LED – *Frequently Asked Questions*

Q: ***What is an LED?***
A: LED stands for Light Emitting Diode. The most commonly used are high powered, solid state electronic chips encapsulated in an epoxy resin, often with a synthetic lens in front. LEDs differ greatly from the standard filament, halogen or fluorescent light sources needing neither gases nor very high temperatures to perform. The nature of LED construction means that they make a very compact light source compared to traditional lighting and can be highly durable.

Q: ***What are the benefits of using LED over other light sources?***
A: LED can offer up to 85% energy savings and can last many times longer than conventional light sources (an average of 35,000 hours) so they cut down on energy costs and maintenance costs as well as helping reduce CO2 emissions. LEDs don't use harmful substances such as mercury in their construction.

Q: ***Which driver do I need to select for my product?***
A: In some cases the driver is included as part of a kit. For products that do not come with a driver we have clearly marked on the page which driver to order and the number of individual fittings that can be used per driver.

Q: ***What applications are LED suitable for?***
A: LEDs can be used for all applications provided they are installed correctly. The lack of UV means that LEDs are ideal for lighting artefacts and heat sensitive displays in museum or retail applications as they will not degrade or fade the materials. LEDs produce very little forward heat making them a popular choice for areas where animals or children may come into contact with them.

Q: ***What is RGB?***
A: RGB stands for the Red, Green and Blue coloured LEDs used to produce different colour mixes and means that coloured filters are no longer needed. In many cases RGB lighting will cycle through these primary colours creating an array of different colours in between. The more advanced products will allow scene setting and single colours to be selected and saved.

Q: ***Why would I use LED instead of Low Voltage?***
A: LEDs use low current and low voltage, which means that you get less voltage drop over longer cable runs.

Q: ***Can LEDs be dimmed?***
A: Yes, LEDs can be dimmed providing they are used with the correct driver.

Q: ***What is the difference between a series or parallel circuit?***
A: Circuits with multiple LEDs fall into two general categories; parallel-wired circuits, and series-wired circuits. Components connected in parallel are joined together so the same voltage is applied to each component; the voltage is the same through all components (LEDs), but the current is divided through each. Components connected in series are joined along a single path, so the same current flows through all of the components; the current is the same, but the voltage is divided. It is important to remember that in a series circuit, the sum of all LED voltages should not exceed 90% of the supply voltage to ensure stable LED light output.