

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E36313A

The Keysight E36313A is a high-performance, 160 W triple-output programmable DC power supply designed for benchtop and automated test applications. Featuring low output ripple and noise, excellent programming and readback accuracy, and standard USB/LAN interfaces (with optional GPIB), it provides highly reliable clean power. The instrument is equipped with advanced features such as low-range current measurement, data logging, output sequencing, auto-series/parallel configurations, and remote sensing to satisfy rigorous device-under-test (DUT) characterization requirements.

SPECIFICATIONS

General

Interfaces	USB, LAN (LXI-Core), GPIB (optional via Option GPIB)
Display	4.3-inch LCD color display
Internal Storage States	10 states
Warm-up Time	30 minutes
Calibration Interval	1 year
Display Resolution	480 x 272 pixels
Display Type	4.3-inch Color TFT LCD

Physical

Power Supply	100 V / 115 V / 230 V AC ($\pm 10\%$), 50/60 Hz, 350 VA max
Operating Temperature	0 to 40 °C °C
Dimensions (W×H×D)	213 mm × 145 mm × 367 mm (with bumpers); 213 mm × 133 mm × 364 mm (without bumpers) mm
Weight	9.8 kg kg

DC Output Ratings

Number of Channels	3
Channel 1 Voltage Range	0 to 6 V
Channel 1 Current Range	0 to 10 A
Channel 1 Maximum Power	60 W
Channel 2 Voltage Range	0 to 25 V
Channel 2 Current Range	0 to 2 A
Channel 2 Maximum Power	50 W
Channel 3 Voltage Range	0 to 25 V
Channel 3 Current Range	0 to 2 A
Channel 3 Maximum Power	50 W
Total Maximum Output Power	160 W
Output Isolation Voltage	240 VDC (outputs to chassis or output to output)

Load & Line Regulation

Voltage Load Regulation	$< 0.01\% + 2 \text{ mV}$
Current Load Regulation	$< 0.01\% + 250 \text{ }\mu\text{A}$
Voltage Line Regulation	$< 0.01\% + 2 \text{ mV}$
Current Line Regulation	$< 0.01\% + 250 \text{ }\mu\text{A}$

Ripple & Noise

Normal Mode Voltage Ripple (RMS)	$< 350 \text{ }\mu\text{V}$
Normal Mode Voltage Noise (Peak-to-Peak)	$< 5 \text{ mV}$
Normal Mode Current Ripple (RMS) - Channel 1	$< 2 \text{ mA}$
Normal Mode Current Ripple (RMS) - Channels 2 & 3	$< 1 \text{ mA}$

Programming Accuracy

Voltage Programming Accuracy (Channel 1)	$0.03\% + 3 \text{ mV}$
Voltage Programming Accuracy (Channels 2 & 3)	$0.03\% + 5 \text{ mV}$
Current Programming Accuracy (Channel 1)	$0.1\% + 5 \text{ mA}$
Current Programming Accuracy (Channels 2 & 3)	$0.1\% + 2 \text{ mA}$

Readback Accuracy

Voltage Readback Accuracy (Channel 1)	0.03% + 2 mV
Voltage Readback Accuracy (Channels 2 & 3)	0.03% + 4 mV
Current Readback Accuracy (Channel 1)	0.1% + 5 mA
Current Readback Accuracy (Channels 2 & 3, High Range)	0.1% + 2 mA
Current Readback Accuracy (Channels 2 & 3, Low Range 20 mA)	0.25% + 15 μ A

Programming and Readback Resolution

Voltage Programming Resolution	1 mV
Current Programming Resolution (Channel 1)	1 mA
Current Programming Resolution (Channels 2 & 3)	1 mA
Voltage Readback Resolution	1 mV
Current Readback Resolution (Channel 1)	1 mA
Current Readback Resolution (Channels 2 & 3, High Range)	1 mA
Current Readback Resolution (Channels 2 & 3, Low Range)	10 μ A

Transient Response

Load Transient Recovery Time	< 50 μ s
Transient Response Voltage Deviation	Within 15 mV

Protection Features

Overvoltage Protection (OVP) Range (Channel 1)	0.5 V to 8.1 V
Overvoltage Protection (OVP) Range (Channels 2 & 3)	1 V to 27.5 V
Overcurrent Protection (OCP)	Yes
Overtemperature Protection (OTP)	Yes

Advanced Features & Channel Modes

Auto-Series Mode Support	Yes (Channels 2 and 3)
Auto-Parallel Mode Support	Yes (Channels 2 and 3)
Output Tracking Mode	Yes (Channels 2 and 3)
Output LIST Mode (Arbitrary Waveforms)	Up to 100 steps
Output On/Off Delay Time Range	0 to 3600 s
4-Wire Remote Sense Capability	Yes (All channels via rear panel terminals)
Data Logging	Yes (Voltage and current to USB drive or internal memory)

System Connectivity

USB Interface Type & Speed	USB 2.0 (1x Host front, 1x Device rear)
LAN Interface	10/100 Mbps, LXI-Core compliant
Digital I/O Port Configuration	4-pin programmable digital I/O
Web User Interface Support	Yes
SCPI Command Compatibility	Yes

Power Requirements

AC Input Frequency Range	47 Hz to 63 Hz
AC Input Voltage Options	100 V / 115 V / 230 V AC ($\pm 10\%$)
Maximum Input Power	600 VA

Environmental & Safety

Storage Temperature Range	-20 to 70 °C
Operating Humidity Range	Up to 80% RH (non-condensing)
Maximum Operating Altitude	2000 m

Physical Characteristics

Form Factor	3U, half-rack
Cooling System Design	Internal variable-speed fan
Output Terminals	Front panel binding posts & Rear panel screw terminals

Performance

Voltage Temperature Coefficient	0.01% + 2 mV per °C
Current Temperature Coefficient (Channel 1)	0.02% + 1 mA per °C
Current Temperature Coefficient (Channels 2 & 3)	0.02% + 0.5 mA per °C
Remote Sense Maximum Lead Drop	1 V (Channel 1), 2 V (Channels 2 & 3)
Common Mode Current	< 1.5 μ A
LIST Mode Maximum Steps	50 steps
Auto-Series Maximum Output Voltage	50 V
Auto-Series Maximum Output Current	2 A
Auto-Parallel Maximum Output Voltage	25 V
Auto-Parallel Maximum Output Current	4 A

Interfaces

Optional Connectivity	GPIB (user-installable module E363GPBU)
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Compliance

Safety Standards	UL 61010-1, CAN/CSA-C22.2 No. 61010-1, EN 61010-1
EMC Standards	EN 61326-1, IEC 61326-1

Interfaces & Software

LXI Compliance	LXI Core 2011
BenchVue Software Compatibility	Yes

Inputs & Outputs

Rear Output Terminals	Yes (duplicates of Channels 1, 2, and 3 with sense terminals)
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Features

Built-in Scope View Mode	Yes
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Environmental

Acoustic Noise (Sound Pressure)	< 50 dBA
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TECHNOLOGY

Programmable Linear DC Power Supply

APPLICATIONS

Benchtop electronic testing, automated test system (ATE) integration, and DUT characterization

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