Performance Controls

Features

- Low cost
- Breakered convenience outlet
- Rear power cable entry location
- Single or 3Ø input power
- Front access fuses for control unit
- Dimmer output test buttons and status indicators
- 12 - 2.4kW dimmer or 24 - 1.2kW dimmer models
- Saf-T-Qube equipped, fully magnetic circuit breakers
- Simultaneous operation of digital and analog control signals
- Supports USITT AMX 192, USITT DMX 512, and 0-10 volt analog signals

Dimmex Multi-Link™ Dimmer Packs

DXM 12-2, twelve 2.4KW dim-

Description

The Dimmex with Multi-Link™ brings a new dimension to budget dimming systems. The ability to operate from a wide variety of control formats makes the Dimmex with Multi-Link™ one of the most versatile dimmers on the market today.

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

With Saf-T-Qube protection, Dimmex protects low voltage electronics from high voltage potential in the event of a power cube failure.
The Dimmex is available in either portable or wall-mount models with internal terminal strips and conduit knockout configurations.

DXM 24-1, twenty-four 1.2kW dimmers

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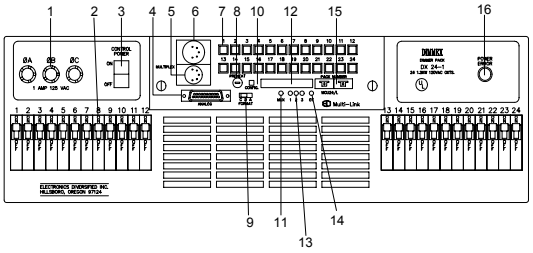
Component Information

DXM 24-1 Front View



1. Front access fuses
2. Primary circuit protection
3. Control Power Switch
4. Analog Control Input
5. Multiplex Control Input
6. Multiplex Control Output
7. Dimmer Output Test Buttons & Status Indicators
8. Preheat Level (Adjustable)
9. Multiplex Signal Format Switch
10. Configure Button
11. Multiplex Signal Presence Indicator
12. Calibration Access Plate
13. Power Indicators
14. Dimmer Overtemp Indicator
15. Dimmer Pack Number
16. Input Power Error Indicator

Order Information

Digital w/Analog Control	Analog Only	Connections		Options
❒ DXM 12-2: MCU-12L	❒ DXM 12-2: ACU-12L	❒ PBG	❒ GSP	❒ Wall-mount brackets (vertical)
❒ DXM 24-1: MCU-24L	❒ DXM-24-1: ACU-24L	❒ GTL	❒ Terminal strips	❒ 24" Rack-mount brackets (horizontal)

Electronics Diversified, Inc.
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Product Datasheet
P200
October 2004

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Electrical Characteristics

Input Power	1 Ø, 120/240VAC, 50/60 Hz, or 3 Ø, 120/208VAC, 50/60 Hz. Available in 220-240 VAC, 50Hz configurations
Circuit Breakers	Fully magnetic, 10,000 AIC, U.L. listed
Filtering	Heavy-duty, iron-core, copper-wound, toroidal chokes assure minimum lamp filibration.
Over-current	Withstands cold in-rush currents, over-currents, hot patches, and dead shorts. No silver sand fuses are used.
Overheat	Dimmer output turns off when heatsink temperature exceeds 185° F. (85° C.). Normal operation automatically resumes when the temperature returns to a safe level.
Cooling	Two 55 CFM fans per unit.
Environment	Temperature range: 32° F. (0° C.) to 104° F. (40° C.). Humidity range: 0% - 90% non-condensing
Dimming Curve	Square Law
Interaction	No interaction between dimmers.
No Load Loss	Less than 1 watt.
Load Range	10 watts to rated capacity for each dimmer.
Load Regulation	2% from 100-130VAC over the entire load range.
SCR Rating	DXM 24-1: 25A rms, 600V, Tungsten rated. DXM 12-2: 40A rms, 600V, Tungsten rated.

Mechanical Characteristics

Enclosure	Heavy-gauge aluminum, finished with black polyurethane enamel paint. Nomenclature permanently silk-screened.
Circuit cards	Plug-in type, double sided, through-hole plated, U. L. recognized with G-10 fiberglass, rated FR-4.
Dimensions	7" H x 22.5" D x 22.5" W (17.8cm x 57.15cm x 57.15cm)
Shipping Weight	76 lbs. (34.47kg)

Specifications

Dimmer Pack

1. 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 7" high x 22½" wide x 22½" deep. The unit shall be designed to be mountable in an NEMA standard 24" relay rack.
2. All load wiring shall be stranded, tinned, copper wire with silicon rubber insulation covered with coated glass braid, rated at 200° C. and sized in accordance with the National Electric Code.
3. The unit shall be forced-air cooled by two continuous duty, low-noise fans, and be capable of continuous full-load operation in ambient temperatures up to 104° F. (40° C.). Thermal sensors shall be employed to shut off all the dimmers if safe operating temperatures are exceeded. Air intake shall be from the front of the unit and exhausted through the rear.
4. The dimmer shall operate from 1 Ø, two-wire, 120 VAC, 50/60 Hz; 1 Ø, three-wire 120/240 VAC, 50/60Hz; or 3 Ø, four-wire, 120/208 VAC, 50/60 Hz 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.
5. 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.
6. 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 2.5kV RMS isolation between line and control in the switch device. A 2.4 kW module shall have a minimum capacity of 40A, with a rating of 500A peak single cycle surge current and 600V transient capacity.
7. 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.
8. The dimmer shall be protected against overcurrents and shall withstand in-rush currents, hot patches, and short circuits of 0.02Ω or less without damage. Dimmers using fuses for circuit protection shall not be acceptable.
9. 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.
10. The front panel shall have indicators for input power, overtemp, and incorrect input power wiring.
11. The unit shall be listed by Underwriters Laboratories, and bear the U.L. label.
12. The dimmer pack shall be the Dimmex Multi-Link™ series as manufactured by Electronics Diversified, Inc.

Control Module

1. The control module shall plug into the front of the dimmer chassis and held by two thumb screws. It shall be possible to remove the module without tools.
2. The control module shall properly receive USITT AMX-192 analog multiplex, USITT DMX-512 digital multiplex via a five-pin XLR-type connector. The multiplex format may be changed by a single front-mounted switch.
3. Upon receipt of a valid multiplex signal, a yellow indicator shall light. Up to a two-second pause in any portion of the multiplex transmission shall be tolerated without adversely affecting the dimmer output.
4. The dimming system must be able to operate simultaneously on a multiplex signal and analog 0-10 volt signal. The dimmer control voltage shall be 0 to +10VDC at one milliamp ere 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 the 100 milliseconds.
5. The control module shall have a pilot lamp for each power phase.
6. The module shall automatically distinguish between single and three-phase power.
7. It shall be possible to manually override any dimmer and force its output to full. An indicator for each dimmer channel shall show the current dimmer intensity.
8. All dimmer control electronics shall be contained on a double-sided, through-hole plated fiberglass circuit board.
9. Built-in lamp test patterns shall be included in the module to allow operation without a controller.
10. The control module shall be a recognized component of Underwriters Laboratories and so labeled.
11. The the Multi-Link™ Series shall be manufactured exclusively by Electronics Diversified, Inc., Hillsboro, Oregon U.S.A.

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