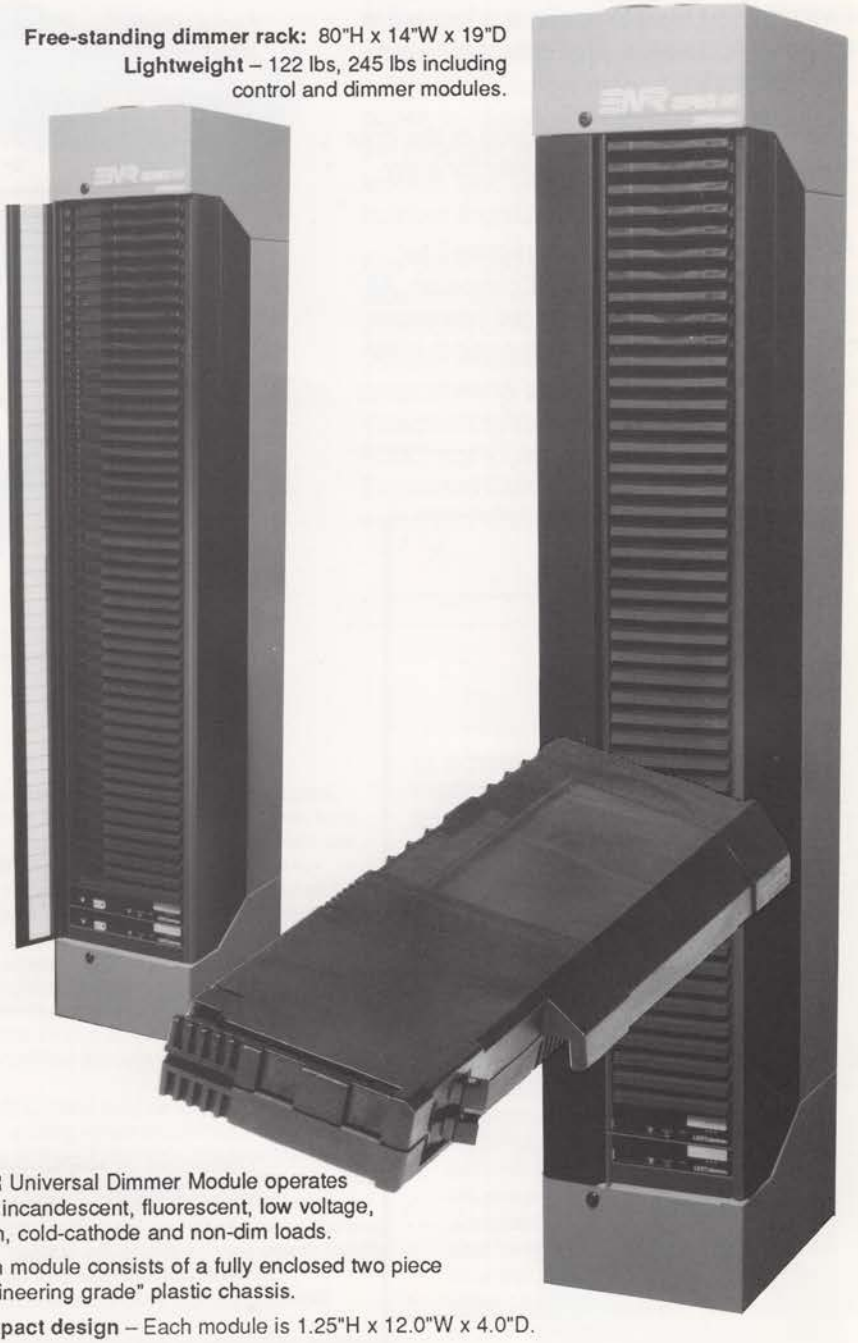
ENR SERIES 96

DIMMER RACK

New Dimming Technology Coupled with Efficient Design

- ☐ ENR 96 contains forty-eight plug-in dimmer modules available in120 volt dual 1.8kW, 2.4kW and single 6.0kW capacities, 240 volt dual 2.5kW and single 5.0kW capacities.
- ☐ Plug-in dimmer and control modules make the ENR 96 rack fully serviceable.
- ☐ Removable top and bottom access panels for line and load runs. Quickly and easily installed.
- ☐ ENR 96 rack design allows for adjacent or back-to-back mounting of multiple racks.
- ☐ Locking door to prevent unwarranted access to ENR 96 dimmer rack.
- ☐ Ambient air is drawn through the dimmers and exhausted through the rack. The airflow is not drawn over any electrical connections. No filter is required.
- ☐ Designed to operate on single or three phase power, 120 or 240 volts.
- ☐ Ninety-six user programmable panic switches are located inside the ENR 96 rack.
- ☐ 100,000 A interrupt capacity available.
- ☐ Maintenance — fully front accessible – no side or back access required.
- ☐ UL Listed
- ☐ CSA Certified

Free-standing dimmer rack: 80"H x 14"W x 19"D
Lightweight – 122 lbs, 245 lbs including control and dimmer modules.



ENR Universal Dimmer Module operates with incandescent, fluorescent, low voltage, neon, cold-cathode and non-dim loads.

Each module consists of a fully enclosed two piece "engineering grade" plastic chassis.

Compact design – Each module is 1.25"H x 12.0"W x 4.0"D.

Lightweight – Total dimmer module weight: 2.5 lbs.

"patent pending"

LEE Colortran

Power bussing for simplified rack interconnection and greater access for all contractor wiring.

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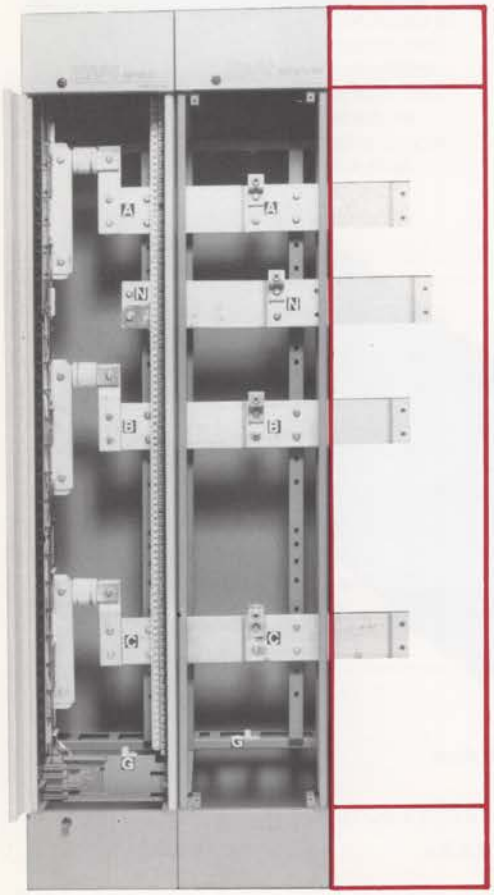
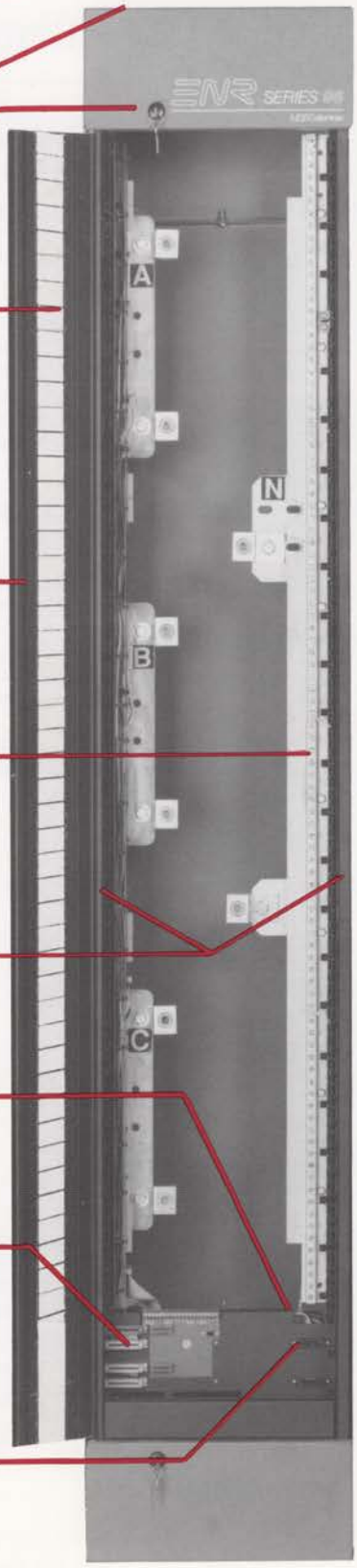
Dimmer phasing is arranged to allow simple horizontal rack to rack bussing. No interconnection of feeder cable required. Each dimmer neutral terminal is located in an easily accessible area adjacent to the load terminal.

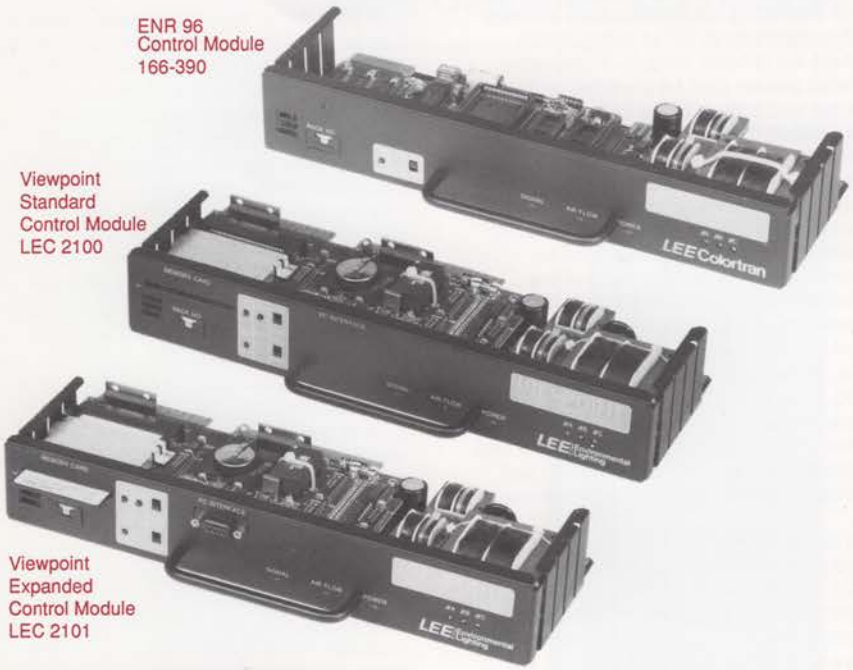
A label is provided on the inside of the door and is adjacent to each dimmer for easy identification of each circuit.

All power contacts are nickel-plated for protection against wear and corrosion. All signal contacts are gold-plated (minimum of 15 microns) for protection against wear and corrosion.





Choose the control module that meets your needs . . .



Comprised of completely digital electronic circuitry including a high-speed microprocessor. Indicator LED's show that power is present and the system is functioning properly. If any phase is missing or improperly wired, the indicator will blink. Each Control Module also has a user-selectable rack number thumbwheel.

The Standard or Expanded Control Modules act as the brain of the Viewpoint control system. The Expanded Control Module allows for remote programming and downloading of the Viewpoint system features with a PC AT/XT computer. Both the Standard and Expanded Control Modules are equipped with EEPROM memory storage facility.

Specifications

CONTROL MODULES

MECHANICAL

A. The control module shall be a plug-in assembly containing all the active electronics in the rack and consisting of a formed steel chassis, two glass epoxy printed circuit boards, and a handle for easy insertion and removal. The chassis shall be finished in black polyurethane paint with a silkscreened polycarbonate overlay attached to the front of the module. Racks using non plug-in control modules or electronics requiring the removal of panels for servicing shall not be acceptable.

ELECTRICAL
ENR 96 Control Module

A. Two ENR 96 Control Modules shall be used in each ENR 96 rack. The modules shall utilize completely digital electronic circuitry including a high speed microprocessor for performing all dimmer control calculations and for handling external serial communications and a high speed A/D converter for analyzing AC power waveforms. Control Modules utilizing complex analog circuitry with greater than 1% component tolerances shall not be acceptable. The control modules shall automatically accept either *LEE* Colortran protocol (156K baud) or DMX512 protocol (250K baud). Control Modules requiring switch selection of various protocols shall not be acceptable.

B. The Control Modules shall have signal, airflow, and power indicators visible from the front of the rack. The power indicator shall blink if any phase is missing or incorrectly wired. A thumbwheel shall be accessible from the front of the module to set the rack number. A test switch shall be provided to allow dimmers to be activated without a control system attached to the rack. Three phase trimpots and a reset switch shall also be accessible from the front of the module.

C. Each Control Module shall have four 0-10V DC analog inputs which can be patched to any of the 48 dimmers in either the top or bottom half of the rack. A memory transfer input shall be provided to switch between digital and analog control of these dimmers. An integral adjustable voltage power supply for up to 8 external 10K ohm potentiometers shall also be provided.

D. Each Control Module shall have 48 switches for setting "dim" or "non-dim" mode for the 48 dimmers under its control. Racks requiring special non-dim modules or with non-dim switches located on the dimmer shall not be acceptable.

ELECTRICAL
VIEWPOINT CONTROL MODULE
(Standard or Expanded)

A. The Viewpoint Control Module shall be used in the first rack of architectural systems in addition to the two ENR 96 Control Modules. The module shall utilize completely digital electronic circuitry including a high speed microprocessor for performing all dimmer control calculations and for handling external serial communications and a high speed A/D converter for analyzing AC power waveforms. Control Modules utilizing complex analog circuitry with greater than 1% component tolerances shall not be acceptable. The expanded control module shall have provisions for an external pile-on signal and shall automatically accept either *LEE* Colortran protocol (156K baud) or DMX512 protocol (250K baud). Control Modules requiring switch selection of various protocols shall not be acceptable.

240 Volt Control Modules also available. Contact factory for ordering information.

Specifications

ELECTRICAL
Viewpoint Control Module
(Standard or Expanded)

B. The Control Module shall have signal, airflow, and power indicators visible from the front of the rack. The power indicator shall blink if any phases are missing or incorrectly wired. A thumbwheel shall be accessible from the front of the module to set the pile-on offset number. A test switch shall be provided to allow dimmers to be activated without a control system attached to the rack. Three phase trimpots and a reset switch shall also be accessible from the front of the module. A memory card slot, read/write switch, configure switch, and PC interface connector (expanded only) shall also be provided.

ENR 96 DIMMER RACK

MECHANICAL

A. The ENR 96 dimmer rack shall be a free-standing dead front switchboard no larger than 80"H x 14"W x 19"D and shall house all specified equipment. It shall be constructed of code gauge formed steel and aluminum structural members. All bus bars, lugs, and terminals shall be tin or nickel-plated. All exterior surfaces shall be finished in grey or black polyurethane paint. The rack shall weigh no more than 122 lbs. (245 lbs. including dimmers and control modules).

Racks shall be designed to allow for adjacent or back-to-back mounting of multiple racks. The rear section of the rack shall be utilized as a contractor's wireway with a minimum of 15" of wiring space behind the dimmer module. Removable conduit panels shall be provided on both the top and bottom of the rack for contractor entry with a minimum area of 140 in^2.

B. The rack shall be constructed to permit insertion and removal of dimmers and control modules without the use of tools. Positive, interlocking guides shall be provided for precise alignment of the dimmers to the signal and power connectors in the rack. Dimmer supports shall be incorporated into the sides of the rack, allowing clear access to the power, load, and neutral terminals and the wireway. Racks requiring disassembly to access the terminals and wireway or requiring the use of tools for replacement of dimmers and control modules shall not be acceptable.

C. The rack shall be designed to contain forty-eight plug-in dimmer modules (either dual 1.8/2.4/2.5kW or single 5.0/6.0kW dimmers). Each dual module position shall have a mating power bus, two load connectors, and three gold-plated PC signal contacts and shall be mechanically-keyed to accept only the dimmer module specified for that position. The control module positions shall include appropriate contractor control signal terminal blocks and a signal distribution connector.

D. The rack shall contain a continuous-duty low-noise fan with a maximum NC rating of 43 to maintain temperatures at proper operating levels with all dimmers under full load and ambient temperatures up to 40°C. The rack shall be provided with an airflow sensor to shut off dimmers in the rack should safe operating temperatures be exceeded. A signal shall be provided to operate a remote over-temperature LED if the airflow sensor has been activated. Cooling air shall be drawn through the dimmers and exhausted through the top of the rack. Since there is no air flow over any electrical connections in the dimmer, no filtration shall be required. Racks not using dimmer airflow channels and therefore requiring filters shall not be acceptable.

E. The rack shall have 96 user-selectable control panic switches located on the signal distribution card in the rack. Racks without a panic feature or using non-reprogrammable panic selection devices such as clippable diodes shall not be acceptable.

F. The rack shall have a lockable door with a maximum swing radius of 4-1/2" to prevent unauthorized access to dimmer and control modules. A blank label shall be provided inside the door and directly adjacent to each dimmer for user identification of each circuit.

G. Both load and neutral terminals shall accept up to a #2 gauge wire. Neutral terminals shall be located directly adjacent to load terminals for ease of contractor wiring. Provisions shall be made for optional fault current protection devices (amp traps) which may be installed and serviced from the front of the rack.

ELECTRICAL

A. The rack shall be designed to operate from either 120 or 240 volts and either single or three phase power. Removable panels shall be provided on the sides of the rack to allow simple rack to rack bussing.

B. The rack shall be factory-tested and control modules shall be burned in at elevated temperatures for a minimum of 4 hours. The rack shall be UL listed and CSA Certified for 120V applications and shall have an interrupting capacity of 10,000 A. An interrupting capacity of 100,000 A is available as an option.

Note: Specification subject to change without notice.

ENR SERIES 96

LEEColortran

Ordering Information

Catalog No.	Description
196-000	ENR 96, Configured Rack
196-001	ENR 96, 1.8kW/2.4kW, 120V, Standard Theatrical/TV Rack
196-002	ENR 96, Aux Rack
196-003	ENR 96, 240V, Rack

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