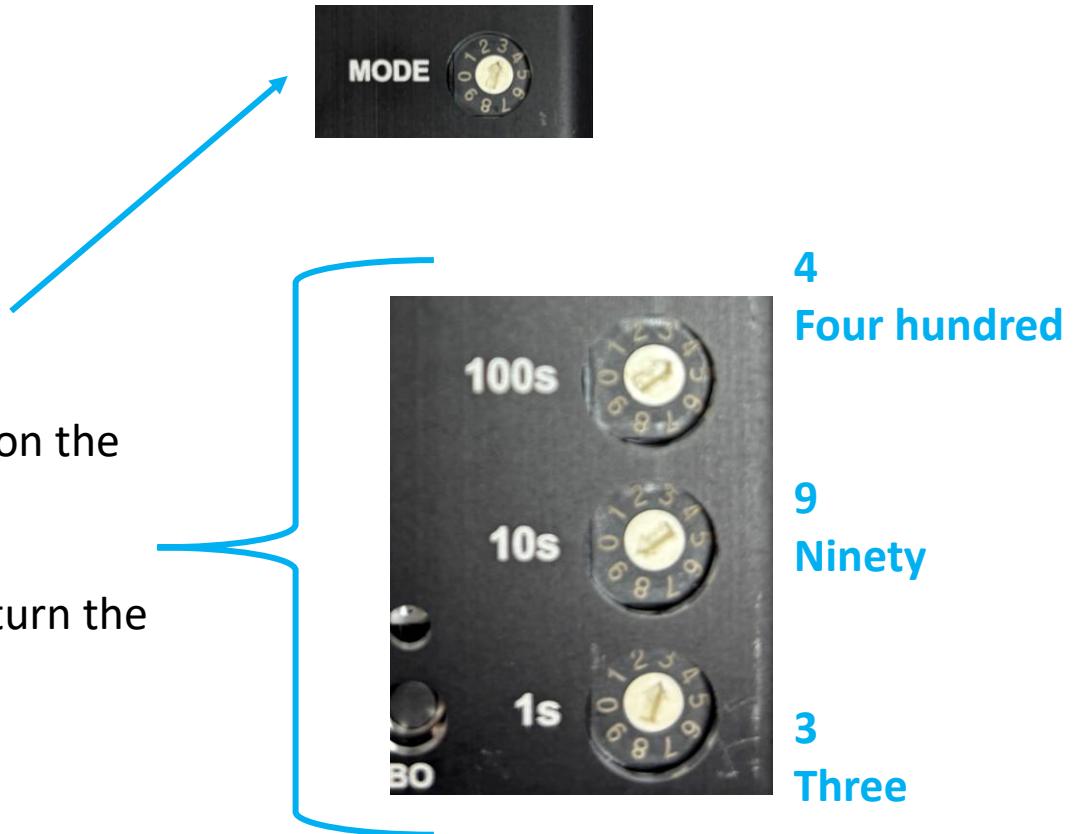


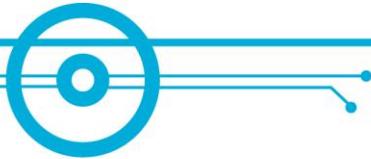
## How to use the LV5

### Using Mode 3: Radio Bi-Colour Control

- 3.1. Turn the arrow on the mode dial to point at 3.
- 3.2. Now alter the DMX dials to match the address on the radio desk.

For example, if the radio desk has the address 493 turn the dials as shown in the photo on the right.





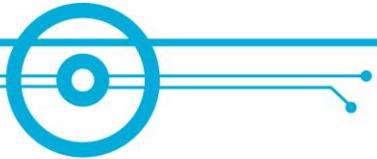
## How to use the LV5

### Using Mode 3: Radio Bi-Colour Control

3.3. Press sync on the radio transmitter. The blue indicator light will flash whilst it is synchronising. Once it stops flashing it has synchronised. The LV5 can now be controlled via a radio transmitter.

3.4 To desynchronise the LV5 controller from the radio transmitter, simply press and hold the sync button on the LV5 until the blue LED turns off.



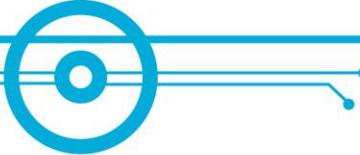


## How to use the LV5

### Using Mode 3: Bi-Colour Control

3.5. Adjusting the channels on the radio transmitter will now allow you to change the intensity and colour temperature on the LED strip.

Radio Transmitter Channel	Outcome
Channel 1	Intensity
Channel 2	Colour Temperature
If using 2 bi-colour Led Strips	
Channel 3	Intensity
Channel 4	Colour Temperature

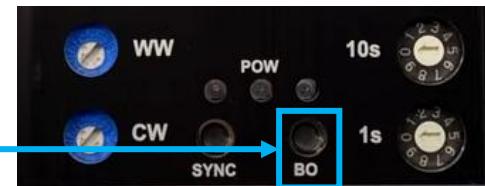


## How to use the LV5

### Using The Blackout Button (BO)

Pressing the BO button will immediately turn off all outputs. It will switch the LED strip off. This can be pressed at anytime.

To turn the outputs back on again, press the BO button at any time.





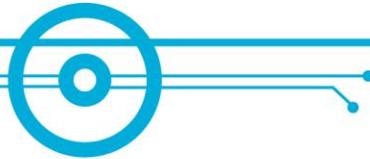
## How to use the LV5

### Fault Indicators

Although care must be taken to prevent short circuits between channel outputs and supply, if the current limit is exceeded on an output the LV5 will turn off all outputs, and the fault indicator will flash.



Blackout/Fault Indicator



## How to use the LV5

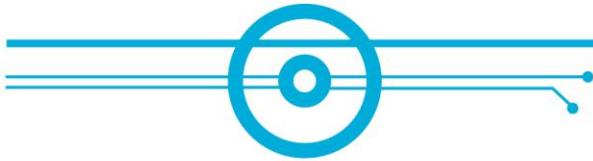
### Desynchronising from the Radio Desk

11. Hold down the sync button, until the blue indicator goes out.



Sync Button

Blue Indicator

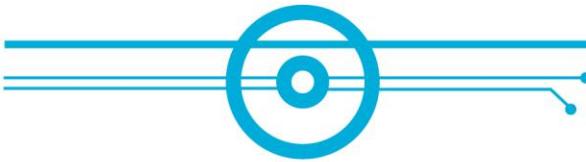


## YouTube Support

We have a YouTube channel where there is a video demonstrating how to use the LV5. The QR below will take you directly to the LV5 Instructional video.

Alternatively, visit our YouTube channel, <https://www.youtube.com/watch?v=iyAfyxCQciU>





## Get in Touch

If you require further support, don't hesitate to get touch.

### Address

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Unit 15 Camberley Business Centre  
Bracebridge  
Camberley  
Surrey  
GU15 3DP

### Phone

01252 514477

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[sales@empdesigns.co.uk](mailto:sales@empdesigns.co.uk)

### Website

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### Social Media

-  <https://www.instagram.com/empdesigns ltd/>
-  <https://www.facebook.com/ukempdesigns>
-  <https://www.linkedin.com/company/10971529/admin/dashboard/>
-  <https://www.youtube.com/channel/UCWgFEywgZkPVL0zmKIg6NtA>