

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N6750 Series - 50W, 100W, 300W Modules

The Keysight N6750 Series (part of the N6700 Series mainframe system) comprises high-performance, autoranging DC power modules. These modules offer low noise, high accuracy, and fast programming speeds, designed to simplify system configuration and enhance measurement accuracy, particularly for high-speed transient or pulse events. The autoranging capability allows a single module to cover a wider range of voltage and current outputs.

SPECIFICATIONS

General

Interfaces	Via N6700 series mainframe: LAN (LXI C), USB 2.0, GPIB
Display	None (controlled via N6700 mainframe display or remote interface)
Warm-up Time	30 min (to rated specifications)

Physical

Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	34 mm (W) x 84 mm (H) x 457 mm (D) mm
Weight	1.0 to 1.3 kg (module dependent) kg
Output Terminals	Front panel binding posts (accepts banana plugs, spade lugs)

Overview & Key Specifications

Product Series Compatibility	Keysight N6700 Series Mainframes (N6700B, N6701C, N6702C, N6705C)
Module Type	High-Performance Autoranging DC Power Module
Output Channels	1 per module
Maximum Output Voltage	Up to 100 V (model dependent)
Maximum Output Current	Up to 15 A (model dependent)
Maximum Output Power	50 W, 100 W, or 300 W (model dependent)

Output Performance Specifications

Voltage Programming Range	0 to 20 V, 0 to 50 V, 0 to 60 V, or 0 to 100 V (model dependent)
Current Programming Range	0 to 1 A, 0 to 2.5 A, 0 to 3 A, 0 to 5 A, 0 to 6 A, or 0 to 15 A (model dependent)
Voltage Programming Accuracy	0.025% of output + 5 mV (up to 50V outputs); 0.025% of output + 10 mV (60V/100V outputs)
Current Programming Accuracy	0.04% of output + 2.5 mA (for 1A to 6A outputs); 0.04% of output + 5 mA (for 3A outputs); 0.04% of output + 15 mA (for 15A output)
Load Regulation (Voltage)	0.01% of output + 2 mV
Load Regulation (Current)	0.02% of output + 2 mA
Line Regulation (Voltage)	0.01% of output + 2 mV
Line Regulation (Current)	0.02% of output + 2 mA
Ripple and Noise (Voltage Peak-to-Peak)	<10 mV (20Hz-20MHz), typical for 50V/100V outputs
Ripple and Noise (Voltage RMS)	<1 mV (20Hz-20MHz), typical for 50V/100V outputs
Ripple and Noise (Current RMS)	<2 mA (20Hz-20MHz), typical
Transient Response Time	<1 ms (to recover to within 0.1% of programmed voltage for a 50% load change)
Output Rise Time (typical)	<2 ms (full load)
Output Fall Time (typical)	<2 ms (full load)
Over Voltage Protection (OVP) Threshold	Programmable, 110% to 120% of maximum rated voltage
Over Current Protection (OCP) Threshold	Programmable, 105% to 110% of maximum rated current
Remote Sensing Capability	Yes

Measurement Performance Specifications

Voltage Measurement Range	Full output range
Current Measurement Range	Full output range
Voltage Measurement Accuracy	0.025% of reading + 5 mV (up to 50V outputs); 0.025% of reading + 10 mV (60V/100V outputs)
Current Measurement Accuracy	0.04% of reading + 2.5 mA (for 1A to 6A outputs); 0.04% of reading + 5 mA (for 3A outputs); 0.04% of reading + 15 mA (for 15A output)
Voltage Measurement Resolution	1 mV
Current Measurement Resolution	0.1 mA (for lower currents), 1 mA (for higher currents)

Advanced Features & Capabilities

High-Speed Digitizer	Up to 50 kHz sampling rate, 128 kpts memory
Output Sequencer	Yes, via N6700 mainframe
Data Logger	Yes, via N6700 mainframe
Arbitrary Waveform Generation	Yes, with high-speed digitizer

Programming & Interfaces

Programming Language	SCPI (Standard Commands for Programmable Instruments)
Driver Support	IVI-COM, IVI-C, LabVIEW
Remote Control Software Compatibility	custom applications

Environmental Characteristics

Storage Temperature Range	-40 to 70 °C
Operating Humidity Range	15% to 85% RH, non-condensing
Storage Humidity Range	Up to 90% RH, non-condensing
Operating Altitude	Up to 2000 m (6561 ft)
Non-operating Altitude	Up to 4600 m (15091 ft)
Pollution Degree	2

Physical Characteristics

Module Slot Count	1
Cooling Method	Fan-cooled (via mainframe)

Compliance & Certifications

Safety Standards	IEC/EN 61010-1, CSA C22.2 No. 61010-1
Electromagnetic Compatibility (EMC)	IEC/EN 61326-1, CISPR 11
CE Mark	Yes
CSA/UL Listing	Yes
RoHS Compliance	Yes

Ordering Information

Available Models	N6751A (50W), N6752A (100W), N6753A (300W), N6754A (300W), N6755A (300W), N6756A (300W), N6757A (300W), N6758A (300W)
Included Accessories	Connector block, Installation guide
Warranty Period	3 years
Recommended Calibration Interval	1 year

Output Characteristics

Output Isolation (Output to Chassis)	>10 GΩ in parallel with <1000 pF (typical)
Max Output Float Voltage (to chassis)	60 VDC

Protection

Over Temperature Protection (OTP)	Yes, automatic shutdown
Reverse Voltage Protection	Yes, protects up to rated output voltage

Performance

Remote Sense Lead Compensation	Up to 0.5 Ω per lead (1 Ω total)
Voltage Program Speed (Up)	< 1 ms (typical)
Voltage Program Speed (Down)	< 1 ms (typical)
Current Program Speed (Up)	< 1 ms (typical)
Current Program Speed (Down)	< 1 ms (typical)
Max Remote Sense Lead Compensation	1 V per lead
AWG Sample Rate	Up to 50 kHz
AWG Buffer Size	65535 points
Trigger Latency	< 100 μ s (typical)

Measurement

Digitizer Sample Rate	Up to 50 kHz
Digitizer Resolution	16-bit

Interfaces

Hardware Trigger	Trigger In/Out
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TECHNOLOGY

Programmable DC Power Supply, Autoranging, High-Speed Digitizer

APPLICATIONS

Automated Test Equipment (ATE), Device Under Test (DUT) characterization, General purpose benchtop and system test, Component testing, System power validation

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