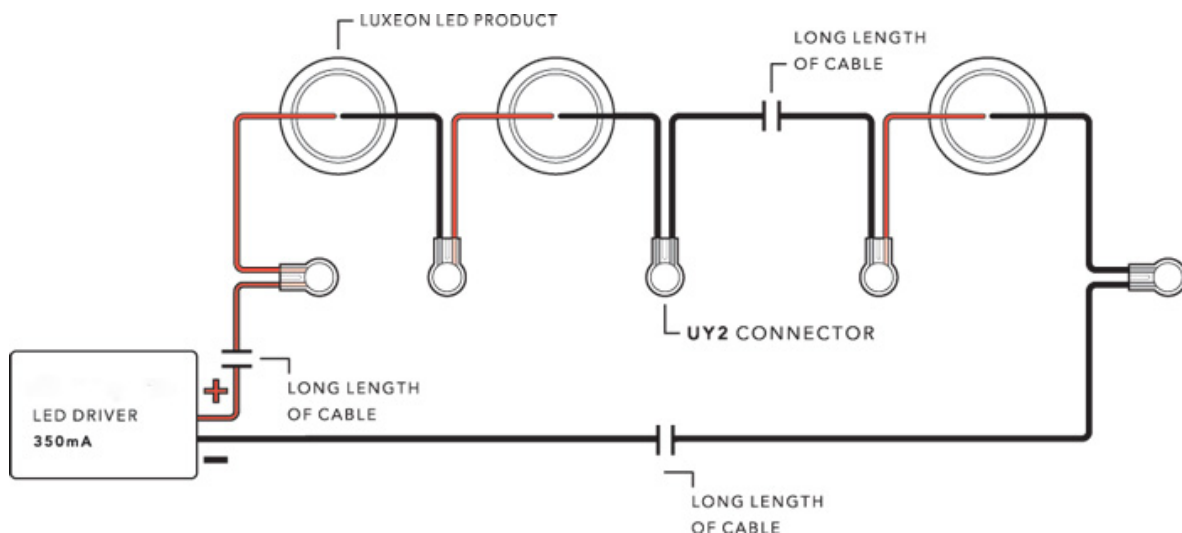

Ace Lamps

A division of Direct Electrical Services

Installation guide and FAQ for our range of LED fittings

[Click here to view our range of LED light fittings](#)

Series wiring diagram example



IMPORTANT INFORMATION

High power LED's must be used in conjunction with constant current output power supply as we specify on the product page all LED fittings require the use of a power supply.

A maximum of 9 LEDs may be connected to one power supply (PLU/350 1-9)

Always ensure that the temperature of the circuit board does not exceed 85 degrees c

When wiring high power LEDs they must be wired in series and not in parallel

GENERAL INSTRUCTIONS FOR WIRING OF LUXEON LEDs AND CONSTANT CURRENT POWER SUPPLIES:

WARNING: LUXEON LEDs will be seriously damaged or destroyed by any of the following events: **Not using a constant current LED driver**

Why – If you wire a LUXEON LED to a conventional transformer or constant voltage LED driver, the LED will be destroyed.

LUXEON LEDs are high power LEDs and must be run on constant current. Each LED requires supplying with a different voltage in order to be fed with a 350mA or 700mA constant current. For this reason they must be wired in series.

Connecting the power supply to the mains supply before connecting to the LED

Why – Constant current power supplies will 'ramp up' to their maximum voltage in the event of an open circuit. When the LED is then connected they are being connected to a massive over-voltage. If the power supply has been connected to the mains supply with an open circuit, ensure the output terminals are short circuited to discharge the power supply internal capacitors before connecting any LEDs.

Switching the LED on the low voltage side of the power supply.

Why? For the same reasons as previous question.

Not having proper thermal control for the LED

Why? The LUXEON LED is a high power LED. It has a small core where the light is produced. This core gets hot very quickly. Overheating of LED will severely shorten the life of the LED, and reduce light output. It is therefore necessary to ensure proper thermal design of all LED applications to ensure that the heat is removed from the core of the LED and dissipated elsewhere.

FAQ

Why do the colour of LEDs vary so much? (colour binning)

Unfortunately because Luxeon LED are at the cutting edge of technology and LED production, the colour temperature of the luxeon LED cannot be guaranteed. Although luxeon do currently grade LEDs into the colour 'bins' the colour variation within these bins is still significant to the human eye. When designing schemes using Luxeon LED, it is important that they should be designed to not be sensitive to the colour temperature of the LEDs light.

Why must LUXEON LEDs be wired in series?

To achieve the same current throughout a circuit, it is necessary to wire in series. Circuits wired in Parallel will have a constant voltage, and circuits wired in series will have a constant current for all components In the circuit.

What voltage do the LEXEON LEDs run on?

There is no answer to this question, except somewhere between 2 and 4 volts. Every LUXEON LED requires a different voltage but a constant current.

What is the output voltage of the constant current drivers?

The output voltage varies depending on how many LED are wired into the series circuit. The more LEDs wired into the circuit, the higher the voltage.

What is the maximum voltage of the constant current drivers?

Each driver has its own maximum voltage, but all Collingwood drivers have a maximum voltage of below 50V DC ie safety Extra Low Voltage (SELV)

Can LUXEON LEDs be used in bathrooms and swimming pools?

Yes, (assuming the enclosure has appropriate IP rating) but always bear in mind the maximum voltage of the driver in the event of an open circuit. Be careful when selecting the driver. Certain areas of bathrooms and swimming pools have maximum voltage requirements of less than normal Safety Extra low Voltage eg, bathroom Zone 1, max voltage 30 V DC this means that PLR and PLS could be used, but PLU could not.

Can LUXEON LEDs be used in saunas?

Yes and No. All equipment installed in sauna areas C and D must be suitable for ambient temperature of 125 degrees c. As with bathroom areas, saunas have specific voltage requirements. If an LED is run constantly at high temperature its life and light output will be severely limited. Only fit LED products where the temperature of the LED can be effectively controlled.

Some examples of LED light fittings that we supply:



[View product](#)

Ace lamps, Unit 30, New Forest Enterprise Centre, Chapel Lane
Totton, Southampton, Hampshire, SO40 9LA

TEL: 023 80866728

FAX: 023 80667833

www.deslamps.co.uk



[View product](#)



[View product](#)

[Click here to view our full range of LED light fittings](#)

Ace lamps, Unit 30, New Forest Enterprise Centre, Chapel Lane
Totton, Southampton, Hampshire, SO40 9LA
TEL: 023 80866728 FAX: 023 80667833 www.deslamps.co.uk