



Application Note

Recommended Dimmers for eW™ Powercore fixtures

The eW Powercore family of fixtures are fixed color temperature LED products that can be controlled either with a standard wall switch (On/Off) or a commercially available Electronic Low-Voltage (ELV) dimmer. Dimmer selection is very important to the functionality of the system, as the eW Powercore products are not compatible with all types of dimmers.

In particular, due to the capacitive nature of the eW Powercore products an ELV dimmer, also referred to as “trailing edge” or “reverse phase control”, should be used. Philips Color Kinetics has worked closely with dimmer manufacturers to create a comprehensive list of recommended dimmers.

Table 1 shows a list of recommended dimmers, including some theatrical-type models. All of these products have been tested by the Philips Color Kinetics Engineers, the dimmer manufacturer’s Engineers, or a combination of both. Please note that while the eW Powercore products may be compatible with other dimmers, in addition to those listed in Table 1, testing these dimmers prior to permanent installation is strongly recommended.

Manufacturer	Product	Model	Description
Lutron	Nova T	NTELV-600	600W ELV Single pole Slide
Lutron	Diva	DVELV-303P	300W ELV
Leviton	Decora	6615-POW	300W double pole ELV
Leviton	Vizia	VZE04	600W single pole ELV
ETC	Sensor	SR12+	Sensor SR12+ rack w/ CEM+ control & D20 dimmer
ETC	Unison	DR12	DR12 rack w/ CMEd control & D20/L20 dimmers
Entertainment Technology	BAKPAK	IPSBP7501	750W Theatrical IGBT dimmer, DMX512 control

Table 1 – Dimmer Compatibility

The effective dimming threshold is roughly 10% and varies with the particular dimmer being used. Most commercially available dimmers have a trim-pot adjustment that can be used to control the minimum dimming level. To properly adjust the dimming threshold of a particular dimmer, set the dimmer to its lowest setting and adjust the trim-pot screw downward until the lights reach their minimum operating level.

Dimmer Selection:

The wattage of the dimmer should be chosen by multiplying the number of fixtures to be controlled by the wattage of each of the fixtures. If you are using a mix of fixture sizes, multiply them individually and sum the result. Once the total fixture wattage is calculated, it is best to round up to the next-largest available dimmer. The following two examples apply to the eW Cove Powercore product.

Example 1

Situation: (20) 12-inch fixtures

Calculation: Total Wattage = 20 fixtures X 6 Watts/fixture = 120 Watts

Dimmer: Choose the next-largest available dimmer (e.g. 150W)

Example 2

Situation: (25) 6-inch fixtures and (10) 12-inch fixtures

Calculation: Total Wattage = (25 fixtures x 4 Watts/fixture) + (10 fixtures x 6 Watts/fixture) = 160 Watts

Dimmer: Choose the next-largest available dimmer (e.g. 200W)

Wiring:

ELV dimmers are wired in much the same way as standard dimmers. The only difference is that the ELV dimmers typically have an "extra neutral" wire. Figure 1 shows a typical wiring diagram of an ELV dimmer with eW Cove Powercore. Note that eW Cove Powercore fixtures are connected to the "Load" side of the dimmer, since eW Cove Powercore acts as a combination of an Electronic Low Voltage Transformer and low voltage lighting source. Please refer to the wiring instructions included with the dimmer when making connections.

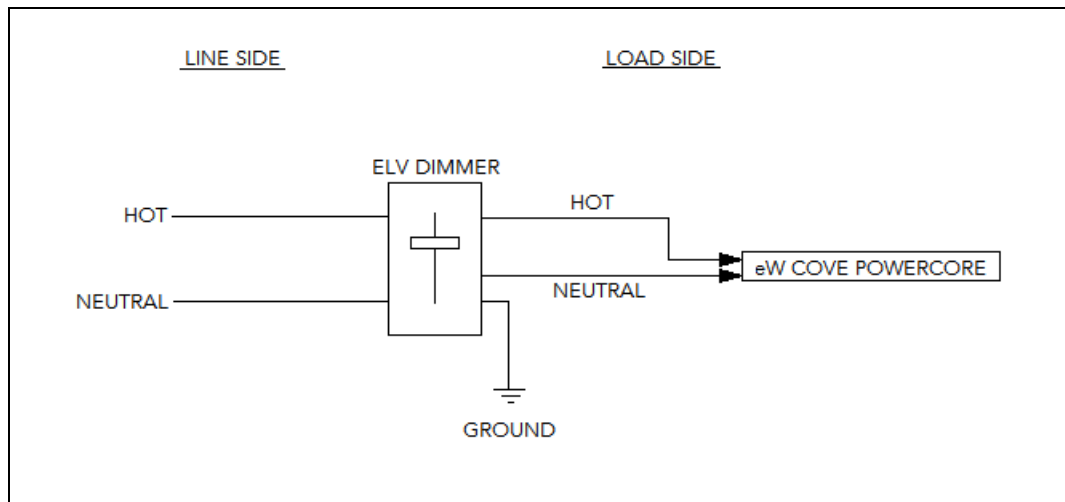


Figure 1 – Wiring Diagram