

KEYSIGHT TECHNOLOGIES (AGILENT HP)

6812A

The Keysight 6812A (formerly Agilent HP) is a highly integrated, single-phase programmable AC power source and analyzer with a power rating of 750 VA. This instrument functions as a clean AC source, a powerful DC source, an arbitrary waveform generator, and a high-accuracy harmonic analyzer, making it ideal for testing consumer electronics, avionics, and power conversion devices.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488.2), RS-232
Display	Vacuum Fluorescent Display (VFD) with multi-character measurement and menu readouts

Physical

Power Supply	100 / 115 / 200 / 230 VAC ($\pm 10\%$, option dependent), single-phase, 47 to 63 Hz, 1600 VA max
Operating Temperature	0 to 40 °C °C
Dimensions (W×H×D)	425.5 mm × 132.6 mm × 525.8 mm mm
Weight	28.2 kg

AC Output Specifications

Maximum AC Power Rating	750 VA
Output Phase Configuration	Single-Phase (1 Phase)
AC Voltage Ranges	0 to 135 V rms (Low Range), 0 to 300 V rms (High Range)
AC Voltage Resolution	100 mV
AC Voltage Programming Accuracy	$\pm(0.15\%$ of output + 0.3 V) on 135 V range, $\pm(0.15\%$ of output + 0.6 V) on 300 V range
Maximum RMS Current (Low Range)	6.5 A (at ≤ 115 V rms)
Maximum RMS Current (High Range)	3.25 A (at ≤ 230 V rms)
Maximum Peak Current	40.0 A (Low Range), 20.0 A (High Range)
Frequency Range	45 Hz to 1000 Hz
Frequency Resolution	0.01 Hz (from 45.00 Hz to 99.99 Hz), 0.1 Hz (from 100.0 Hz to 999.9 Hz)
Frequency Programming Accuracy	$\pm 0.01\%$ of programmed frequency
Total Harmonic Distortion (THD)	< 1% (45 Hz to 1000 Hz), < 0.5% (45 Hz to 100 Hz) into a full resistive load
Voltage Line Regulation	0.1% of full scale
Voltage Load Regulation	0.1% of full scale (with remote sensing active, 45 to 100 Hz)
Crest Factor Limit	6.0 maximum

DC Output Specifications

Maximum DC Power Rating	575 W
DC Voltage Ranges	0 to ± 190 V DC (Low Range), 0 to ± 425 V DC (High Range)
DC Voltage Resolution	100 mV
DC Voltage Programming Accuracy	$\pm(0.1\%$ of output + 0.5 V) on 190 V range, $\pm(0.1\%$ of output + 1.0 V) on 425 V range
Maximum DC Current (Low Range)	5.0 A
Maximum DC Current (High Range)	2.5 A
DC Voltage Line Regulation	0.1% of full scale
DC Voltage Load Regulation	0.5% of full scale

Measurement & Readback

RMS Voltage Measurement Accuracy (45 Hz - 100 Hz)	$\pm(0.03\%$ of reading + 0.1 V) on 135 V range, $\pm(0.03\%$ of reading + 0.25 V) on 300 V range
RMS Voltage Measurement Accuracy (100 Hz - 1000 Hz)	$\pm(0.12\%$ of reading + 0.2 V) on 135 V range, $\pm(0.12\%$ of reading + 0.5 V) on 300 V range
DC Voltage Measurement Accuracy	$\pm(0.05\%$ of reading + 0.15 V) on 190 V range, $\pm(0.05\%$ of reading + 0.35 V) on 425 V range
RMS Current Measurement Ranges	0 to 1.0 A (Low Range), 0 to 10.0 A (High Range)
RMS Current Measurement Accuracy (45 Hz - 100 Hz)	$\pm(0.05\%$ of reading + 2 mA) on Low Range, $\pm(0.1\%$ of reading + 10 mA) on High Range
Harmonic Analysis Capabilities	Fundamental to 50th harmonic (for fundamentals between 45 Hz and 75 Hz)

Transient & Waveform Generation

Output Waveform Types	Sine, Square, Clipped-Sine, Arbitrary (user-defined)
Arbitrary Waveform Resolution	4096 points per waveform cycle (12-bit vertical resolution)
Programming Modes	List, Step, and Pulse modes for transient sweeps of voltage, frequency, and phase

Protection Features

Overcurrent Protection (OCP)	Current limit setting with optional latching shutdown
Overtemperature Protection (OTP)	Automatic overtemperature shutdown with error reporting
Overvoltage Protection (OVP)	Electronic overvoltage shutdown protection

Input Power Requirements

Input Phase Configuration	Single-phase, 2-wire with ground
Maximum Input Current	15 A rms @ 120 VAC / 7.5 A rms @ 240 VAC
Inrush Current Limit	40 A peak maximum

Physical & Environmental

Rack Height Units	3 U
Storage Temperature Range	-40 °C to 75 °C
Cooling Method	Forced air cooling with internal fan, rear-panel exhaust

System Interfaces & Software

Command Set	SCPI (Standard Commands for Programmable Instruments)
Analog Programming Interface	Provides analog inputs for external programming and monitor outputs for voltage/current waveforms

Output Performance

Start Phase Angle Range	0.0° to 359.9°
Start Phase Angle Resolution	0.1°
Start Phase Angle Accuracy	±1.5° (45 Hz to 100 Hz)
DC Ripple and Noise (PARD)	100 mV RMS, 350 mV peak-to-peak (20 Hz to 20 MHz)
AC Voltage DC Offset	< 20 mV (135 V range), < 50 mV (270 V range)

Measurements

Power Factor Measurement Range	0.00 to 1.00
Crest Factor Measurement Range	1.00 to 99.99
Power Factor Measurement Accuracy	±0.05 (for current > 10% of range)
Crest Factor Measurement Accuracy	±5% (for current > 10% of range)

Outputs

Output Isolation	±300 V (AC or DC) relative to chassis ground
Remote Sense Capability	Up to 2 V drop per load lead

Power Input

Input Frequency Range	47 Hz to 63 Hz
-----------------------	----------------

Measurement Resolution

RMS Voltage Measurement Resolution	100 mV
RMS Current Measurement Resolution (Low Range)	1 mA
RMS Current Measurement Resolution (High Range)	10 mA
Active Power Measurement Resolution (Low Range)	0.1 W
Active Power Measurement Resolution (High Range)	1 W
Apparent Power Measurement Resolution (Low Range)	0.1 VA
Apparent Power Measurement Resolution (High Range)	1 VA
Frequency Measurement Resolution	10 mHz
Power Factor Measurement Resolution	0.01

System & Control

Non-Volatile State Storage	10 states
Arbitrary Waveform Storage	4 user-defined waveforms
Trigger Inputs and Outputs	BNC connectors, TTL compatible
System I/O Connector	25-pin D-sub (analog control and status)

Transient Generation

Transient List Size	Up to 100 steps
Transient Step Duration Range	0.1 ms to 41.7 s
Transient Step Duration Resolution	0.1 ms

Harmonic Measurements

Harmonic Analysis Range	Up to 50th harmonic
-------------------------	---------------------

Programming Performance

AC Voltage Programming Temperature Coefficient	0.02% per °C + 20 mV/°C (low range) / 0.02% per °C + 40 mV/°C (high range)
DC Voltage Programming Temperature Coefficient	0.02% per °C + 20 mV/°C (low range) / 0.02% per °C + 40 mV/°C (high range)

Measurement Accuracy

Peak Current Measurement Accuracy	± (2% of reading + 0.6 A)
-----------------------------------	---------------------------

Environmental

Operating Altitude	Up to 2000 m
Operating Humidity	Up to 95% RH (non-condensing)

TECHNOLOGY

Programmable Linear AC/DC Power Source / Analyzer

APPLICATIONS

Power compliance testing, avionics power simulation, grid disturbance simulation, harmonic and transient 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.