



SERIES 1500A/3000A

AC POWER SOURCES

The Ideal Ac Power Source for Ac Power Testing



NEW

Bullet-Proof Design

with:

- Multi-mode Protection
- 5-Step Startup Sequence
- EMI and MOV Protection
- Higher Efficiency
- Cooler Operation

FEATURES:

- Stable, Transient-free, Sine-wave Power
- Output of 1500 VA or 3000 VA (Models 1500A and 3000A)
- Adjustable 0 to 280 V Ac Output Voltage
- Adjustable 45 to 440 Hz Output Frequency
- Transformer Input to Output Isolation to 200 V
- Input Power from 90 to 240 V Ac, 45 to 440 Hz
- Maintains Input Power Factor >0.95
- Full Current into Any Reactive Load
- Displays True RMS Volts, Amps, and Watts, plus Frequency
- 22-lb Total Weight for 1500 VA (100 VA/lb)
- 2-Phase (90°) and 3-phase available
- Duplicates US 3-wire 220/240 Vac and 2-wire 110/120 Vac

APPLICATIONS

- Tests 50-Hz 90-V to 280-V Equipment for Export
- Tests 400-Hz Avionics and Naval Equipment
- Stabilizes Portable Generator Power
- Light Weight for Portable Uses
- Powers Systems Without Drawing Excessive Harmonic Currents
- Tests Systems when Frequency Conversion is Required
- Permits Adjustable RPM Motors including 2-Phase PSC Types
- Load Analyzer Allows Monitoring Delivered Watts, Current, PF
- Motor Testing
- Ac Ballast Testing
- Flicker Testing

MULTI-MODE PROTECTION

5-Step Protection against Killer Loads:

- Excessive output current limiting
- Excessive kickback output voltage limiting
- Output EMI filters
- Internal over-temperature monitors
- Short circuit protected

5-Stage Start-up Sequence

- From inrush limiting to start delays for internal power supplies and output stages

Ducted Air Flow

- Maintains lower temperature operation for higher reliability and MTBF

These ac power sources incorporate Multi-Mode Protection against killer loads that would blow a lesser product. By sensing causes of potentially damaging conditions before failure can occur, these advanced sources circumvent problems so testing can continue. Even when the test requires power in excess of ratings, these sources can continue to operate, accurately supplying power until component dissipation or excessive temperatures require shutdown.

The 1500A/3000A Series Ac Power Sources are ideal for testing equipment requiring input power differing from available power sources. Advanced switch-mode technology dramatically reduces bulk and weight and effectively isolates the unit under test. With excellent frequency stability and regulation, low distortion and wide voltage and frequency ranges, the 1500A/3000A Series meets most single-phase power requirements in a compact lightweight instrument.

The Models 1500A/3000A can duplicate the standard US 3-wire 220 Vac or 240 Vac power sources (line-neutral-line), but they can also be wired to operate in two-wire mode with neutral at 115 or 220 Vac power safety ground (line-neutral).

Two- and three-phase versions are also available. Please contact the factory for details.

SERIES 1500A/3000A

AC POWER SOURCES



GENERAL DESCRIPTION

The Model 1500A converts the input ac power to dc while maintaining input power factor very close to 1.0. A highly efficient, high-frequency dc-to-dc converter then provides the needed dc supplies as well as 200-V output isolation. A stable, adjustable-frequency, sine-wave generator provides the drive for the output inverter. Output power switching plus advanced sine-wave filtering produce the output. Sophisticated power factor correction circuitry plus EMI filtering assure the user that the Model 1500A will not adversely affect the input power line and that the output will be virtually free of noise and transients. The input-to-output isolation of 200 V peak means that the unit under test can be grounded wherever the application dictates. Ground-loop currents and common-mode problems are thereby minimized.

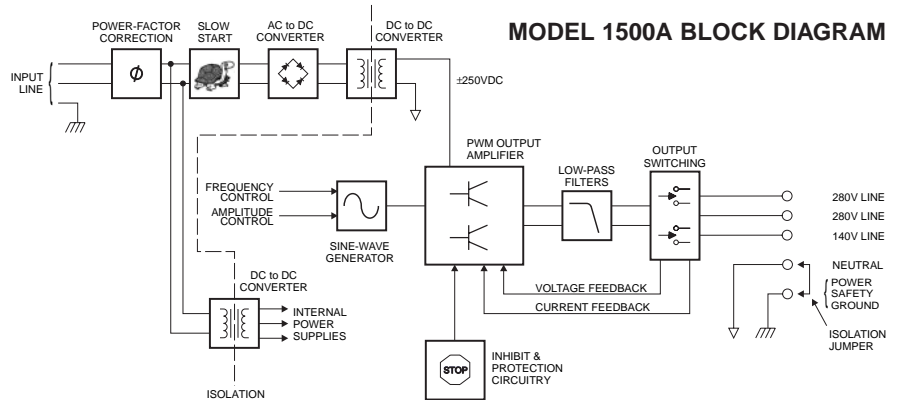
Load Power Analysis

The bright, 0.6" LED display monitors the output parameters of rms current, rms voltage, frequency, and true watts. The accurate built-in measurement capability eliminates the need for several additional measurement instruments including current transformers, watt meters, etc., and allows continuous monitoring of test parameters.

3000-Watt Output Version

The Model 3000A, essentially two Model 1500A's in parallel, has the same wide voltage and frequency ranges, but provides double the output current and power. It includes a single set of controls, metering, and output terminals. The Model 3000A offers the same performance, size, and weight advantages as that of the Model 1500A.

The model 3000A-M1269 is a 3000 VA 2-phase ac source (1500 VA per phase) with quadrature (90°) drive for Phase Split Capacitor (PSC) motors. Eliminating the phase shifting capacitor produces a highly efficient and precise motor drive for exacting motor driven equipment applications.



SPECIFICATIONS

(Apply to both Model 1500A and 3000A except when stated otherwise)

INPUT

Voltage: (1500A): 90 to 240 Vac, single phase (without range change)
(3000A): 90 to 240 Vac, two independent single phase voltage sources may be used
Frequency: 45 to 440 Hz.
Protection: Inrush current limiting
Line-to-line voltage limiting
Over-temperature shutdown

Power Factor Correction: >0.95

OUTPUT

Voltage: Two ranges of 0 to 140 V ac and 0 to 280 V ac adjustable with 10-turn lockable control.

Power:

Model 1500A

Watts: 1000 W
Volt Amperes: 1500 VA
Current
(140-V Range): 12.5 A rms, 30 A peak
(280-V Range): 6.25 A rms, 15 A peak

Model 3000A

Watts: 2000 W
Volt Amperes: 3000 VA
Current
(140-V Range): 25 A rms, 60 A peak
(280-V Range): 12.5 A rms, 30 A peak

Crest Factor: 2.4 (Ratio peak-to-rms current)

Terminals: Separate rear-panel terminals are used for the low (140 V) and high (280 V) ranges to protect low-voltage loads. The 140 V range uses two terminals (high and neutral) and the 280 V range uses three (high, neutral, and high.)

Isolation: Output neutrals may be floated off case ground by 140 V rms (200 V peak). Jumper on output barrier strip permits grounded or isolated operation.

Frequency: Two ranges of 45 to 140 Hz and 140 to 440 Hz adjustable with 10-turn lockable control

Frequency Stability: ±0.25%

Phase: Single

Waveform: Sine

Distortion: 2% typical into full linear load

Regulation: ±2% line and load

Efficiency: 80% typical

Allowable Load Power Factor: From zero to unity, leading or lagging, up to full current rating

Protection: Over-current, over-voltage, over-temperature, EMI

MEASUREMENT FUNCTIONS:

Rms volts with 0.1-V resolution.

Rms amps with 0.001-A resolution, auto ranging to 0.01-A resolution.

Frequency with 0.1-Hz resolution.

True power with 0.1-W resolution auto ranging to 1-W resolution.

Measurement Accuracy: ±0.2% of reading ±0.1% full scale.

Display: Four 0.6" LED numerals plus decimal.

PHYSICAL PROPERTIES

Cooling: Quiet, brushless dc fan

Operating Temperature: 0 to +50°C

Dimensions: Model 1500A Model 3000A

Height: 133 mm (5.25 in) 266 mm (10.5 in)

Width: Case: 438 mm (17.25 in) 438 mm (17.25 in)

Front Panel: 483 mm (19 in) 483 mm (19 in)

Depth: 432 mm (17 in) 432 mm (17 in)

Weight: Model 1500A Model 3000A

Net: 10 kg (22 lb) 20 kg (44 lb)

Shipping: 13.2 kg (29 lb) 26.4 kg (58 lb)

OPTIONS: (Contact Factory)

Output connectors at either front, rear, or both
Special low or high output frequency operation
Fixed or single output voltage or frequency range
Dc or dc and ac input power
Remote control of F and V