emp designs

LV5 Pico User Guide

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PREPARED BY
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Contents

IMPORTANT SAFETY NOTICE

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

On receipt of the LV5 Pico, 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).

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 Pico 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.

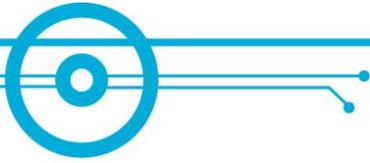Ensure a fuse is fitted to the input supply of the controller.

Avoid places subject to extremely high temperatures or humidity.

EMP Designs Ltd
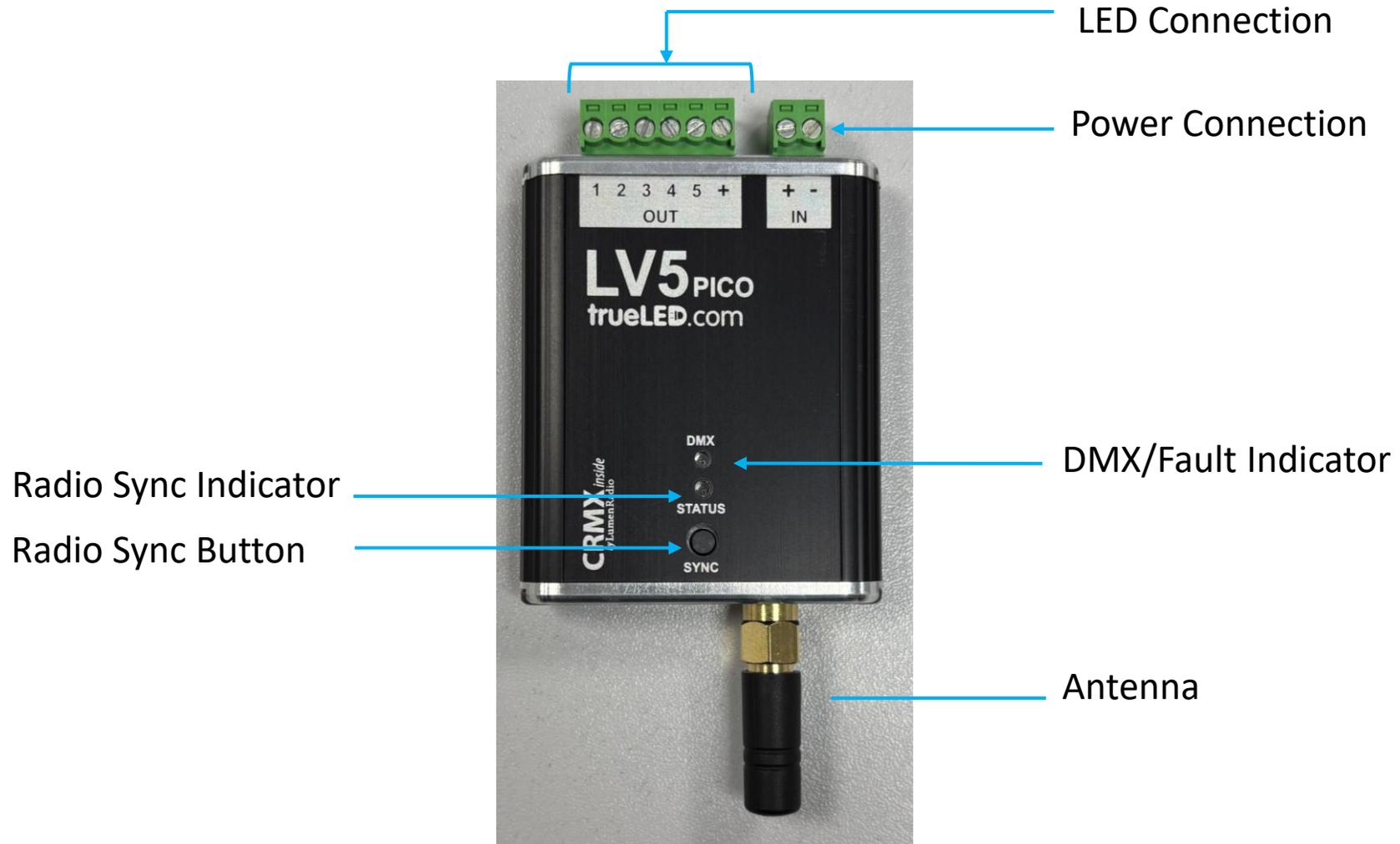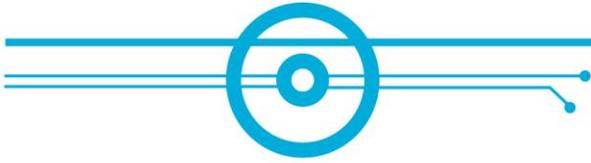LV5 Pico User Guide 11/11/2025

Power Specification

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

User Controls Guide

LED Connection

Power Connection

DMX/Fault Indicator

Radio Sync Indicator

Radio Sync Button

Antenna

Mode Table

Mode	Description	DMX Channels Required
Mode 1	Individual Control of 5 Channels	5
Mode 2	Bi-Colour Control (Brightness + CCT) of 2 pairs (No output on Channel 5)	4
Mode 3	Bi-Colour Control (Brightness + CCT) of 1 group (No output on Channel 5)	2
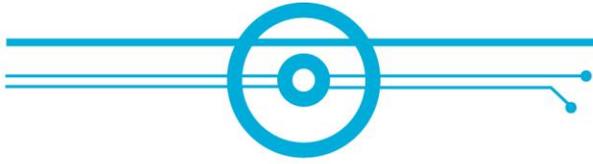
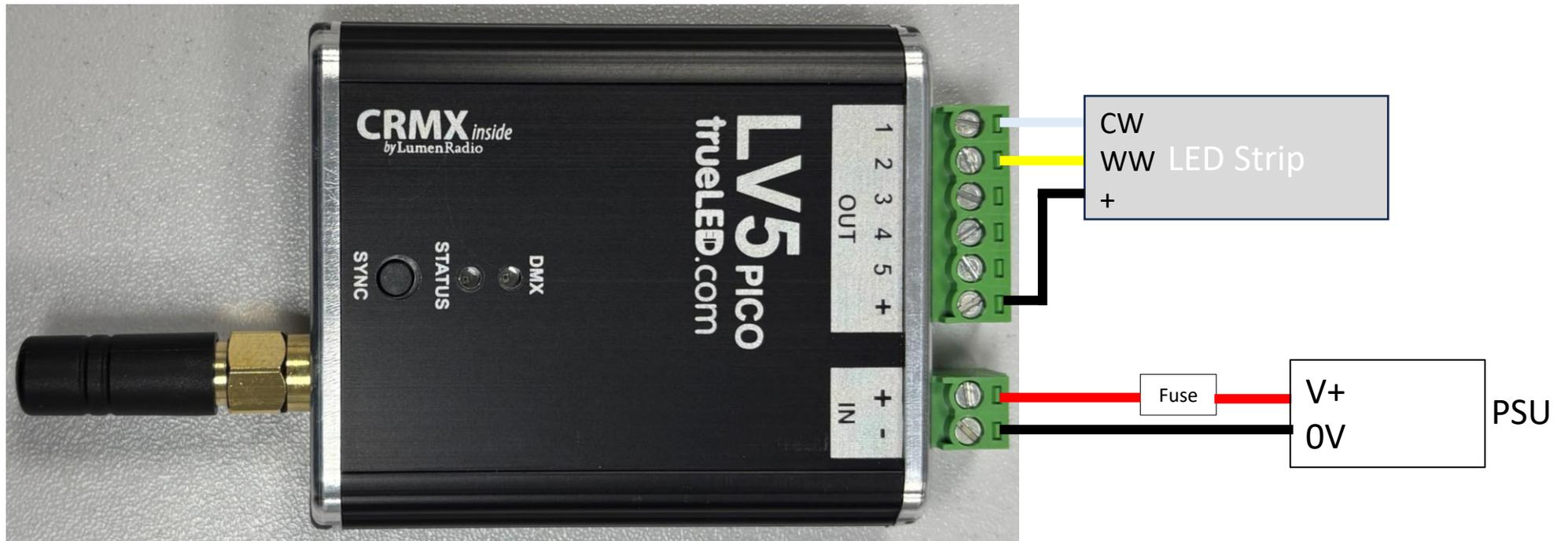## Typical Application Wiring Diagram for RGBWW Strip

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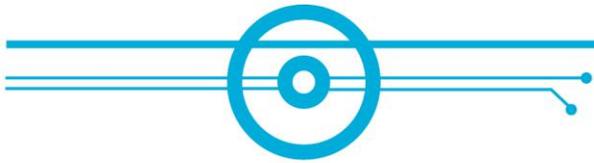
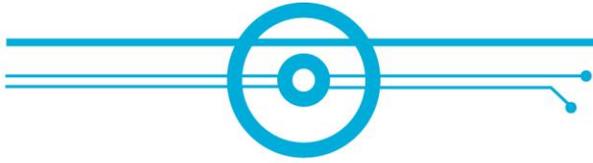## Typical Application Wiring Diagram for Bi-Colour Strip
(for reference only)

A second bi-colour strip can be connected by connecting on the following connections.

CW	3
WW	4
+	+

Channel 5 is not required when using bi-colour strip.

Using the LV5 Pico

1. Connect the LED strip to the LV5 Pico in accordance with the wiring diagram on page 7.

2. Switch the power supply on ensuring that the voltage is set in accordance with the voltage of the LED strip.

3. Please note that the LV5 Pico will default to DMX Address 1.
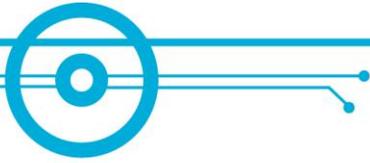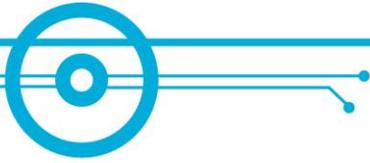
Using the LV5 Pico

4. Press the sync button on your transmitter/radio desk.

Whilst the transmitter is synchronizing with the LV5 Pico, the green indicator will flash. Once it has connected the green indicator will remain on.
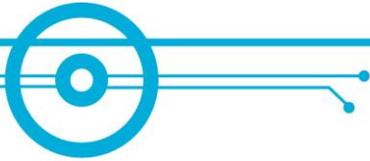
Radio Sync Button

Radio Sync Indicator

Using the LV5 Pico

5. You will now have the ability to control the LED strip via the transmitter/radio desk.

The DMX indicator will flash when data is being
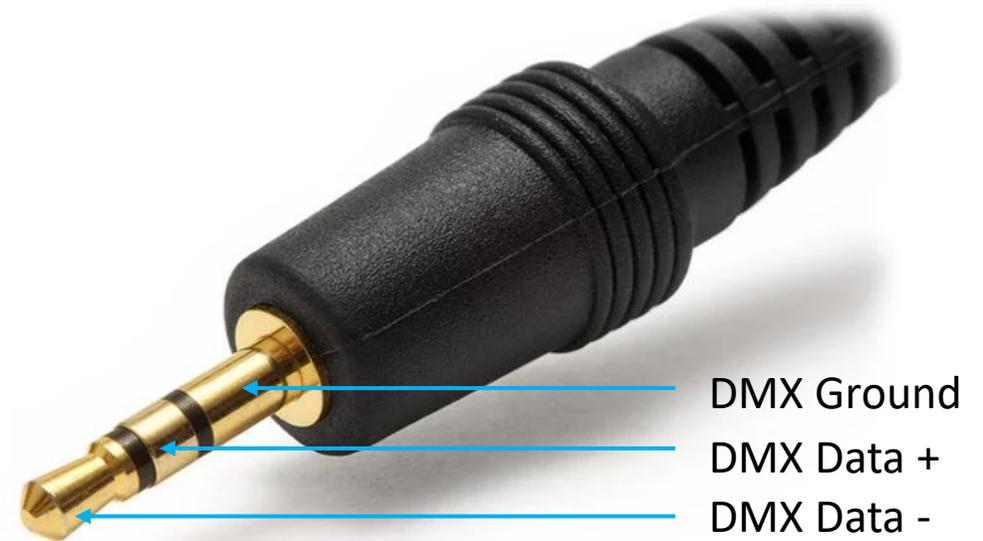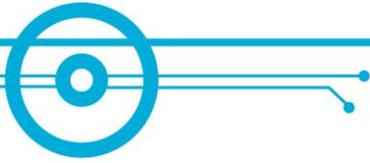
transmitted.

DMX Indicator

Changing the DMX Address

6. To change the DMX address and Mode you will need to use RDM (wired or radio), once the Address and Mode is changed the LV5 Pico will remember the latest settings on power down.

To use wired DMX, you will need a 3.5mm stereo jack wired as shown.

Plug the jack into the bottom of the LV5 Pico and it will automatically switch to wired DMX and RDM communication.
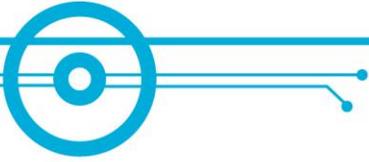
DMX Ground

DMX Data +

DMX Data -

De-synchronising the LV5 Pico from the Transmitter

7. To de-sync the LV5 Pico from a transmitter press and hold the Radio Sync Button on the LV5 Pico until the Radio Sync Indicator (green LED) goes out.

Radio Sync Indicator

Radio Sync Button

Link Switch

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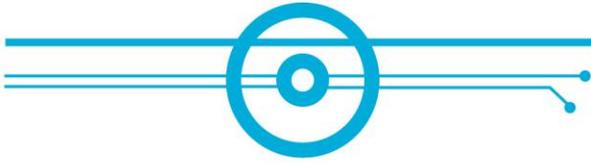
Constant off (0V): Not linked to any transmitter

Flashing: off (0V) 100 ms / on (V_{DD}) 100 ms: linked to a transmitter but no active radio

Flashing: off (0V) 900 ms / on (V_{DD}) 100 ms: Active radio link, no DMX present
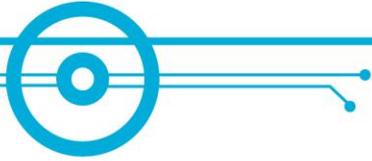
Constant on (V_{DD}): Active radio link, DMX data present

Fault Finding

If the red LED is flashing slowly and no output LEDs are on this indicates a short circuit on the output LEDs. Check the wiring of the output LEDs.
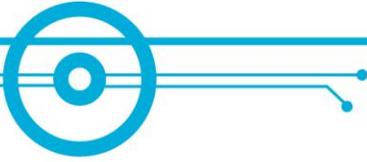
YouTube Support

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

Alternatively, visit our YouTube channel
https://www.youtube.com/watch?v=eWMFKTLj8Yc

Get in Touch

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

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https://www.linkedin.com/company/10971529/admin/dashboard/

https://www.youtube.com/channel/UCWgFEywgZkPVL0zmKIg6NtA