



# Performance Controls

## Features

- Low cost alternative
- Overtemp sensor
- Forced air cooling
- Saf-T-Qube equipped
- Fully magnetic breakers
- Flexible calibration range
- Choice of output connectors
- Front-access plug-in electronics
- Six 2400W or twelve 1200W dimmer models
- Heavy duty, copper-wound toroidal filter chokes
- Dimmer output test buttons and status indicators

## Description

The Dimmex series dimmers are an excellent choice for quality and budget-conscious lighting professionals. Each Dimmex features six 2.4kw or twelve 1.2kw dimmers, and may be portable, wall- or rack-mounted.

Built-in diagnostics and switch/indicator lights allow for simple verification of operation without a console.

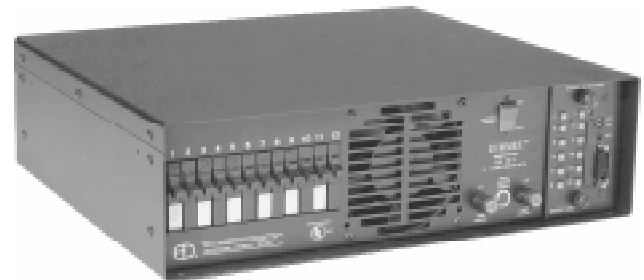
Saf-T-Qube equipped, Dimmex protects low-voltage electronics from high voltage potential in the event of a power cube failure.

Dimmex dimmer packs are excellent for portable or permanent lighting control applications. Typical uses include touring shows, theatrical performances, music groups, hotels, churches, lecture halls and schools.

## Dimmex Analog Dimmer Packs



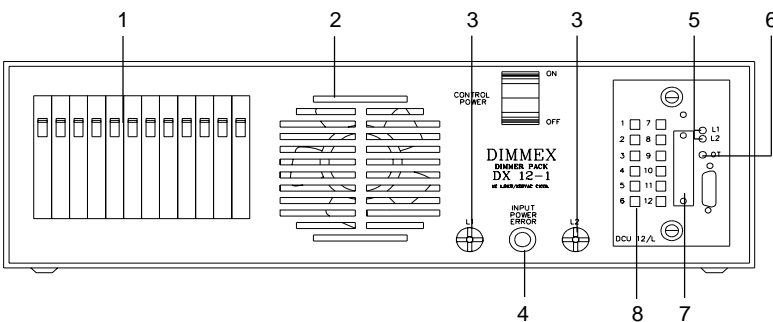
DX 6-2, six 2400W dimmers



DX 12-1, twelve 1200W dimmers

## Component Information

DX 12-1 Front View



1. Primary circuit protection:  
U.L. listed fully magnetic circuit breakers.
2. Cooling:  
Forced air ventilation with a single 55 CFM fan.
3. Fuses:  
Protection for plug-in control electronics.
4. Input Power Error Indicator:  
Red light indicates incorrect input wiring.
5. Phase/Power Indicator:  
Two green LEDs light when breakers or fused switches are on and power is on. DX-12 model has two per phase.
6. Overtemperature Indicator:  
Red LED lights when the thermal sensor shuts dimmer off.
7. Removable Access Panel  
For calibration or replacement of plug-in control card.
8. Dimmer output test buttons and status indicators:  
Allows for simple verification of operation without a control console.

### Ordering Information:

- |                                  |  |   |
|----------------------------------|--|---|
| <b>Dimmers</b>                   | <b>Connectors</b>                        | <b>Options</b>  |
| <input type="checkbox"/> DX 6-2  | <input type="checkbox"/> PBG             | <input type="checkbox"/> Wall-mount brackets (vertical)       |
| <input type="checkbox"/> DX 12-1 | <input type="checkbox"/> GTL             | <input type="checkbox"/> 19" Rack-mount brackets (horizontal) |
|                                  | <input type="checkbox"/> GSP             |   |
|                                  | <input type="checkbox"/> Terminal strips |   |



JOB NUMBER:

APPROVAL STAMP

JOB NAME:

CUSTOMER:

P. O. #

### Electronics Diversified, Inc.

PRODUCT DATA SHEET

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P202

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## Electrical Characteristics

<b>Input Power:</b>	Single phase, 120/240VAC, 50/60 Hz, or two legs of three-phase, 120/208VAC, 50/60 Hz. Available in 220-240 VAC, 50Hz configurations.
<b>Circuit Breakers:</b>	Fully magnetic, 10,000 AIC, U.L. listed.
<b>Filtering:</b>	Heavy-duty, iron-core, copper-wound, toroidal chokes assure minimum lamp filament vibration.
<b>Over-current:</b>	Withstands cold in-rush currents, over-currents, hot patches, and dead shorts. No silver sand fuses are used.
<b>Overheat:</b>	Dimmer output turns off when heatsink temperature exceeds 185° F (85° C). Normal operation automatically resumes when the temperature returns to a safe level.
<b>Cooling:</b>	One 55 CFM fan per unit.
<b>Environment:</b>	Temperature range: 32° F. (0° C) to 104° F. (40° C). Humidity range: 0% - 90% non-condensing.
<b>Dimming Curve:</b>	Square Law.
<b>Interaction:</b>	No interaction between dimmers.
<b>No Load Loss:</b>	Less than 1 watt.

<b>Load Range:</b>	25 watts to rated capacity for each dimmer.
<b>Load Regulation:</b>	2% from 100-130VAC over the entire load range.
<b>SCR Rating:</b>	(2.4kw) Heavy duty 40A rms, 600V, Tungsten rated. (1.2kw) Heavy duty 25A rms, 600V, Tungsten rated.

## Mechanical Characteristics

<b>Enclosure:</b>	Heavy-gauge aluminum, finished with black polyurethane enamel paint. Nomenclature permanently silk-screened.
<b>Circuit cards:</b>	Plug-in type, double sided, through-hole plated, U. L. recognized with G-10 fiberglass, rated FR-4.
<b>Dimensions:</b>	5.75" H x 15.25" D x 17.5" W (14.6cm x 38.7cm x 44.5cm)
<b>Shipping Weight:</b>	DX 6-2                    32 lbs. (14.52kg) DX 12-1                 37 lbs. (16.78kg)

## Specifications

- The unit shall be constructed of code gauge materials, finished with black polyurethane enamel paint. All nomenclature shall be permanently silk-screened in white. The unit shall measure 5¾" high x 17½" wide x 15¼" deep. The unit shall be designed to be mountable in an EIA standard 19" equipment rack.
- The unit shall be provided with an integral iron core, copper-wound toroidal filter inductor for each dimmer which shall limit the change in current with respect to time. The purpose of the filter is to limit objectionable harmonics, radiated radio frequencies, electromagnetically induced interference, and acoustical noise in the lamp filament. The filter shall limit the current rise at any point of the curve to 0.75% of dimmer RMS rating (milliamps per microsecond).  
As an example, a 20 Amp dimmer would have a rating of not more than 150 mA/µS. This specification meets the industry standard for incandescent models.
- All internal load wiring shall be constructed of stranded, tinned copper wire with silicon rubber insulation covered with coated glass braid, rated at 200° C. All internal wiring shall be sized in accordance with the National Electric code.
- The unit shall have a fan to provide forced-air cooling to the dimmer heatsink and the filter inductors.
- The dimmer shall operate from single phase 120/240VAC, 50/60Hz or two phases of three-phase 120/208VAC, 50/60Hz input power. The dimmer shall properly operate over an input voltage range of 90-140VAC. There shall be pressure-type terminals for input power and ground. The input power terminals shall accommodate wire sized up to #0 AWG.
- The unit shall provide a control connector for connection to a remote control unit, and specification grade commercial output connectors. Terminal strip models shall provide internal terminals for input power, dimmer output, and control connections.
- The solid-state switch devices shall be mounted in a substrate material for maximum heat dissipation. The substrate shall be encapsulated in an epoxy filled high-impact plastic case along with an optical isolator, a snubbing network and all required gating circuitry on the high voltage side of an integral opto-coupled control voltage isolator providing a minimum of 2500V RMS isolation between line and control in the switch device. A 2.4kw module shall have a minimum capacity of 40 Amps, with a rating of 500 Amp peak single cycle surge current and 600V transient capacity.
- In addition to the optical isolation provided internally in the power cube device, additional protection shall employ a combination of Metal Oxide Varistors (MOV's), Pico fuses and/or transzorbs to provide the highest level of protection to control inputs. Dimmers using Triacs or power cube isolation systems external to the dimmer module shall not be acceptable.
- Calibration controls shall be front access and all control electronics shall be readily accessible through the front panel, via snap-in card connectors. All control electronics shall be mounted on double-sided, through-hole plated fiberglass printed circuit boards. Power transformers shall be mounted to the chassis.
- The unit shall contain:
  - Twelve dimmers of 1.2kw capacity. Each dimmer shall have a U.L. listed circuit breaker for each dimmer.
  - Six dimmers of 2.4kw capacity. Each dimmer shall have a U.L. listed fully magnetic 10,000 AIC circuit breaker for each dimmer.
- The dimmer shall be protected against overcurrents and shall withstand in-rush currents, hot patches, and short circuits of 0.02 Ohms or less without damage. Dimmers using fuses for circuit protection shall not be acceptable.
- The unit shall be thermally protected and shut down the dimmer pack when heatsink temperature exceeds 185° F. Dimmers shall restart automatically when the temperature returns to safe levels. An indicator on the front panel shall light when the dimmer is in an overheat condition.
- The front panel shall have indicators for input power, overtemp, and incorrect input power wiring.
- The dimmer control voltage shall be 0 to +10VDC at one milliampere or less per dimmer. Electrical isolation between the power circuit and the control circuit shall be complete. No phase relation or reference voltage shall be required between the power circuit and the control voltage. The control range shall be adjustable to allow for other control voltages. Any given control setting shall result in the same dimmer output regardless of direction of the control movement. Response time shall be the 100 milli-seconds.
- The unit shall be listed by Underwriters Laboratories, and bear the U.L. label.
- The dimmer pack shall be the Dimmex series as manufactured by Electronics Diversified, Inc., Hillsboro, Oregon U.S.A.

Specifications subject to change without notice. Specification applicable to standard products only.  
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