

## GUIDE TO DIMMING LOW VOLTAGE LIGHTING



There are two types of transformer generally available for low voltage lighting: Wire wound and Electronic. Briefly, they are dimmable as follows:

### Wire wound Transformers

All wire wound transformers are intrinsically dimmable (Torroidal transformers require a soft start dimmer). They can be dimmed either with a normal dimmer capable of handling the inductive nature of the load, or with a Hard Fired dimmer.

Most Richmond dimmers are suitable for both mains and low voltage loads, but note that the dimmer rating is reduced when controlling low voltage loads - refer to individual dimmer label and instructions for ratings.

### Electronic Transformers

Electronic transformers are not so simple to classify as wire wound types. Some are not dimmable at all, some need a Hard Fired dimmer, and some need a Trailing Edge dimmer. Some are dimmable with all dimmers. If you are planning to use electronic transformers it is advisable to contact both the transformer manufacturer and the dimmer manufacturer to ensure the correct dimmer is specified. Electronic transformers tend to buzz more than wire wound but are usually lighter.

Care should be taken with the siting of all transformers. All types give off heat, and it is important that they are not installed in any enclosed space that will prevent cooling of the transformers.

Transformer manufacturers generally recommend that transformers are loaded to a minimum of 70% of their rating when being dimmed. Lower loadings can lead to lamps flickering and/or incorrect operation of the dimmer/transformer. Where installations of wire wound transformers have only one or two lamps on a dimmer, a load resistor may be required to achieve the dimmer minimum load. This is wired in parallel with the transformer and also provides the dimmer with protection in the event of lamp failure. The load resistor gets very hot, and should be mounted on some form of heat sink. Care should be taken to ensure that cables are not touching the resistor body.

Richmond Lighting will be pleased to test any transformer for 'dimmability' to ensure trouble free installation, free of charge.