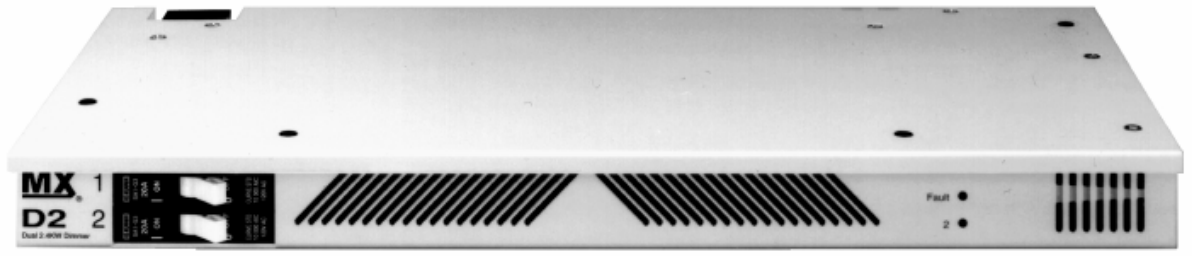
Performance Controls

MX® SCR Dimmer Modules

Features

- Simple, Durable Design
- Rugged Construction
- Overheat and Overcurrent Protected
- No Interaction between Dimmers
- Fully Magnetic Circuit Breakers
- UL, c-UL Listed



Description

Built to EDI's rugged standards for quality, long lasting dimmers, the MX SCR Dimmer Module is the fundamental building block of the MX Dimming System. Featuring the flexibility required for both live performance and architectural dimming applications, modules are available to dim standard incandescent, quartz, neon and cold-cathode sources.

Standard dimmer modules provide one LED indicator per dimming circuit for visual confirmation of dimmer activity, in addition to a single LED to warn of dimmer fault conditions. Dynamic Information System (DIS) feedback technology is available as an option. The MX SCR Dimmer Module's state-of-the-art engineering provide the user with real-time dimmer information.

Standard or custom rise times provide the utmost flexibility for site-specific dimming. Tailored to meet exacting design requirements, the MX SCR Dimmer Modules are the core element of the MX Dimming System.

Component Information

Model No.	No. of Dimmers	Power (kW)	Primary Breakers	Current (Amps)
MX-Dual 1.2	2	1.2	2	10
MX-Dual 1.8	2	1.8	2	15
MX-Dual 2.4	2	2.4	2	20
MX-Single 6.0	1	6.0	1	50

Dimensions

All SCR Modules: 1.5" H x 16.125" L x 7.5" D (3.8 cm x 40.1cm x 19.0 cm)

Weight

Dual 1.2kW	7 lbs. (3.18 kg)	Dual 2.4kW	7 lbs. (3.18 kg)
Dual 1.8kW	7 lbs. (3.18 kg)	Single 6.0kW	7 lbs. (3.18 kg)

Order Information

Dimming Modules
- ❒ Dual 1.2kW
- ❒ Dual 1.8kW
- ❒ Dual 2.4kW
- ❒ Single 6.0kW

Options
- ❒ 350ms Rise Time
- ❒ 500ms Rise Time
- ❒ 800ms Rise Time
- ❒ Custom Rise Time
- ❒ Dynamic Information System (DIS)*

Sources
- ❒ Incandescent
- ❒ Neon
- ❒ Cold-Cathode
- ❒ Other _____

Electronics Diversified, Inc.
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Product Datasheet
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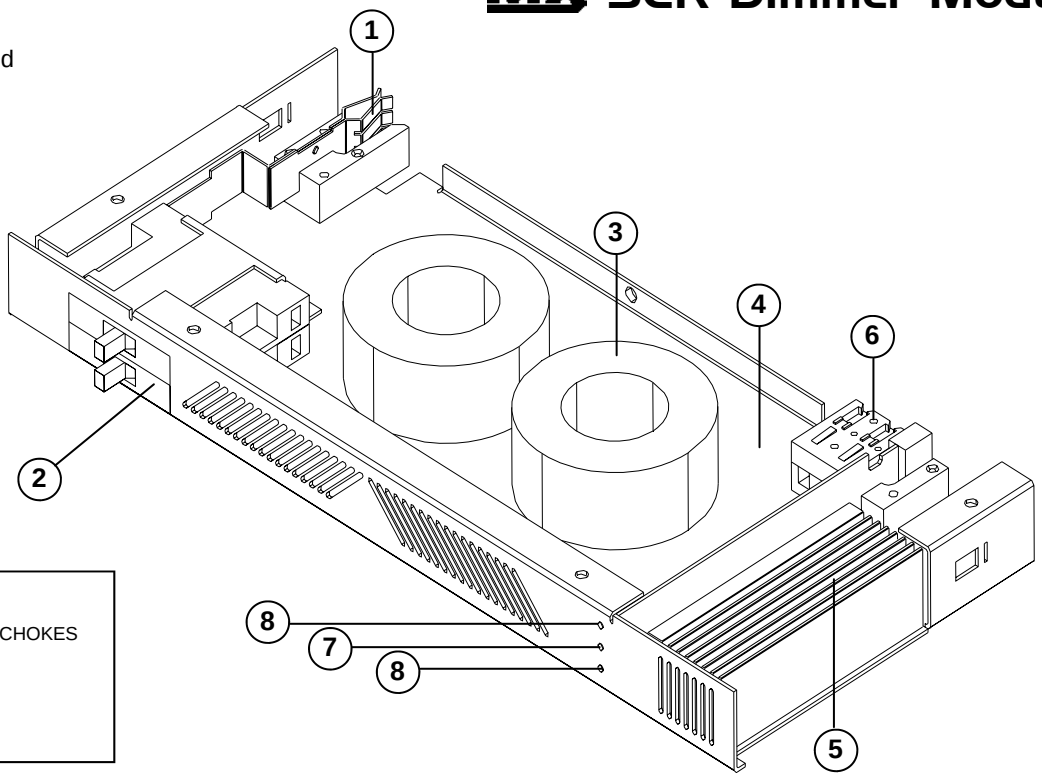
D2.4kW Module
(shown with cover removed
for illustration only)



LEGEND

1. Input power connector
2. PRIMARY circuit breakers
3. HEAVY-DUTY TOROIDAL CHOKES
4. Silicon controlled rectifiers
5. Heavy-duty heatsink
6. TERMINAL BLOCK
7. Fault Indicator
8. LED Indicators

Specifications

1. Dimmer modules shall be fully plug-in and factory wired. Dimmer modules shall consist of a heavy duty chassis with integral top, bottom, side and face panels. No tools shall be required for module removal and insertion.
2. The removal of any single module shall not expose line or low voltage terminations less than six (6) inches from the front of the rack.
3. Each module shall be labeled with the manufacturer's name, catalog number and rating. Modules constructed of molded plastic for structural support are not equivalent and are not acceptable. Dimmer modules shall be UL, c-UL Recognized.
4. Dimmer modules shall be available as dual 1.2kW, dual 1.8kW, dual 2.4kW or single 6kW. Dimmer modules shall be available to accommodate incandescent, low voltage, and non-incandescent loads.
5. Each dimmer shall provide, but not be limited to, the following:
   A. The dimmer module shall contain a circuit breaker for each circuit, a solid state switching module, associated toroidal filters, status indicator, and power and control connectors.
   B. The dimmer module shall not have any protruding connector pins subject to physical damage when the module is not installed.
   C. Circuit breakers shall be fully magnetic and UL listed. The trip current shall not be affected by ambient temperature within the operational specifications of the system.
6. Each dimmer module shall use a solid state module (SSM) consisting of two silicon-controlled rectifiers (SCRs) in an inverse parallel configuration and all required gating circuitry on the high voltage side of an integral, opto-coupled control voltage isolator. The SSM shall be thermally protected, independent of the control module.
7. Each dimmer shall have a toroidal copper-wound, iron-core powered choke. The rise time rating for a 2.4kW dimmer shall be as noted in the manufacturer's oscilloscope data, but in no case shall be less than the following:

   350 µS (Standard)

Watts	Rise Time
1000 (8.33A)	300 µS
1500 (12.5A)	325 µS
2400 (20A)	350 µS

   500 µS (High Performance)

Watts	Rise Time
1000	400 µS
1500	450 µS
2400	500 µS

   800 µS (Ultra Performance)

Watts	Rise Time
1000	700 µS
1500	750 µS
2400	800 µS

8. All Rise-Time measurements are between 10%-90% with dimmer output at 50%. Alternate manufacturers must supply either high performance chokes or certified test data ensuring compliance with the above.
9. The standard dimmer (350 µS) shall have an insertion voltage drop of no more than 3.4 volts rms at the maximum rated load with 120 volts input. The high performance dimmer (500 µS) shall have an insertion voltage drop of no more than 5.5 volts rms at the maximum rated load with 120 volts input. The ultra performance dimmer (800 µS) shall have an insertion voltage drop of no more than 7.9 volts rms at the maximum rated load with 120 volts input. The maximum heat loss for each 2.4kW dimmer shall be no greater than 100 BTU per hour per connected kilowatt of load.
10. Dimmers which do not meet these minimum standards or list efficiency under "No Load" conditions are not acceptable.
11. The MX SCR Dimmer Modules shall be the manufactured by Electronics Diversified, Inc., Hillsboro, Or 97124, USA.

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