KEYSIGHT TECHNOLOGIES (AGILENT HP)

N6755A

The Keysight N6755A (formerly Agilent) is a 500 W high-performance, autoranging DC power module designed for use with the N6700 Low-Profile Modular Power System and the N6705 DC Power Analyzer. It features low noise, high-speed programming up to 10 to 50 times faster than other programmable power supplies, and optional high-speed test extensions including a digitizer and arbitrary waveform generator.

SPECIFICATIONS

General

Interfaces	GPIB, LAN, USB (via mainframe)

Physical

Operating Temperature	0 °C to 55 °C °C
Dimensions (W×H×D)	68.2 mm × 128.4 mm × 211.6 mm mm
Weight	1.63 kg kg

Output Ratings

DC Output Voltage	0 to 20 V
DC Output Current	0 to 50 A
Maximum Output Power	500 W
Output Type	Autoranging
Voltage Programming Range	10 mV - 20.4 V
Current Programming Range	50 mA - 51 A

Programming Accuracy

Voltage Programming Accuracy	0.06% + 10 mV (at 23°C ±5°C)
Current Programming Accuracy	0.1% + 30 mA (at 23°C ±5°C)

Ripple and Noise

Constant Voltage Ripple (RMS)	1 mV (20 Hz to 20 MHz)
Constant Voltage Ripple (Peak-to-Peak)	5 mV (20 Hz to 20 MHz)
Constant Current Ripple (RMS)	12 mA (20 Hz to 20 MHz)
Common Mode Noise Current (Peak-to-Peak)	<2 mA

Load and Line Regulation

Constant Voltage Load Regulation	2 mV (Load Effect)
Constant Current Load Regulation	12 mA (Load Effect)
Constant Voltage Line Regulation	0.5 mV (Source Effect)
Constant Current Line Regulation	2 mA (Source Effect)
Remote Sensing Voltage Drop Allowance	Up to 1 V drop per load lead (reduces max voltage at load)

Programming and Measurement Resolution

Voltage Programming Resolution	1.5 mV
Current Programming Resolution	16.3 mA
Voltage Measurement Resolution	0.8 mV
Current Measurement Resolution	4.1 mA

Protection and Diagnostics

Over-Voltage Protection (OVP) Maximum Setting	22 V

Interface and Control Features

Minimum Output Turn-On Delay (Without Relay Option)	18 ms
Minimum Output Turn-On Delay (With Relay Option)	44 ms
Mainframe Slot Width	2 slots (double-wide)
Series Operation	Identically rated outputs can be operated in straight series (auto-series not supported)
Parallel Operation	Identically rated outputs can be operated in parallel (auto-parallel is supported)
Mainframe Compatibility	N6700 Low-Profile Modular Power System, N6705 DC Power Analyzer
High-Speed Test Extensions	Supported (optional digitizer and arbitrary waveform generator capabilities)

Measurement Accuracy

Voltage Measurement Accuracy	0.05% + 10 mV
Current Measurement Accuracy (High Range)	0.1% + 30 mA
Current Measurement Accuracy (Low Range)	0.1% + 100 µA (on 100 mA range)

Measurement

Current Measurement Ranges	100 mA, 50 A
Current Measurement Low Range	100 mA

Programming Speed

Voltage Upward Settling Time	1.5 ms (with full resistive load)
Voltage Downward Settling Time	20 ms (with no load)

Performance

Transient Response Recovery Time	< 100 µs (to within 75 mV of nominal output after a 50% to 100% load change)
Command Processing Time	< 1 ms

Protection

OVP Accuracy	0.25% + 250 mV
OVP Response Time	50 µs

Isolation

Maximum Float Voltage	240 VDC (from chassis ground)

Temperature Coefficients

Voltage Programming Temperature Coefficient	0.01% + 1 mV per °C
Current Programming Temperature Coefficient	0.01% + 2 mA per °C
Voltage Measurement Temperature Coefficient	0.01% + 1 mV per °C
Current Measurement Temperature Coefficient	0.01% + 2 mA per °C

Output

Output Autoranging	Yes (up to 20 V / 50 A, 500 W max)

Environmental

Storage Temperature Range	-40 to 70 °C
Operating Humidity	Up to 95% RH (non-condensing)

Maintenance

Recommended Calibration Interval	1 year

APPLICATIONS

Automated Test Equipment (ATE) systems and bench testing