The Big guide to LED Dimmers

LED's are here to stay and are a mainstay of lighting in all modern homes. In theory, dimmers are simply reducing the voltage that is being supplied to the lamp/s, resulting in a decrease in light intensity from the light source/s. Many advantages can come from using them. Including changing the mood of a room, reducing electrical consumption saving you money and increasing lamp life reducing the replacement rate thus reducing replacement and maintenance costs. Now this is fantastic when we are dealing with your regular halogen lamps, but the industry is moving towards LEDs for all applications where halogens were utilised.

The best selling Aurora dimmer

The following should provide a complete walk through of dealing with leds and led dimmers.

1) Make sure you are buying "Dimmable" LEDs
The most important thing to remember is that not all LED's can be dimmed. Successfully dimming LED lighting might sound obvious but it is a common misconception that any LED lights can be dimmed with an LED dimmer. In reality the driver circuitry must be designed with dimming in mind so it is essential to choose lamps that the manufacturer describes as "dimmable".
If you take nothing else from this article take this. See our Dimmable Gu10 lamps here
LED lamps are non-dimmable unless specifically stated, do not dim a non-dimmable LED lamp under any circumstances, damage to both the dimmer, lamp or both will occur.

2) Consider sticking with trusted lamps
There is a wide degree of variation in the dimming performance, under test, of LED lamps described as "dimmable", with the achievable brightness range and stability of output being the most likely features to disappoint with unbranded lamps. . Some manufacturers are happy to label their lamps as "dimmable" even if they can deliver only the slightest change in brightness. We recommend that customers choose lamps from established lighting manufacturers. Aside from dimming considerations, established brands are also more likely to offer better product warranties, longer lamp lifetimes and more customer support.

3) Never use a standard dimmer
A few lamp manufacturers may tell you that their dimmable LEDs can be dimmed with a standard dimmer, a claim only technically true where the quality of dimming is left out, it is certain to only be true when some very narrow criteria is being met. regular dimmers can end up being under-loaded in most LED applications, actively flickering and strobing when in use which will massively decrease lamp lifetimes. Standard dimmers are not equipped to utilise the full brightness range, the end result being disappointing user experience.

Just because a manufacturer adivses you on something, don't be so quick to believe everything they say

4) Always read the specifications
It is important to consider the brightness range when looking at LEDs. Big advances have been made in recent years in LED tech, leading to an increase in lumens per watt being achieved, even for halogen-like, warm-white lamps where lamp output is designed to mimic the incandescent hue. There is no advantage in using a dimmer with an LED if it is quite dim enough already and so this progress in the brightness of retrofit LED lamps has made dimming much more relevant. Brighter lamps can provide customers with a greater dimming range.

Read the label and always go for the dimmable lamps with the highest maximum lumen output to allow for the greatest range of dimming.

5) Contact Manufacturers
The best lighting brands display compatibility info on their websites. Dimmers from a range of brands are tested with different loads and the LEDs performance is graded. These grades are a useful reference point and can help in choosing a dimmer. See our dimmers here
Manufacturers want you to see the full potential of their leds and will be happy to advise you on the dimmer best suited for you.

6) Consider only dimmers Designed for LED lighting
Advanced dimmers are capable of delivering the best possible performance when LEDs are being used. The brightness output a lamp produces from the same power input varies markedly between brands. The Aurora DSP400X dimmer has shown to handle anywhere from 2-10 high power leds with great success
Dedicated LED dimmers can handle the full lighting range needed to get the most out of modern dimming leds, acting as an incandescent lamp does with a regular dimmer. View our dimmer test where we pitted led dimmers against one another

Megaman's LightwaveRF dimmers mix brilliant led dimming with smart technology

7) Buy the dimmer first, lamps second
As with your standard dimmers, those that have been created for use with LEDs have a minimum and maximum load that it is recommended for. Design your lighting installation to ensure you don't exceed the maximum load of the dimmers available. Splitting the load across more than one dimmer could provide a solution and give greater control by allowing light levels to be zoned within a multi-functional space. Until recently it was difficult to find a dimmer capable of controlling more than 100W of LED lighting but the launch of our V-Com series has opened up the possibility of dimming much larger LED loads, up to 600W.The total wattage and draw the dimmer is capable of needs to be reflected in the number of leds you use with it.

8) Instructions before installation
Many led dimmers have features to adjust setting on the dimmer to maximise efficiency. Be prepared before you first switch the mains on because you may be missing out of features that will give greater expression to your lighting.

Read the instruction leaflet to make sure of important features.