

KEYSIGHT TECHNOLOGIES (AGILENT HP)

6813A

The Keysight (formerly Agilent / HP) 6813A is a high-performance programmable AC power source and analyzer designed for applications requiring precise AC/DC power generation and detailed measurement capabilities. It provides a complete AC test solution with a built-in arbitrary waveform generator, precise power analyzer, and transient generation system, making it ideal for testing consumer electronics, power supplies, and avionics.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488.2), RS-232
Display	Vacuum Fluorescent Display (VFD)

Physical

Power Supply	200 to 240 VAC, single-phase, 47 to 63 Hz
Operating Temperature	0 to 40 °C °C
Dimensions (W×H×D)	425.5 mm × 177.8 mm × 647.9 mm mm
Weight	48.2 kg

AC Output Specifications

Maximum AC Power Rating	1750 VA
Output Phase Configuration	Single-phase
AC Voltage Range (Low Range)	0 to 135 Vrms
AC Voltage Range (High Range)	0 to 270 Vrms
AC Voltage Resolution	100 mV
AC Voltage Accuracy (Low Range)	±(0.15% of output + 0.3 V) at 45 to 100 Hz
AC Voltage Accuracy (High Range)	±(0.15% of output + 0.6 V) at 45 to 100 Hz
Maximum RMS Current (Low Range)	13 A
Maximum RMS Current (High Range)	6.5 A
Maximum Peak Current (Low Range)	80 A
Maximum Peak Current (High Range)	40 A
Frequency Range	45 Hz to 1000 Hz
Frequency Resolution	10 mHz (45.00 to 80.00 Hz), 100 mHz (80.1 to 1000.0 Hz)
Frequency Accuracy	±0.01%
Total Harmonic Distortion (THD)	< 1% (45 to 100 Hz), < 2% (100 to 1000 Hz)
Voltage Line Regulation	0.1% of full scale
Voltage Load Regulation	0.5% (45 to 100 Hz)

DC Output Specifications

Maximum DC Power Rating	1350 W
DC Voltage Range (Low Range)	0 to ± 180 V
DC Voltage Range (High Range)	0 to ± 360 V
DC Voltage Resolution	100 mV
DC Voltage Accuracy (Low Range)	$\pm(0.1\%$ of output + 0.5 V)
DC Voltage Accuracy (High Range)	$\pm(0.1\%$ of output + 1.0 V)
Maximum DC Current (Low Range)	10 A
Maximum DC Current (High Range)	5 A
DC Ripple and Noise (RMS)	2 Vrms (20 Hz to 10 MHz)

Measurement & Readback

Voltage Measurement Range (Low Range)	0 to 135 Vrms
Voltage Measurement Range (High Range)	0 to 270 Vrms
Voltage Measurement Accuracy (Low Range)	$\pm(0.15\%$ of reading + 0.3 V)
Voltage Measurement Accuracy (High Range)	$\pm(0.15\%$ of reading + 0.6 V)
Current Measurement Range (Low Range)	0 to 13 A (RMS)
Current Measurement Range (High Range)	0 to 6.5 A (RMS)
Current Measurement Accuracy (Low Range)	$\pm(0.5\%$ of reading + 0.03 A)
Current Measurement Accuracy (High Range)	$\pm(0.5\%$ of reading + 0.02 A)
Active Power (W) Measurement Accuracy (Low Range)	$\pm(1.5\%$ of reading + 5 W)
Active Power (W) Measurement Accuracy (High Range)	$\pm(1.5\%$ of reading + 24 W)
Apparent Power (VA) Measurement Accuracy (Low Range)	$\pm(1.5\%$ of reading + 5 VA)
Apparent Power (VA) Measurement Accuracy (High Range)	$\pm(1.5\%$ of reading + 24 VA)
Power Factor Measurement Accuracy	± 0.05 (for current > 1 A)
Crest Factor Measurement Accuracy	$\pm 5\%$ (for current > 1 A)
Harmonic Analysis Capabilities	1st to 50th harmonic of fundamental (45 to 75 Hz)

Transient & Waveform Generation

Output Waveform Types	Sine, Square, Clipped-Sine, Arbitrary
Transient Generation Modes	Step, Pulse, List modes

Protection Features

Overcurrent Protection (OCP) Range	Programmable limit (shutdown or constant current)
Overtemperature Protection (OTP)	Yes
Remote Sense Maximum Cable Drop	Up to 2 V drop per lead

Input Power Requirements

Maximum Input Power	3600 VA
---------------------	---------

System Interfaces & Software

Command Language	SCPI (Standard Commands for Programmable Instruments)
------------------	---

Physical & Environmental Specifications

Rack Height Units (U)	4U
Storage Temperature Range	-40 °C to 75 °C
Cooling Method	Forced-air cooling via internal fan

Input Power

Input AC Voltage Options	100 VAC / 120 VAC / 200 VAC / 208 VAC / 230 VAC / 240 VAC (option dependent)
Input Frequency Range	48 Hz to 63 Hz

Output Isolation

Maximum Float Voltage	450 V peak (output terminals to chassis)
-----------------------	--

Analog Programming & Modulation

External Analog Input Range	±10 V peak full scale
External Analog Input Impedance	100 kΩ nominal

Arbitrary Waveform Generation

User-Defined Waveform Points	1024 points
Arbitrary Waveform DAC Resolution	12-bit

Measurements

Peak Current Measurement Resolution	0.1 A
RMS Voltage Measurement Resolution	0.01 V
RMS Current Measurement Resolution	0.001 A (low range), 0.01 A (high range)
Crest Factor Measurement Resolution	0.1
Power Factor Measurement Range	0.00 to 1.00
Power Factor Measurement Resolution	0.01

Environmental

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

System Settings

Store/Recall States	10 states (0 to 9)
---------------------	--------------------

Power Input

Input Power Factor	0.99 typical at full load
--------------------	---------------------------

Measurement

Total Harmonic Distortion (THD) Measurement Resolution	0.1%
Phase Angle Measurement Range	-180.0° to +180.0°
Phase Angle Measurement Resolution	0.1°
Phase Angle Measurement Accuracy	±1.5° (for fundamental frequency 45 Hz to 65 Hz)
Harmonic Analysis Range	1st to 50th harmonic
Harmonic Amplitude Resolution	0.01% of full scale
Harmonic Voltage Measurement Accuracy	±(0.03% of full scale + 0.1% of reading) for 1st to 25th harmonic (with 45 Hz to 65 Hz fundamental)
Harmonic Current Measurement Accuracy	±(0.3% of full scale + 0.6% of reading) for 1st to 25th harmonic (with 45 Hz to 65 Hz fundamental)
Reactive Power (var) Measurement Range	1750 var

Output Specifications

AC Output Voltage Temperature Coefficient	0.04% / °C
---	------------

I/O Ports

Trigger Input Connector	15-pin D-sub, TTL compatible
Trigger Output Connector	15-pin D-sub, TTL compatible

TECHNOLOGY

Programmable Linear/Switching Hybrid AC Source

APPLICATIONS

AC Power Testing, Power Supply Testing, Harmonic Analysis, Avionics Testing

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