CALIFORNIA INSTRUMENTS

CSW5550

The California Instruments CSW5550 is a high-performance programmable AC and DC power source that delivers up to 5550 VA of AC power or 3700 W of DC power. Designed for precision testing, it integrates power generation with a sophisticated power analyzer to provide comprehensive testing capabilities for avionics, military, and commercial electronic applications.

SPECIFICATIONS

General

Interfaces	USB, RS-232 (standard); GPIB, LAN (optional)
Display	Graphic LCD display
Command Language	SCPI

Physical

Power Supply	187 - 264 VAC (3-phase) or 342 - 456 VAC (3-phase), 47 - 63 Hz
Operating Temperature	0 - 40 °C
Dimensions (W×H×D)	483 mm × 133 mm × 602 mm mm
Weight	33.1 kg
Cooling System	Forced-air cooling, front-to-rear airflow

AC Output

Maximum AC Power Rating	5550 VA
Output Phase Configuration	Single phase
AC Voltage Ranges	0 - 156 Vrms / 0 - 312 Vrms
Maximum RMS Current (156V Range)	35.6 Arms
Maximum RMS Current (312V Range)	17.8 Arms
Maximum Peak Current (156V Range)	106.8 Apkr
Maximum Peak Current (312V Range)	53.4 Apkr
Frequency Range	45 Hz - 5000 Hz
Frequency Accuracy	±0.01%
Phase Angle Range	0 to 360°
Total Harmonic Distortion (THD)	< 0.25% typical (45 Hz to 100 Hz)
Crest Factor Limit	3:1
Voltage Line Regulation	±0.1% of full scale
Voltage Load Regulation	±0.1% of full scale

DC Output

Maximum DC Power Rating	3700 W
DC Voltage Ranges	0 - 220 Vdc / 0 - 440 Vdc
Maximum DC Current (220V Range)	16.8 A
Maximum DC Current (440V Range)	8.4 A

Measurement & Readback

Harmonic Analysis Capabilities	Up to 50th harmonic

Transient & Waveform Generation

Output Waveform Types	Sine, Square, Clipped Sine, Arbitrary

Protection Features

Overvoltage Protection (OVP)	Programmable shutdown
Overcurrent Protection (OCP)	Programmable constant current limit or shutdown
Overtemperature Protection (OTP)	Thermal shutdown

Physical & Environmental Specifications

Rack Height Units	3U

Programming Resolution

Voltage Programming Resolution	0.1 V
Frequency Programming Resolution	0.01 Hz (45 to 81.91 Hz), 0.1 Hz (82 to 819.1 Hz), 1 Hz (820 to 5000 Hz)
Phase Programming Resolution	0.1°

Programming Accuracy

Voltage Programming Accuracy	±0.1% of range (45 Hz to 1000 Hz)
Frequency Programming Accuracy	±0.01%
Phase Programming Accuracy	±1° (45 Hz to 1000 Hz)

Environmental

Storage Temperature Range	-40°C to +85°C
Maximum Operating Altitude	2000 m (6500 ft)

Input Specifications

Input Phase Configuration	3-phase
Input Frequency Range	47 Hz to 63 Hz

Output Specifications

Output Coupling	AC, DC, or AC+DC

Arbitrary Waveform Generator

Waveform Memory Capacity	50 user-defined waveforms
Waveform Point Resolution	1024 points per waveform

Measurement Specifications

Crest Factor Measurement Range	1.00 to 6.00
Crest Factor Measurement Resolution	0.01
Power Factor Measurement Range	0.00 to 1.00
Power Factor Measurement Resolution	0.01

TECHNOLOGY

Switch-mode AC & DC Power Source

APPLICATIONS

Precision AC/DC power testing, avionics testing, frequency conversion, and harmonic analysis

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