



Features

- Topaz Dimmer modules are available in 120 volt dual 1.8kW and 2.4kW, or 220 volt dual 2.5kW capacities
- The Topaz Universal Dimmer Module operates with incandescent, fluorescent*, low voltage, and non-dim* loads
- Each module consists of a fully enclosed two piece "engineering grade" plastic chassis
- All heat generating components shall have separate ambient air intakes to eliminate heat build-up from component to component
- Safe, non-conductive, cool surface construction
- UL Recognized
- CSA Certified

*Consult factory for fluorescent dimming and non-dim load requirements

Dimensional Data – in. [cm] lbs.[kg]

| | |
|--------|-------------|
| Width | 12.0 [30.4] |
| Depth | 4.0 [10.2] |
| Height | 1.3 [3.2] |
| Weight | 2.5 [1.1] |

Specifications

- Each plug-in dimmer module consists of a fully enclosed two piece plastic chassis containing two circuit breakers, a solid state power device and two filter chokes. The bottom chassis is injection molded of high temperature engineering grade composite plastic. The cover is injection molded of a high impact plastic and includes an integral handle. Three independent molded air channels provide high velocity ambient air cooling for the power device and filter chokes while preventing airflow over electrical connection points and other components.
- The module is electrically and thermally non-conductive with no thermally hot components accessible when the module is removed from the rack. All internal power connections are made of stamped and formed bronze or silver-plated copper. All internal signal connections are made of stamped and roll-formed gold-plated phosphor bronze. The module is completely enclosed with no exposed wires, connections or components and with all external connectors fully recessed.

Electrical - Dimming

- Each dimming channel is capable of hot patching and cold incandescent loads up to its full rated capacity.
- Each dimming channel operates on 50/60 Hz, 100 volts to 130 Volts or 200 Volts to 260 Volts AC lines and in ambient air temperatures from 0-40°C (32°-104°F).
- Each dimming channel produces essentially a full sine wave when the control signal is full on, and an output of zero volts when the control signal is off.
- The output voltage of each dimming channel is automatically regulated for incoming line voltage variations except that output voltage cannot be increased above a level equal to the difference between incoming line voltage and dimmer voltage

drop. Dimmer voltage drop does not exceed 3 V for 120 V units and 5V for 230 V units. Line regulation is +/- 2 volts for 1% to 100% of rated current at any control setting.

- The output voltage of each dimming channel follows a modified square-law curve from 0 to 100% control signal and is repeatable with +/- 2 volts. The response time of the dimmer will not exceed 0.1 second. All dimming curve characteristics are factory set with no user adjustments required.

Electrical - Module

- Each dimmer module contains a solid state power device with four SCR's in an anti-parallel configuration which are reflow soldered to nickel-plated copper lead frames which are in turn reflowed to a beryllium oxide ceramic substrate. The ceramic substrate is reflow soldered to an integral nickel-plated aluminum heat sink for maximum thermal conductivity and maximum semiconductor reliability. Surface mounted optical isolators are utilized to provide a minimum of 250 volts of electrical isolation between the power semiconductors and the control signal. The active components in the power device are encapsulated in a high dielectric potting compound for mechanical protection and electrical isolation. The SCR's have the following minimum ratings shown below.
- Each 120V dimmer module shall be a recognized component of Underwriters' Laboratory for incandescent loads and shall be so labeled.

Environmental

- Each Dimmer Module shall include a toroidal filter choke with a 350us rise-time to limit objectionable harmonics, radiated radio frequencies, electromagnetic interference on the conductors and acoustical noise in the load lamp filament.
- Power efficiency of each dimming channel will be at least 97% at full load.

Description

Cat. No.

| | |
|------------------------------------|-------------|
| Filler Module | CTP-166-360 |
| 1.8kW Dual Universal Dimmer Module | CTP-166-361 |
| 2.4kW Dual Universal Dimmer Module | CTP-166-362 |
| 2.5kW, 220/240V Dual Dimmer Module | CTP-166-364 |
| 20A Constant Module | CTP-166-381 |

Specifications subject to change without notice

| Description | Circuit Breakers | Single Cycle Surge | Transient Voltage | Max Heat Loss Per Channel | | |
|-----------------|------------------|--------------------|-------------------|---------------------------|----------|-----------|
| | | | | Watts | BTU's/hr | Ton of AC |
| Dual 1.8kW 120V | 2 x 15A | 650A | 600V | 36 | 122 | .010 |
| Dual 2.4kW 120V | 2 x 20A | 650A | 600V | 54 | 184 | .015 |
| Dual 2.5kW 230V | 2 x 15A | 650A | 600V | 43 | 146 | .012 |

