KEYSIGHT TECHNOLOGIES (AGILENT HP)

6012A

The Keysight Agilent HP 6012A is a high-performance, 1000-watt autoranging DC power supply featuring switching regulation for high efficiency. This CV/CC power supply provides laboratory-grade performance and is capable of automatically adjusting its output voltage and current combinations across its entire operating range of 0 to 60 V and 0 to 50 A, eliminating the need to manually select output ranges.

SPECIFICATIONS

General

Interfaces	Analog programming and remote sensing terminals standard; Option 002 adds isolated resistance/voltage/current programming and status/control lines
Display	Individual front panel voltmeter and ammeter with secondary available capacity scales; green CV/CC mode LEDs
Warm-up Time	30 minutes

Physical

Power Supply	120 / 220 / 240 Vac, 48-63 Hz, single phase (internal switch/ jumper selectable)
Operating Temperature	0 to 50 °C °C
Dimensions (W×H×D)	425.5 × 132.6 × 514.4 mm mm
Weight	17.3 kg
Rack Height	3U

Output Ratings and Capabilities

Number of Channels	1
Rated Output Power	1000 W (standard) / 700 W (with Option 100)
Rated Output Voltage	0 to 60 V
Rated Output Current	0 to 50 A
Output Voltage Isolation	±240 Vdc from ground maximum float voltage (including output voltage)

Load and Line Regulation

Voltage Load Regulation	< 0.01% of output voltage + 5 mV (for a load change equal to maximum current rating at the set voltage)
Current Load Regulation	< 0.01% of output current + 5 mA (for a load change equal to maximum voltage rating at the set current)
Voltage Line Regulation	< 0.01% of output voltage + 2 mV (for any line voltage change within rating)
Current Line Regulation	< 0.01% of output current + 2 mA (for any line voltage change within rating)

Ripple and Noise

Constant Voltage Ripple and Noise (Vp-p)	< 50 mVp-p (20 Hz to 20 MHz)
Constant Voltage Ripple and Noise (Vrms)	< 8 mVrms (20 Hz to 20 MHz)
Constant Current Ripple and Noise (Irms)	< 25 mArms (20 Hz to 20 MHz)

Programming Accuracy and Resolution

Voltage Programming Resolution	15 mV (minimum change using 10-turn front panel control)
Current Programming Resolution	20 mA (minimum change using 10-turn front panel control)

Transient Response and Dynamic Performance

Transient Recovery Time	< 2 ms (to within 100 mV of nominal following a 10% load change, output current >= 5 A)
Typical Output Impedance	0.2 mΩ at DC

Protection Features

Over-Voltage Protection (OVP) Range	2 V to 63 V (adjustable trip voltage)
Reverse Voltage Protection (Power On)	50 A continuous

System Connectivity and Interfaces

Option 002 Systems Capabilities	Resistance, voltage, and current programming of output; 6 isolated status lines; 3 isolated control lines; +5 V and ±15 V bias voltages

AC Input Specifications

Standard AC Input Voltage Range	120 Vac / 220 Vac / 240 Vac (internal switches/jumpers)
Option 100 Input Voltage Range	87 to 106 Vac (single phase, 48 to 63 Hz)
AC Input Frequency Range	48 to 63 Hz
Maximum Input Current (120 Vac)	24 Arms
Maximum Input Current (220 Vac)	15 Arms
Maximum Input Current (240 Vac)	14 Arms

Physical and Mechanical

Form Factor	3U Rackmount
Output Terminal Type	Rear panel bus bars
Cooling System Design	Internal blower fan cooling

Performance

Temperature Coefficient (Constant Voltage)	0.01% + 2 mV per °C
Temperature Coefficient (Constant Current)	0.02% + 10 mA per °C
Output Drift (Constant Voltage)	0.03% + 5 mV (over 8 hours)
Output Drift (Constant Current)	0.03% + 10 mA (over 8 hours)

Protection & Isolation

Maximum Floating Voltage	±240 Vdc from chassis ground

Analog Programming

Analog Voltage Programming Range	0 to 5 V
Analog Resistance Programming Range	0 to 4000 Ω

Environmental

Storage Temperature Range	-40 °C to +75 °C
Maximum Operating Altitude	2000 m

Programming & Readback Accuracy (Option 002)

GPIB Voltage Programming Accuracy	0.08% + 20 mV
GPIB Current Programming Accuracy	0.15% + 45 mA
GPIB Voltage Readback Accuracy	0.08% + 20 mV
GPIB Current Readback Accuracy	0.15% + 45 mA
GPIB OVP Programming Accuracy	1.6% + 1.2 V

Inputs & Outputs

Analog Monitor Outputs	0 to 5 V
Remote Shutdown Input	Active-low TTL signal or contact closure

Outputs

Remote Sense Capability	Up to 0.5 V drop per load lead

Operating Modes

Auto-Parallel Operation	Up to 3 units
Auto-Series Operation	Up to 2 units

Power Requirements

Efficiency	70% typical at full load
Maximum Input Power	1900 VA
AC Input Protection	Front panel combination power switch and magnetic circuit breaker

TECHNOLOGY

Switch-mode CV/CC regulation

APPLICATIONS

Test and Measurement / DC Power Source

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