

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N6764A

The Keysight (Agilent) N6764A is a 300W precision DC power module designed for use with the N6700 Low-Profile Modular Power System and N6705 DC Power Analyzer mainframes. It features high precision, low noise, and dual-digitizers for simultaneous voltage and current measurements down to the microampere region.

SPECIFICATIONS

General

Interfaces	GPIB, LAN, USB, and LXI Class C (via host mainframe)
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Physical

Operating Temperature	0 - 55 °C
Dimensions (W×H×D)	70.4 × 47 × 341 mm
Weight	1.4 kg
Module Slot Width	2 slots (double-wide)

Output Ratings and Capabilities

Number of Channels	1
Rated Output Power	300 W
Rated Output Voltage	60 V
Rated Output Current	20 A
Series and Parallel Connection	Identically rated outputs can be operated directly in series or parallel; auto-series and auto-parallel not supported

Load and Line Regulation

Voltage Load Regulation	2 mV
Current Load Regulation	12 mA
Voltage Line Regulation	1.2 mV
Current Line Regulation	2 mA

Ripple and Noise

Constant Voltage Ripple and Noise (Vp-p, 20 Hz to 20 MHz)	6 mV
Constant Voltage Ripple and Noise (Vrms, 20 Hz to 20 MHz)	1 mV
Constant Current Ripple and Noise (Irms)	4 mA
Common Mode Noise Current (Irms)	2 mA
Common Mode Noise Current (Ip-p)	10 mA

Programming Accuracy and Resolution

Voltage Programming Accuracy (at 23°C ±5°C)	0.03% + 12 mV (high range)
Current Programming Accuracy (at 23°C ±5°C)	0.075% + 8 mA
Voltage Programming Range	25 mV - 61.2 V (high range)
Current Programming Range	20 mA - 20.4 A (high range)
Voltage Programming Resolution	4.2 mV (high range)
Current Programming Resolution	2.2 mA

Readback Accuracy and Resolution

Voltage Measurement Resolution (High Range)	600 µV
Current Measurement Resolution (High Range)	200 µA
Current Measurement Resolution (Low Range)	1 µA
Low Measurement Ranges	200 mA

Protection Features

Over-Voltage Protection (OVP) Maximum Setting	66 V
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Transient Response and Dynamic Performance

Minimum Output Turn-On Delay (Without Relay Option)	32 ms
Minimum Output Turn-On Delay (With Relay Option)	58 ms

System Connectivity and Interfaces

Remote Sensing Compensation Voltage	Up to 1 V drop per load lead
Compatible Mainframes	Keysight N6700 Modular Power System (1U, ATE), Keysight N6705 DC Power Analyzer (Bench)

Measurement Accuracy

Voltage Measurement Accuracy (High Range)	0.016% + 6 mV
Current Measurement Accuracy (High Range)	0.04% + 4 mA
Current Measurement Accuracy (Low Range, 200 mA)	0.03% + 30 µA

Protection

Over-Voltage Protection (OVP) Accuracy	0.5% + 0.5 V
Over-Voltage Protection (OVP) Response Time	50 µs

Output Dynamics

Up-programming Rise Time (Full Load)	1.5 ms
Down-programming Fall Time (Full Load)	1.5 ms
Down-programming Fall Time (No Load)	1.5 ms
Transient Response Recovery Time	< 100 μ s (to within 75 mV of nominal following a 50% to 100% load change)

Security & Isolation

Maximum Float Voltage	$\pm$ 240 VDC (from chassis ground)
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Performance

Command Processing Time	< 1 ms
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Stability

Voltage Output Drift (8 Hours)	0.02% + 2 mV
Current Output Drift (8 Hours)	0.02% + 1 mA

Option 2UA Specifications

Option 2UA Current Measurement Range	200 μ A
Option 2UA Current Measurement Accuracy	0.5% + 200 nA

Environmental Specifications

Storage Temperature Range	-30 $^{\circ}$ C to +70 $^{\circ}$ C
Operating Humidity Range	Up to 95% RH (non-condensing)
Maximum Operating Altitude	2000 m

General Specifications

Warm-up Time	30 minutes
Recommended Calibration Cycle	1 year

TECHNOLOGY

Precision Programmable Linear-Regulated (Modular)

APPLICATIONS

Automated Test Equipment (ATE), Precision Sourcing & Measurement, Benchtop R&D

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