

2.3 Control Processes and Systems

2.3.1 0-10V or 1-10V Dimming Systems

0-10 V is one of the earliest and simplest electronic lighting control signalling systems; simply put, the control signal is a DC voltage that varies between zero and ten volts. The controlled lighting should scale its output so that at 10 V, the controlled light should be at 100% of its potential output, and at 0 V it should be at 0% output (i.e. 'Off'). Dimming devices may be designed to respond in various patterns to the intermediate voltages, giving output curves that are linear for: voltage output, actual light output, power output, or perceived light output.

For dimmable fluorescent lamps, where it operates instead at 1-10 V, where 1 V is minimum of approximately 5 to 10% of the lumen package and a separate switching relay is required to turn the luminaires off.

For the entire analogue dimming systems it is mandatory that cabling and connections are done in a high quality, otherwise problems of connections may cause different light levels or flickering. In fact that these systems are operate at a very low voltage the cable length and voltage drop must be considered to allow optimum signal performance.

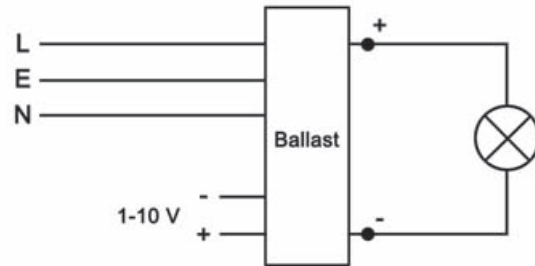


Figure 129
1-10V Dimming without relay.

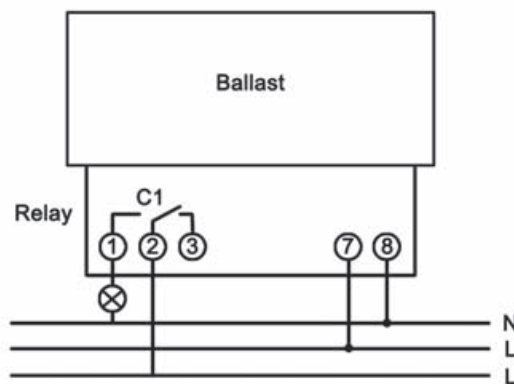


Figure 130
1-10V Dimming with relay.