

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N7952A

The Keysight N7952A is an Advanced Power System (APS) N7900 Series dynamic DC power supply, offering 1000 W of clean, high-speed power. Designed for applications requiring high-speed dynamic sourcing and measurement, it features 18-bit digitizers, fast transient response, and versatile power-sinking capabilities up to 100% of its rating with an optional power dissipator.

SPECIFICATIONS

General

Interfaces	GPIB, USB 2.0, LAN (LXI Class C compliant), Digital I/O
Display	Color TFT LCD display showing voltage, current, and status
Command Language	SCPI

Physical

Power Supply	100 VAC to 240 VAC (±10%), 50/60 Hz, single phase
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	425.6 mm × 88.1 mm × 558.3 mm mm
Weight	14.1 kg

Core Signal and Electrical Performance

Output Voltage Rating	0 to 40 V
Output Current Rating	0 to 25 A
Output Power Rating	1000 W
Voltage Programming Accuracy	0.03% + 15 mV
Current Programming Accuracy	0.04% + 15 mA
Voltage Load Regulation	< 1.5 mV
Current Load Regulation	< 2 mA
Voltage Line Regulation	< 0.5 mV
Current Line Regulation	< 1 mA
Voltage Ripple & Noise (RMS, 20 Hz to 20 MHz)	1 mV
Voltage Ripple & Noise (Peak-to-Peak, 20 Hz to 20 MHz)	9 mV
Current Ripple & Noise (RMS, 20 Hz to 20 MHz)	15 mA
Standard Sinking Current (Continuous)	2.5 A (10% of rated current)
Maximum Sinking Current (with N7909A)	25 A (100% of rated current with external N7909A Power Dissipator)
Overvoltage Protection (OVP) Range	0.5 V to 44 V
Overcurrent Protection (OCP) Range	0.5 A to 27.5 A

Measurement Capabilities and Timing

Voltage Measurement Accuracy	0.03% + 15 mV
Current Measurement Accuracy	0.04% + 15 mA
Transient Voltage Recovery Time	< 100 μs (for voltage recovery to within 100 mV after a 50% to 100% load change)
Digitizer A/D Converter Resolution	18-bit
Maximum Digitizing Sampling Rate	200 kHz (5 μs interval)
Digitizer Buffer Size	512k samples per measurement trace
Command Processing Time	< 2 ms

Power and Electrical Specifications

Power Consumption (Maximum)	2250 VA
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Physical and Mechanical Attributes

Form Factor	Benchtop / Rackmount (2U height)
Rackmount EIA Unit Height	2 U
Cooling Method	Fan cooled, variable speed, front-to-rear airflow

Environmental and Compliance Standards

Storage Temperature Range	-20 to 70 °C
Relative Humidity Limits	Up to 95% non-condensing
EMC Compliance	Conforms to European EMC Directive, IEC/EN 61326-1
Safety Standards	Complies with European Low Voltage Directive, UL 61010-1, CSA C22.2 No. 61010-1

Programming Resolution

Voltage Programming Resolution	0.8 mV
Current Programming Resolution	0.12 mA

Measurement Resolution

Voltage Measurement Resolution	0.17 mV
Current Measurement Resolution	0.06 mA

Transient Performance

Voltage Upward Transition Time	≤ 0.5 ms (10% to 90% of full scale with resistive load)
Voltage Downward Transition Time	≤ 0.35 ms (90% to 10% of full scale with resistive load)

Isolation

Maximum Float Voltage	±240 VDC (from chassis ground)
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Analog & Digital I/O

Digital I/O Port	15-pin connector
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Environmental

Maximum Operating Altitude	2000 m
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General Features

LXI Compliance	LXI Class C / LXI Core 2011
Parallel Operation	Up to 4 units in parallel (using active current sharing)
Series Operation	Not supported

Output Specifications

Programmable Output Resistance Range	0 to 1.6 Ω
Common Mode RF Current (RMS)	< 1 mA (20 Hz to 20 MHz)
Common Mode RF Current (Peak-to-Peak)	< 15 mA (20 Hz to 20 MHz)

Sinking Specifications

Active Downprogramming Peak Sinking Power	1000 W (without N7909A)
Active Downprogramming Continuous Sinking Power	100 W (without N7909A)
Active Downprogramming Continuous Sinking Power with N7909A	1000 W

AC Input

AC Input Voltage Range	85 VAC to 264 VAC
Nominal AC Input Voltage	100 VAC to 240 VAC
AC Input Frequency Range	47 Hz to 63 Hz
AC Input Power Factor	0.99 (at nominal input and full load)

Digitizer / Measurement

Digitizer Sampling Interval Range	5 μ s to 10 s
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Transient Response

Transient Voltage Recovery Settling Band	100 mV (for 50% to 100% load change)
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TECHNOLOGY

Switching DC Power Supply with Active Down-programmer

APPLICATIONS

Dynamic current profile testing, battery emulation, high-speed ATE power sourcing, and aerospace/defense test systems

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