

DC90 Dimmer Banks

Noise-free dimming with intelligence

- ◀ DC dimming minimizes electrical noise
- ◀ Dimmer status feedback
- ◀ Ideal for two-wire retrofit applications
- ◀ Plug-in dimmers with self-aligning dimmer connectors
- ◀ Superior cooling with vertical air plenums and fan arrays



Specifications:

A. The dimmer bank shall consist of free-standing, factory-assembled dimmer racks constructed of 14-gauge steel frame, and 0.062 aluminum back panel. Removable cover panels shall be provided for each end of the dimmer bank. Each dimmer rack shall include two removable vertical modules supports, a communications module, and top and bottom vent grills. A hinged latching removable front door is provided. Rack components shall be designed for easy removal and installation so that the dimmer bank is completely open and accessible during contractor's wiring. Racks requiring rear access during or after installation shall not be acceptable.

B. Each dimmer rack shall have provisions for up to 48 plug-in dimmer modules. Each single-height module shall contain either two 2.4kw dimmers or a single 6kw dimmer. The 12kw module shall be of a dual-height, dual-dimmer design. Each dimmer rack shall be rated at 120/208 volts, three-phase, four-wire, maximum 800 amps per phase. Main power bussing shall be accessible via the side or bottom of the rack. Current limiting fuses shall

be available for both single-rack and joined-rack installations. The AIC rating shall be 10,000 amps.

C. Dimmer module supports shall be provided with guides for ease of module insertion and withdrawal. An injection molded connector body shall be provided on the rack and dimmer module connectors to assure positive alignment of the power pins and protect the control connector from insertion damage. All input power connections shall be made through vertical copper busses. It shall be possible to mix DC and AC dimmer output in the same installation via different dimmer modules.

D. Control signals shall be routed through PC boards and ribbon cable. No discrete control wires are required to the plug-in modules. Adequate space shall be provided for contractor wiring. A tubular screw termination point (maximum wire size — no. 6 or no. 2 when using an adapter) shall be provided for two contractor load wires at each dimmer module connector.

E. Terminals shall be provided for two twisted-pair signal wires, two overtemp wires and auxiliary wires as required. Systems

requiring an individual control wire per dimmer from the control console will not be acceptable. All terminals shall be clearly marked. Connectors and wiring shall be accessible from the front of the rack.

F. The system shall accept USITT AMX192 protocol.

G. The DC90 communication module shall serve as the interconnection point between the control consoles and the individual dimmer module. The communication module shall be housed in the dimmer rack. The contractor shall make no separate connection to this module, which shall plug into the rack.

H. The DC90 communication module shall house six plug-in processor boards. Each processor board shall contain control circuits, each driving eight dimmer modules. Common electronics controlling more than eight dimmer modules will not be acceptable. The microprocessor shall decode the data received from the ComLink and transmit the information to the individual dimmers. The bi-directional communication link shall transmit dimmer status information. This information

(continued on back page)

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Specifications: (cont.)

shall include dimmer module type, module temperature limits, overload shutdown conditions, dimmer fault and "no load" status. Consoles without feedback reception shall ignore this status information.

I. In the event of component failure on the processor board, only eight dimmer modules shall be affected and a red LED on the processor board shall illuminate to indicate location of the failed card to speed replacement. The communication module shall also

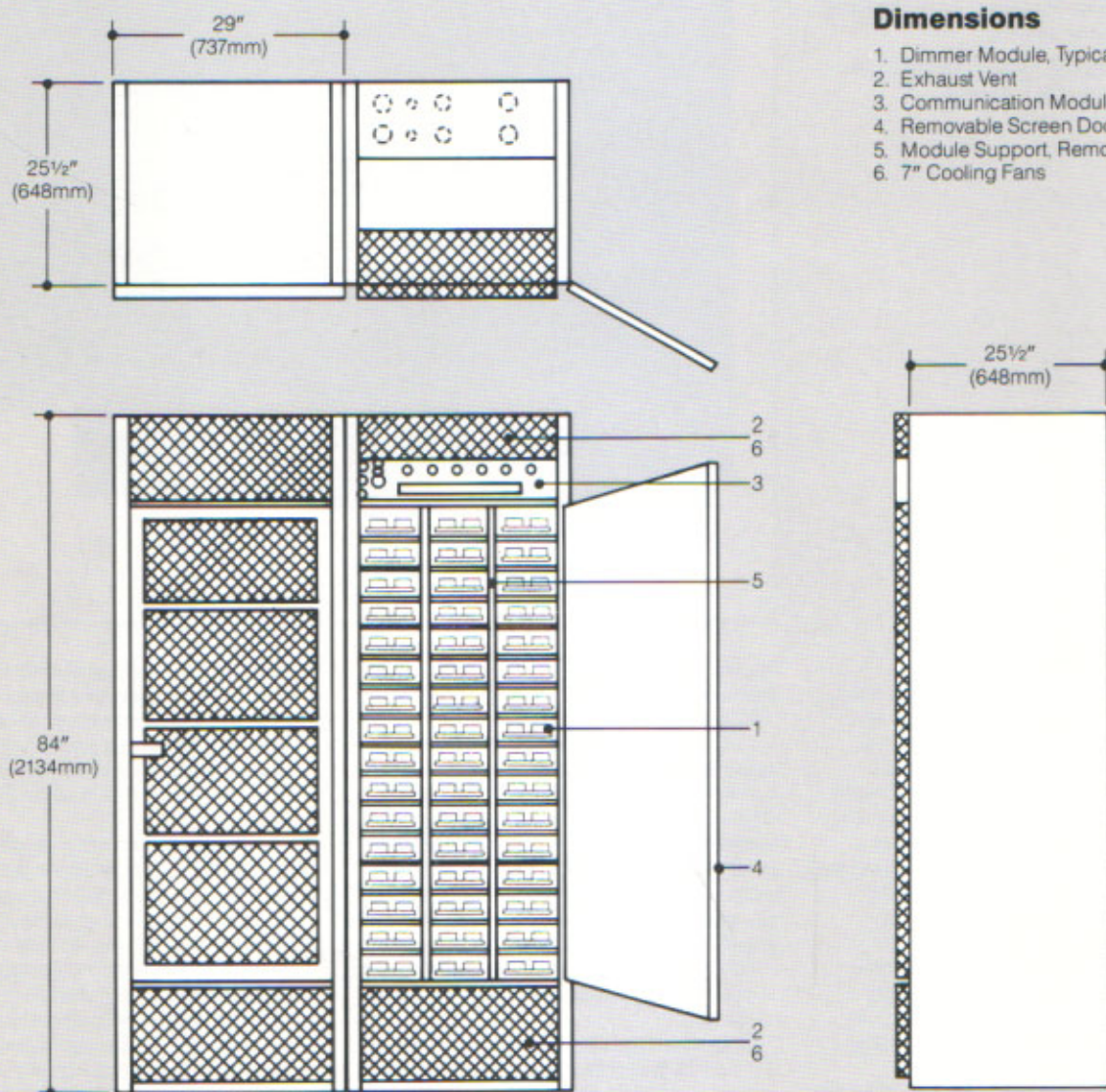
be equipped with a power supply with triple redundant transformers and six indicating fuses. Three green LEDs shall indicate that power on all three phases is present.

J. Seven 7" low-noise fans shall be mounted in the top and base of the vertical air plenums to maintain the temperature of all components at proper operating levels, provided ambient room temperature does not exceed 40° Celsius. An automatic fan shut-off that is activated when the control console is turned off shall be provided to extend fan life. The fans shall operate at two speeds. One

speed shall be for normal operation. The fans shall automatically switch to high speed when an overtemperature condition is evident.

K. The dimmer rack shall also interface to an external houselight module for direct analog control of dimmers for houselight or worklight purposes.

L. The size of the DC90 dimmer rack shall not exceed 84" high by 26½" deep by 29" (times the number of racks) wide. The DC90 dimmer rack shall be U.L.-listed and appropriately labelled. Finish shall be black semi-gloss baked enamel.



Dimensions

1. Dimmer Module, Typical
2. Exhaust Vent
3. Communication Module
4. Removable Screen Door, Hinged
5. Module Support, Removable
6. 7" Cooling Fans