

CALIFORNIA INSTRUMENTS

1501L

The California Instruments 1501L is a high-precision, linear programmable AC power source. Delivering up to 1500 VA of clean, low-distortion single-phase power over a wide frequency range from 45 Hz to 5000 Hz, this unit is designed for laboratory, aerospace, and ATE applications requiring exceptionally stable power stimulation with minimal electrical noise.

SPECIFICATIONS

General

Interfaces	GPIB / IEEE-488 (available with optional digital controller)
Display	Analog or digital meters (dependent on the installed oscillator/controller option)

Physical

Power Supply	115 VAC / 208 VAC / 230 VAC ($\pm 10\%$, factory configured), single-phase, 47 - 63 Hz
Operating Temperature	0°C to 45°C °C
Dimensions (W×H×D)	483 mm × 178 mm × 559 mm mm
Weight	52.2 kg kg

AC Output Specifications

Maximum AC Power Rating	1500 VA
Output Phase Configuration	Single-phase
AC Voltage Ranges	0 - 135 V RMS / 0 - 270 V RMS
Maximum RMS Current (Low Range)	11.1 A RMS
Maximum RMS Current (High Range)	5.5 A RMS
Frequency Range	45 Hz - 5000 Hz
Total Harmonic Distortion (THD)	< 0.5% (from 45 Hz to 2000 Hz)
Voltage Line Regulation	$\pm 0.1\%$ of full scale for a $\pm 10\%$ line change
Voltage Load Regulation	$\pm 0.25\%$ from no load to full load (with external sensing)
Amplitude Stability	$\pm 0.05\%$ over 24 hours at constant load and temperature

Protection Features

Current Protection Features	Automatic current limiting protection
Thermal Protection	Automatic over-temperature shutdown
Output Isolation Voltage	Fully isolated floating output

Input Power Requirements

Input Phase Configuration	Single-phase
Input Frequency Range	47 Hz - 63 Hz

Physical & Environmental Specifications

Rack Height Units (U)	4U
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Output Ratings

Maximum Peak Current (Low Range)	36 A
Maximum Peak Current (High Range)	18 A
Load Power Factor Range	0 to 1 (leading or lagging)

Output Specifications

Output Type	AC (DC output available with option -DC)
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Control & Input

External Input Sensitivity	5 Vrms (for full rated output)
External Input Impedance	10 kΩ

Amplifier Specifications

Small Signal Bandwidth	10 Hz - 50 kHz
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Output Performance

Voltage Programming Resolution	0.1 V
Voltage Programming Accuracy	±0.5 V (135 V range), ±1.0 V (270 V range)
Frequency Programming Accuracy	±0.1%

Sense

Remote Sense Line Drop Compensation	Up to 5 V RMS per line
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Environmental

Operating Humidity	0 to 95% non-condensing
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TECHNOLOGY

Linear AC Power Source

APPLICATIONS

Avionics testing, frequency conversion, high-precision laboratory utility power, and automated test equipment (ATE)

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.