



The PWR Series DIM modules combine industrial strength SCR technology with stage and studio quality noise filtering in a high performance convection cooled system. These modules offer an excellent solution for dimming of incandescent lights, low voltage, neon, cold-cathode, and other transformer and ballast loads suitable for phase forward dimming. The DIM modules are available with 2400W, dual 2400W, 4200W, 6000W and 12000W ratings for 120, 240 and 277V loads. Extended rise-time modules and add-on filter modules are available to further reduce electrical and lamp filament noise in sensitive environments like recording studios, concert halls, and museums.

The DIM modules and the other products in the PWR Series are all designed for exceptional reliability and durability under demanding conditions. The PWR Series is a dimming and power control system for distributed installation in environments ranging from theme parks and theatres to sophisticated commercial, corporate, and public venues. Its modular construction and extensive features facilitate an unmatched selection of cost effective solutions for a wide variety of applications including lighting control and energy management. The PWR Series provides unparalleled versatility and scalability with a comprehensive range of controllers, dimmers, switching modules, and enclosure solutions.

Model	Description	Rating	Rise Time	Module Spaces
DIM20/1	Dimming Module	2400W	350 μ s	1
DIM20/2	Dimming Module	2x2400W	350 μ s	1
DIM20HR	Dimming Module	2400W	700 μ s	1
DIM35	Dimming Module	4200W	350 μ s	1
DIM50	Dimming Module	6000W	500 μ s	2
DIM100	Dimming Module	12000W	500 μ s	4
FLT20/1	Filter Module	2400W	+350 μ s	1
FLT20/2	Filter Module	2x2400W	+350 μ s	1
FLT35	Filter Module	4200W	+350 μ s	1
FLT50	Filter Module	6000W	+500 μ s	2
FLT100	Filter Module	12000W	+500 μ s	2

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Specifications

DIM20/1, DIM20HR, DIM20/2, DIM35, DIM50& DIM100

1. The dimming modules shall be the PWR Series DIM20/1, DIM20HR, DIM20/2, DIM35, DIM50, or DIM100 as required by the circuit layout.

2. The modules shall provide control of incandescent loads, as well as magnetic and electronic transformers and ballast that, per the manufacturer of these devices, are suitable for 2 wire, line voltage, phase-forward dimming.

3. The modules shall employ hard-fired solid-state relays that incorporate one or two pairs of silicon controlled rectifiers (SCR) mounted in anti-parallel configuration, a snubber network, gate drive circuitry, and an opto-isolator in industry standard 1.80" x 2.30" or 2.50" x 4.00" packages. Systems utilizing triacs or proprietary SCR packages shall not be acceptable.

4. The solid-state relays shall be UL and cUL recognized and rated for a nominal line voltage of no less than 277Vrms and withstand peak voltages of minimum 600V. The devices shall have a minimum continuous rating of 40, 75, and 150A and shall withstand surge currents, for no less than 16.6ms, of minimum 625, 1000, and 1600A for the 20, 35 & 50, and 100A modules respectively.

5. The modules shall incorporate toroidal chokes providing, with 100% of full rated load, a rise-time of at least 350µs for 20 & 35A circuits and 500µs for 50 & 100A modules. Extended rise-time models and add-on modules shall be available to increase rise-time for 20 & 35A and 50 & 100A circuits to at least 700 and 1000µs respectively. Rise-time shall be

measured from 10% to 90% of the waveform amplitude at 90° conduction angle.

6. The modules shall be convection cooled only. An aluminum heat-sink, that forms the main structural member of the module, shall provide no less than 160, 320, and 640 square inches of unobstructed primary cooling surface for the 20 & 35, 50, and 100A modules respectively. Systems utilizing fans or other means of forced primary or supplementary cooling shall not be acceptable.

7. Overall efficiency with standard rise-time shall be no less than 96%. Thermal emission at full rated load shall not exceed 300, 450, 600, 575, 800, and 1600BTU/hr for the 20, 20HR, dual 20, 35, 50, and 100A modules respectively.

8. Output waveform asymmetry and DC component shall not exceed 1% at full rated load.

9. The module load circuit surge and transient withstand capability shall meet or exceed the minimum recommendations of ANSI C64.21-1991. Continuous breakdown voltage between control terminals, load terminals, and ground shall be no less than 4000V.

10. Line and load terminals shall accept up to #8 AWG wire for 20A modules, up to #6 AWG wire for 35 and 50A modules, and up to #1/0 AWG wire for 100A modules. Control wiring shall be provided by a 24" harness factory terminated in a 4 position keyed plug-in header.

11. The modules shall be UL listed for continuous operation at 100% of their

rating per NEC 1999 Article 210-20-a. Systems failing to meet this requirement shall not be acceptable.

12. The modules including their wiring, termination points, mounting hardware, enclosure and controller shall be UL and cUL listed as a complete assembly and for Canadian installations comply with CSA Standard C22.2 #14-M91. UL recognized or listed devices alone shall not be acceptable unless documentation is submitted to verify that the entire assembly, including the controller and enclosure, has been tested and evaluated by a Nationally Recognized Testing Laboratory (NRTL) and found to meet all the herein-mentioned standards and requirements.

13. The modules shall be UL and cUL listed for AC lighting loads with the following minimum ratings per circuit at 40°C ambient temperature:

DIM20/1	20A, 2400W @ 120V 10A, 2400W @ 240V 10A, 2400W @ 277V
DIM20HR	20A, 2400W @ 120V 10A, 2400W @ 240V 10A, 2400W @ 277V
DIM20/2	20A, 2400W @ 120V 10A, 2400W @ 240V 10A, 2400W @ 277V
DIM35	35A, 4200W @ 120V 17.5A, 4200W @ 240V 17.5A, 4200W @ 277V
DIM50	50A, 6000W @ 120V 25A, 6000W @ 240V 25A, 6000W @ 277V
DIM100	100A, 12000W @ 120V 50A, 12000W @ 240V 50A, 12000W @ 277V

