

KEYSIGHT TECHNOLOGIES (AGILENT HP)

6033A

The Keysight (formerly Agilent / HP) 6033A is a 240 Watt, single-output autoranging system DC power supply belonging to the popular 6030 Series. Designed for demanding automated test systems, it offers analog and digital control, built-in measurements, GPIB connectivity, and autoranging output capability that allows a single supply to do the job of multiple traditional power supplies.

SPECIFICATIONS

General

Display	Dual 3.5-digit LED displays for voltage and current
Warm-up Time	30 minutes
Cooling Type	Forced air cooling via internal fan (airflow from front and sides to rear)
Calibration Interval	1 year

Physical

Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	425.5 mm × 132.6 mm × 503.7 mm mm
Weight	9.6 kg

Output Ratings

Maximum Output Voltage	20 V
Maximum Output Current	30 A
Maximum Output Power	200 W
Output Voltage Isolation to Ground	240 VDC

Programming Accuracy

Voltage Programming Accuracy	0.035% + 9 mV
Current Programming Accuracy	0.085% + 20 mA

Readback Accuracy

Voltage Readback Accuracy	0.08% + 7 mV
Current Readback Accuracy	0.15% + 15 mA

Regulation

Load Regulation (Voltage)	0.01% + 2 mV
Load Regulation (Current)	0.01% + 5 mA
Line Regulation (Voltage)	0.01% + 1 mV
Line Regulation (Current)	0.01% + 1 mA

Ripple and Noise

Voltage Ripple and Noise (RMS)	3 mV
Voltage Ripple and Noise (Peak-to-Peak)	30 mV
Current Ripple and Noise (RMS)	15 mA

Transient and Programming Speed

Transient Response Recovery Time	1 ms to recover within 50 mV following a change from 90% to 100% or 100% to 90% load
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Resolution and Temperature Coefficients

Voltage Programming Resolution	5 mV
Current Programming Resolution	7.5 mA
Voltage Readback Resolution	5 mV
Current Readback Resolution	7.5 mA
Voltage Temperature Coefficient	0.007% + 90 μ V per $^{\circ}$ C
Current Temperature Coefficient	0.008% + 1.6 mA per $^{\circ}$ C

Protection Features

Overvoltage Protection (OVP) Range	0.5 V to 23 V
Overvoltage Protection (OVP) Accuracy	1.6% + 0.3 V

Analog Programming and Monitoring

Remote Sense Maximum Drop per Lead	0.5 V
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Physical Characteristics

Rack Height Unit (U) Rating	3 U
Shipping Weight	11.4 kg

Power Input

AC Input Voltage Options	100 VAC / 120 VAC / 220 VAC / 240 VAC (factory-configured option)
AC Input Frequency	48 Hz - 63 Hz
Maximum AC Input Current	5.1 A @ 100 VAC / 4.3 A @ 120 VAC / 2.3 A @ 220 VAC / 2.1 A @ 240 VAC
Maximum Apparent Power	510 VA

Dynamic Response

Upward Programming Response Time (Full Load)	15 ms
Upward Programming Response Time (No Load)	15 ms
Downward Programming Response Time (Full Load)	30 ms
Downward Programming Response Time (No Load)	250 ms
Command Processing Time	15 ms (typical)

Stability

8-Hour Drift (Voltage)	0.03% + 2 mV
8-Hour Drift (Current)	0.03% + 5 mA

Environmental

Storage Temperature Range	-40 °C to +75 °C
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Analog Programming

Analog Voltage Programming Range	0 V - 5 V or 0 V - 10 V (user-selectable)
Analog Resistance Programming Range	0 Ω - 4 kΩ or 0 Ω - 8 kΩ (user-selectable)

Connectivity & Control

GPIO Interface Capabilities	SH1, AH1, T6, L4, SR1, RL1, PP1, DC1, DT1, C0, E1
Output Connectivity Options	Standard rear bus bars; Option 021 adds front panel binding posts

Performance

Autoranging Boundary Points	20 V @ 10 A, 10 V @ 20 A, 6.7 V @ 30 A
Overtemperature Protection (OTP)	Automatic shutdown on internal overtemperature condition

Inputs & Outputs

Analog Voltage Monitor Output Range	0 - 5 V or 0 - 10 V (user-selectable)
Analog Current Monitor Output Range	0 - 5 V or 0 - 10 V (user-selectable)

Compliance

Safety Compliance	CSA C22.2 No. 1010.1, IEC 1010-1, UL 3111-1
EMC Compliance	CISPR 11 Group 1 Class A, EN 50082-1

TECHNOLOGY

Autoranging System DC Power Supply

APPLICATIONS

Automated test equipment, laboratory DC power, system-level power sourcing

