

A.C. LINE VOLTAGE REGULATOR, NORTH AMERICA 240V, 30A USE

MODEL AR-2330D



AR-2330D FEATURES

- Delivers a stable 240 \pm 10 VAC whenever the input AC line voltage is between 190V and 287V
- Output voltage can be changed to 220V or 230V with internal jumper
- Output capacity 30 amps
- One twist lock inlet and one regulated, conditioned twistlock outlet on rear
- Eight-tap toroidal autoformer
- 10-LED bargraph Input Voltage meter
- 10-LED bargraph true RMS reading Output Current meter
- Extreme overvoltage/undervoltage causes instant shutdown, protecting equipment
- Extreme Voltage Shutdown indicator LED
- Output In Regulation indicator
- Low stray magnetic field
- Quiet, variable speed rear panel fan provides cooling for heavy-duty, continuous operation

DESCRIPTION

The 30 amp **AR-2330D AC Line Voltage Regulator** is primarily intended to protect projection, video, and computer equipment from problems caused by AC line voltage irregularities—sags, brownouts, or overvoltages that can cause sensitive equipment to malfunction, or, in extreme cases, to sustain damage.

The AR-2330D is designed for use in areas with AC mains

of 208-240V. It converts input voltages of 190V to 287V to 240 VAC \pm 10V. Output voltage can be changed from 240V to either 220V or 230V via an internal jumper. The AR-2330D can handle loads totaling up to 30 amps as long as the input voltage is above the selected output voltage. For voltages below that level, its capacity must be derated at approximately .15 amperes per volt.

The AR-2330D has been designed specifically with the unique needs of video and audio in mind, and projection systems in particular. Its technology differs from that of computer-oriented voltage regulators in many important ways. For example:

The AR-2330D does not use a ferro-resonant transformer, which would be heavy and bulky, radiate a large magnetic field, and be too frequency-sensitive to be usable with generators. Instead, it uses a design based on an eight-tap toroidal autoformer. The toroidal design assures minimal stray magnetic fields.

The AR-2330D circuitry monitors the incoming line voltage with each cycle, comparing it to an extremely precise voltage reference. If a voltage fluctuation requires that a different tap be selected, the new tap is electronically switched exactly at the zero-crossing, to avoid distorting the AC voltage waveform. (Some commercial voltage regulators using multiple-tapped transformers switch taps at uncontrolled times, thereby creating voltage spikes, and often creating disturbances in attached equipment.) The design is not sensitive to small errors in line frequency, making the AR-2330D ideal for use with generators.

AR-2330D Rear View



Unit is supplied with a mating female input connector. Unit shown with optional Model RRM-2 rear rack ears.

The AR-2330D also features a precise, high-inrush magnetic circuit breaker, and comprehensive power conditioning which includes MOV's and high voltage inductors and capacitors. This unique combination safely diverts large spikes as well as filters EMI/RFI noise.

An additional feature, Extreme Voltage Shutdown, senses dangerously high or low voltages and shuts down the output before any damage is done. The output remains off until the overvoltage or undervoltage is removed, with an LED indicating the shutdown condition. This invaluable feature provides positive protection to your equipment from accidental connection to incorrect line voltages—a not uncommon hazard in the entertainment industries.

The AR-2330D has one 30A NEMA L14-30P twistlock inlet, and one 30A NEMA L14-30R twistlock outlet on the rear panel. There are no controls except the circuit breaker/on-off switch. A bargraph meter comprised of 10 LED's indicates input voltage, while another LED indicates "In Regulation" status (i.e., that the output voltage is within $\pm 10V$ of the selected value.) Also provided is a 10-LED bar graph meter to indicate true RMS output current. The unit is housed in a compact, two-space rackmount chassis, 3.5" high and 17" deep (8.9 x 43.2 cm) and weighs only 49 lbs. (22 kg).

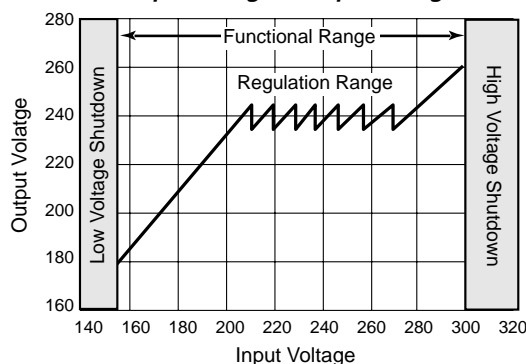
OPTION

- **RRM-2 Rear Rack Mount Ears:** Adjustable depth rear rack ears for the AR-2330D. Adjustment depth is 17" to 18.25" from inside front panel.

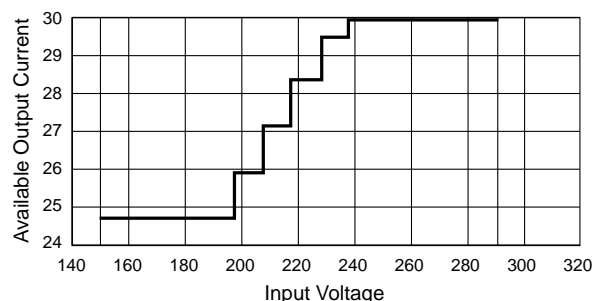
Three Year Limited Warranty

The Furman AR-2330D is protected by a three-year limited warranty covering defects in materials and workmanship.

Output Voltage vs. Input Voltage



Available Output Current vs. Input Voltage



AR-2330D SPECIFICATIONS

Current Rating:	30 amperes for input voltages of 240 or higher; derate at .15A per volt to a minimum of 24.8A	Spike Clamping Voltage:	Initial turn-on at 390 volts peak L-N; 680 volts peak N-G, L-G
Output Voltage:	240 VAC. Can be changed to 220V or 230V via internal jumper	Response Time:	1 nanosecond
"In Regulation" Ranges:	Provides regulation ± 10 VAC from 190-287V	Maximum Surge Current:	6,500 amps (8 x 20 ms pulse)
Shutdown Range:	Below 150V or above 300V	Maximum Spike Energy:	130 joules L-N, 160 joules N-G, L-G, 450 joules total
Inlet:	One 30A NEMA L14-30P twistlock connector	Noise Attenuation:	Transverse and common modes: Greater than 60 dB, 1-200 MHz
Outlet:	One 30A NEMA L14-30R twistlock connector	Dimensions:	3.5" H x 19" W x 17" D (8.9 x 48.3 x 43.2 cm)
Voltmeter Accuracy:	± 10 VAC	Weight:	49 lbs. (22 kg)
Spike Protection Modes:	Line to neutral, neutral to ground, line to ground		