



Dynasty® LED Candelabra Lamp Dimming Compatibility

Applicable CAO Group Dynasty® Lamp Part Numbers: 30021, 30022

Dynasty® LED lamp electronic driving technologies:

CAO Group Dynasty® Lamps are self-ballasted light bulbs, using an electronic LED driver integrated inside each LED lamp. The integrated LED driver generally makes the Dynasty® LED lamp a capacitive load in nature, which is different from a typical resistive load, such as incandescent and halogen lamps. Choosing a dimmer is very critical for Dynasty® lamps to function correctly, as Dynasty® lamps are not compatible with all types of dimmers.

Dimming technologies of commercial dimmer products:

Leading-edge dimmers, trailing-edge dimmers and sine wave dimmers

Leading-edge dimmers, also known as forward phase dimmers, are widely used as the main choice of installation for budget-conscious dimming applications. The front edge of the sine wave is chopped off to reduce the light output. The disadvantage of this technique includes an audible buzzing noise for both filament light bulbs and Dynasty® LED lamps.

Trailing-dimmers eliminate the waveform at the trailing end. The smooth front end waveform eliminates potential inrush current for capacitive loads such as switching power supplies therefore reducing the buzzing noise.

Sine Wave dimmers use Pulse Width Modulation (PWM) techniques to control the amplitude of the incoming power supply to avoid creating a buzzing noise.

Dynasty® Candelabra Dimming Compatibility

Dynasty® lamps are compatible with trailing-edge and sine wave dimming technologies. Commercial trailing-edge dimmers are also known as Electronic Low-Voltage dimmers (ELV dimmers or Reverse Phase dimmers). Sine wave dimmers are also known as theatrical dimmers, used mainly in theatrical applications, even though some of the theatrical dimmers may use the trailing edge dimming technology.

Table 1. A list of widely installed dimmers and dimmer interface families compatible with CAO Group Dynasty® Candelabra lamps.

Manufacturer	Model	Dimming Technology	Compatible Control Units and Panels Compatibility Test, verified by either CAO or Dimmer manufacturer
Lutron	Skylark ELVI-1000	Trailing edge, ELV, Reverse Phase dimmer	Lutron GRAFIK Eye 3000 series control unit Lutron LP Dimming Panels HomeWorks Remote Power Panels Lutron Neutral-referenced Wallbox dimmers
Lutron	Diva DVELV-300P	SCR Trailing edge	Features large paddle switch and small slide dimmer Built-in soft glow night light visible in the dark Use with standard 3-way switches for easy, economical installation Compatible with CAO candelabra and produce a 23% (48% perceived) low end light level.
Lutron	Maestro MAELV-600M	SCR Trailing edge	Full-range dimming possible from up to ten locations. Lights fade up and down smoothly. Customizable delayed fade to off Standard 3- and 4-way wiring for easy installation and retrofit. Compatible with CAO candelabra and produce a 29% (54% perceived) low end light level.
Lutron	Vierti VTELV-600M	SCR Trailing edge	Full-featured, multi-location dimming Audible feedback Precise lighting control Numerous advanced programming Compatible with CAO candelabra and produce a 20% (45% perceived) low end light level.
Lutron	Nova T* NTELV-300 NTELV-600	SCR Trailing edge	Automatic multigang alignment for quick and easy installation Heavy duty components for surge protection and long product life Compatible with CAO candelabra and produce a 26% (51% perceived) low end light level.

Note: ELV dimmers are commonly rated for a 5W minimum load. Due to the power-sipping technology of CAO Group Dynasty® Lamps employed (1.7W per lamp), the dimmer circuit may need 2 or 3 Dynasty® lamps connected to one ELV dimmer to start working.