

Agilent N5700 Series System DC Power Supplies

Models: N5741A-49A, N5750A-52A, N5761A-69A, N5770A-72A

Data Sheet

- 24 Models: 750 W and 1500 W output power
- Up to 600 V and up to 180 A
- · Small high density 1 U package
- · Built-in voltage and current measurement
- · Full protection from over-voltage and over-current
- 85-265 Vac Universal AC input
- · LAN, USB, and GPIB interfaces standard
- · Command compatibility for Sorensen DLM and Xantrex XFR DC Supplies

Family of Affordable Basic System DC Power Supplies

The Agilent N5700 Series system DC power supplies give you just the right performance - at just the right price – in a compact (1 U) package. This family of affordable 750 W and 1500 W single-output programmable DC power supplies consists of 24 models for simple DC power applications. They provide stable output power, built-in voltage and current measurement, and output voltage and current from 6 V to 600 V and 1.3 A to 180 A.



These economical supplies offer many system-ready features like multiple standard I/O interfaces to simplify and accelerate test-system development for R&D, design validation, and manufacturing engineers in the aerospace/defense, automotive, component and communications industries.

Small, High-Density Package Saves You Rack Space

The N5700 provides up to 1500 W in a small space-saving 1 U-high, 19-inch-wide package. Its air vents are in the front, side and rear (not on the top or bottom), so you can stack other instruments directly above or below it to save valuable rack space.

Easy Front-Panel Operation

You can quickly and easily operate the power supply with its rotary knobs and buttons. Using the front-panel controls, you can make coarse or fine adjustments of output voltage and current, protection settings, and set power-on states (last setting memory or factory default setting). The output voltage and current are displayed simultaneously, and LED indicators show power supply status and operating modes. You can lock the front panel controls to protect against accidental power-supply parameter changes.

Extensive Device Protection

To safeguard your device from damage, the N5700 Series power supplies provide overtemperature, over-current and over-voltage protection (OVP) to shut down the power supply output when a fault condition occurs. They also offer an under-voltage limit (UVL) that prevents adjustment of the output voltage below a certain limit. The combination of UVL and OVP capabilities lets you create a protection window for sensitive load circuitry.



Figure 1. Front-panel control knobs and buttons make it easy to use N5700 power supplies.



Figure 2. Built-in Ethernet, USB 2.0, and GPIB interfaces enable easy system connections

Simplify System Connections

The N5700 Series power supplies comes standard with GPIB, Ethernet/LAN, and USB 2.0 interfaces giving you the flexibility to use your I/O interface of choice today and in the future.

Remote Access and Control

The built-in Web server provides remote access and control of the instrument via a standard browser such as Microsoft® Internet Explorer. Using the Web browser, you can set up, monitor and operate the N5700 remotely.

Easy System Integration and Configuration

To simplify system development, the N5700 comes standard with IVI-COM drivers. The N5700 supports the easy-to-use SCPI (Standard Commands for Programmable Instruments).

Command Compatibility

The N5700 includes a compatibility command set for the Xantrex XFR series power supplies, the Sorensen DLM series power supplies, and the Agilent 603x series power supplies. This simplifies system integration when converting to the N5700. For a comparison of these products, see application notes:

- Side-by-side comparison: Agilent N5700 Series System DC Source and Sorensen DLM DC Power Supply, AN 1502-1, 5989-1628EN
- Side-by-side comparison: Agilent N5700 Series System DC Source and Xantrex XFR AN 1502-2, 5989-1630EN

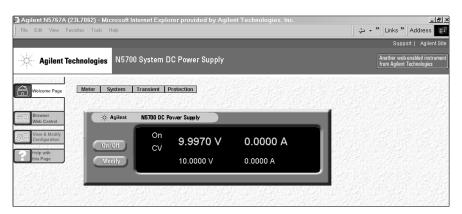


Figure 3. N5700 series web graphical user interface for remote access and control of the power supply

Flexible configuration: Connect Multiple Units in Parallel and Series

Should you need greater output power, the N5700 series power supplies give you the flexibility to connect in parallel up to four similarly rated units for greater output current and connect two similarly rated units in series for greater output voltage (see output terminal isolation information).

Analog Programming and Monitoring

The output voltage and current can be programmed from zero to full scale by either an analog voltage 0 to 5 V or 0 to 10 V or by resistances of 0 to 5 k Ω or 0 to 10 k Ω .

Universal AC input

All N5700 models have universal AC input so they can be automatically operated from any AC mains input voltage worldwide. They can be operated from line voltages of 85 – 265 Vac, 47 to 63 Hz, with no switch to set or fuses to change when you switch from one voltage standard to another. They also provide power factor correction.

Rack Mounting

The rack mount ears and handles are provided standard with every unit. In addition the N5740A rack mount slide kit makes it easy to integrate an N5700 into a test rack by providing all the necessary hardware to rack mount an N5700 series power supply in only 1 U of rack space.

		N5741A	N5742A	N5743A	N5744A	N5745A	N5746A
DC Output rotings	Voltago	6 V	8 V	12.5 V	20 V	30 V	40 V
DC Output ratings	Voltage	100 A	90 A	60 A	38 A	25 A	19 A
	Power	600 W	720 W	750 W	760 W	750 W	760 W
Output Ripple and Noise	CV p-p ¹	60 mV	60 mV	60 mV	60 mV	60 mV	60 mV
	CV rms ²	8 mV	8 mV	8 mV	8 mV	8 mV	8 mV
Load Effect	Voltage	2.6 mV	2.8 mV	3.25 mV	4 mV	5 mV	6 mV
change from 10% to 90%)	Current	25 mA	23 mA	17 mA	12.6 mA	10 mA	8.8 mA
Source Effect	Voltage	2.6 mV	2.8 mV	3.25 mV	4 mV	5 mV	6 mV
change from 85-132 VAC nput or 170-265 VAC input)	Current	12 mA	11 mA	8 mA	5.8 mA	4.5 mA	3.9 mA
Programming Accuracy	Voltage 0.05%+	3 mV	4 mV	6.25 mV	10 mV	15 mV	20 mV
	Current 0.1%+	100 mA	90 mA	60 mA	38 mA	25 mA	19 mA
Measurement Accuracy	Voltage 0.1%+	6 mV	8 mV	12.5 mV	20 mV	30 mV	40 mV
	Current 0.1%+	300 mA	270 mA	180 mA	114 mA	75 mA	57 mA
Load Transient Recovery Time ³	Time	≤1.5 ms	≤1.5 ms	≤1.5 ms	≤1 ms	≤1 ms	≤1 ms
Supplemental Character	istics Supplemental cha	aracteristics are i	not warranted but	are descriptions of ty	pical performance	determined either b	y design or type tes
	ouppromontal on						
			0.08 s		0.08 s	0.08 s	
Output Response Time (settle to within ±1.0%	Up, full load	0.08 s 0.05 s	0.08 s	0.08 s	0.08 s	0.08 s	0.08 s
Output Response Time settle to within ±1.0% of the rated output, with	Up, full load	0.08 s		0.08 s			0.08 s
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴	Up, full load Down, full load	0.08 s 0.05 s	0.05 s	0.08 s 0.05 s	0.05 s	0.08 s	0.08 s
Output Response Time settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴	Up, full load Down, full load Down, no load	0.08 s 0.05 s	0.05 s	0.08 s 0.05 s 0.7 s	0.05 s	0.08 s	0.08 s
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load)	Up, full load Down, full load Down, no load	0.08 s 0.05 s 0.5 s	0.05 s 0.6 s	0.08 s 0.05 s 0.7 s	0.05 s 0.8 s	0.08 s 0.9 s	0.08 s 0.08 s 1.0 s
Output Response Time (settle to within ±1.0%) of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation	Up, full load Down, full load Down, no load Volts/load lead	0.08 s 0.05 s 0.5 s	0.05 s 0.6 s	0.08 s 0.05 s 0.7 s 55 ms	0.05 s 0.8 s	0.08 s 0.9 s	0.08 s 0.08 s 1.0 s
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation	Up, full load Down, full load Down, no load Volts/load lead Range	0.08 s 0.05 s 0.5 s	0.05 s 0.6 s 1 V 0.5-10 V	0.08 s 0.05 s 0.7 s 55 ms 1 V	0.05 s 0.8 s	0.08 s 0.9 s 1.5 V 2-36 V	0.08 s 0.08 s 1.0 s
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation Over-voltage Protection Output Ripple and Noise ⁵ Programming Resolution	Up, full load Down, full load Down, no load Volts/load lead Range Accuracy	0.08 s 0.05 s 0.5 s	0.05 s 0.6 s 1 V 0.5-10 V 0.08 V	0.08 s 0.05 s 0.7 s 55 ms 1 V 1-15 V 0.125 V	0.05 s 0.8 s 1 V 1-24 V 0.20 V	0.08 s 0.9 s 1.5 V 2-36 V 0.30 V	0.08 s 0.08 s 1.0 s
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation Over-voltage Protection Output Ripple and Noise ⁵	Up, full load Down, full load Down, no load Volts/load lead Range Accuracy CC rms	0.08 s 0.05 s 0.5 s 1 V 0.5-7.5 V 0.06 V 200 mA	0.05 s 0.6 s 1 V 0.5-10 V 0.08 V 180 mA	0.08 s 0.05 s 0.7 s 55 ms 1 V 1-15 V 0.125 V	0.05 s 0.8 s 1 V 1-24 V 0.20 V 76 mA	0.08 s 0.9 s 1.5 V 2-36 V 0.30 V	0.08 s 0.08 s 1.0 s 2 V 2-44 V 0.40 V
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation Over-voltage Protection Output Ripple and Noise ⁵ Programming Resolution	Up, full load Down, full load Down, no load Volts/load lead Range Accuracy CC rms Voltage	0.08 s 0.05 s 0.5 s 1 V 0.5-7.5 V 0.06 V 200 mA 0.72 mV	0.05 s 0.6 s 1 V 0.5-10 V 0.08 V 180 mA 0.96 mV	0.08 s 0.05 s 0.7 s 55 ms 1 V 1-15 V 0.125 V 120 mA	0.05 s 0.8 s 1 V 1-24 V 0.20 V 76 mA 2.4 mV	0.08 s 0.9 s 1.5 V 2-36 V 0.30 V 63 mA 3.6 mV	0.08 s 0.08 s 1.0 s 2 V 2.44 V 0.40 V 48 m 4.8 mV

¹ Up to 20 MHz

From 5 Hz - 1 MHz

 $^{^3}$ Time for output voltage to recover within 0.5% of its rated output for a load change from 10 to 90% of its rated output current. Voltage set point from 10% to 100% of rated output

 $^{^{\}rm 4}$ Add this to the output reponse time to obtain the total programming time

⁵ From 5 Hz – 1 MHz, at 10% to 100% of output voltage at full load (for 6 V units from 33% to 100% of output voltage)

			N5747A	N5748A	N5749A	N5750A	N5751A	N5752A
DC Output ratings	Voltage		60 V	80 V	100 V	150 V	300 V	600 V
Do output rutings	Current		12.5 A	9.5 A	7.5 A	5 A	2.5 A	1.3 A
	Power		750 W	760 W	750 W	750 W	750 W	780 W
Output Ripple and Noise	CV p-p ¹		60 mV	80 mV	80 mV	100 mV	150 mV	300 mV
	CV rms ²		8 mV	8 mV	8 mV	12 mV	20 mV	60 mV
_oad Effect	Voltage		8 mV	10 mV	12 mV	17 mV	32 mV	62 mV
change from 10% to 90%)	Current		7.5 mA	6.9 mA	6.5 mA	6 mA	5.5 mA	5.26 mA
Source Effect	Voltage		8 mV	10 mV	12 mV	17 mV	32 mV	62 mV
change from 85-132 VAC nput or 170-265 VAC input)	Current		3.25 mA	2.95 mA	2.75 mA	2.5 mA	2.25 mA	2.13 mA
Programming Accuracy	Voltage	0.05%+	30 mV	40 mV	50 mV	75 mV	150 mV	300 mV
	Current	0.1%+	12.5 mA	9.5 mA	7.5 mA	5 mA	2.5 mA	1.3 mA
Measurement Accuracy	Voltage	0.1%+	60 mV	80 mV	100 mV	150 mV	300 mV	600 mV
	Current	0.1%+	37.5 mA	28.5 mA	22.5 mA	15 mA	7.5 mA	3.9 mA
Load Transient Recovery Time ³	Time		≤1 ms	≤1 ms	≤ 1 ms	≤ 2 ms	≤ 2 ms	≤ 2 ms
Supplemental Character	istics Supple	mental ch	aracteristics are n	ot warranted but a	re descriptions of t	ypical performance	determined either l	oy design or type to
Output Response Time	istics Supple Up, full load	mental ch	aracteristics are n	oot warranted but a	ore descriptions of t	ypical performance 0.15 s	determined either b	oy design or type to
Output Response Time settle to within ±1.0%	Up, full load	ad	0.08 s	0.15 s	0.15 s	0.15 s	0.15 s	0.25 s
Output Response Time settle to within ±1.0% of the rated output, with	Up, full load Down, full loa	ad	0.08 s 0.08 s	0.15 s 0.15 s	0.15 s 0.15 s	0.15 s 0.15 s	0.15 s 0.15 s	0.25 s 0.30 s
Output Response Time settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴	Up, full load Down, full loa	ad d	0.08 s 0.08 s	0.15 s 0.15 s	0.15 s 0.15 s 1.5 s	0.15 s 0.15 s	0.15 s 0.15 s	0.25 s 0.30 s
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load)	Up, full load Down, full load Down, no load	ad d	0.08 s 0.08 s 1.1 s	0.15 s 0.15 s 1.2 s	0.15 s 0.15 s 1.5 s	0.15 s 0.15 s 2.0 s	0.15 s 0.15 s 3.0 s	0.25 s 0.30 s 4.0 s
Output Response Time settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation	Up, full load Down, full load Down, no load Volts/load lead	ad d	0.08 s 0.08 s 1.1 s	0.15 s 0.15 s 1.2 s	0.15 s 0.15 s 1.5 s 55 ms	0.15 s 0.15 s 2.0 s	0.15 s 0.15 s 3.0 s	0.25 s 0.30 s 4.0 s
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation	Up, full load Down, full load Down, no load Volts/load lea	ad d	0.08 s 0.08 s 1.1 s	0.15 s 0.15 s 1.2 s	0.15 s 0.15 s 1.5 s 55 ms 5 V	0.15 s 0.15 s 2.0 s	0.15 s 0.15 s 3.0 s	0.25 s 0.30 s 4.0 s
Output Response Time settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation Over-voltage Protection Output Ripple and Noise ⁵ Programming Resolution	Up, full load Down, full load Down, no load Volts/load lea Range Accuracy	ad d	0.08 s 0.08 s 1.1 s 3 V 5-66 V 0.60 V	0.15 s 0.15 s 1.2 s 4 V 5-88 V 0.80 V	0.15 s 0.15 s 1.5 s 55 ms 5 V 5-110 V 1 V	0.15 s 0.15 s 2.0 s 5 V 5-165 V 1.5 V	0.15 s 0.15 s 3.0 s 5 V 5-330 V 3 V	0.25 s 0.30 s 4.0 s
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation Over-voltage Protection	Up, full load Down, full load Down, no load Volts/load lead Range Accuracy CC rms	ad d	0.08 s 0.08 s 1.1 s 3 V 5-66 V 0.60 V	0.15 s 0.15 s 1.2 s 4 V 5-88 V 0.80 V	0.15 s 0.15 s 1.5 s 55 ms 5 V 5-110 V 1 V 23 mA	0.15 s 0.15 s 2.0 s 5 V 5-165 V 1.5 V	0.15 s 0.15 s 3.0 s 5 V 5-330 V 3 V	0.25 s 0.30 s 4.0 s 5 V 5-660 V 6 V 8 mA
Output Response Time (settle to within ±1.0%) of the rated output, with a resistive load) Command Response Time ⁴ Remote Sense Compensation Over-voltage Protection Output Ripple and Noise ⁵	Up, full load Down, full load Down, no load Volts/load lea Range Accuracy CC rms Voltage	ad d	0.08 s 0.08 s 1.1 s 3 V 5-66 V 0.60 V 38 mA 7.2 mV	0.15 s 0.15 s 1.2 s 4 V 5-88 V 0.80 V 29 mA 9.6 mV	0.15 s 0.15 s 1.5 s 55 ms 5 V 5-110 V 1 V 23 mA 12 mV	0.15 s 0.15 s 2.0 s 5 V 5-165 V 1.5 V 18 mA	0.15 s 0.15 s 3.0 s 5 V 5-330 V 3 V 13 mA 36 mV	0.25 s 0.30 s 4.0 s 5 V 5-660 V 6 V 8 mA 72 mV

¹ Up to 20 MHz

² From 5 Hz – 1 MHz

³ Time for output voltage to recover within 0.5% of its rated output for a load change from 10 to 90% of its rated output current. Voltage set point from 10% to 100% of rated output

 $^{^{\}rm 4}$ Add this to the output reponse time to obtain the total programming time

⁵ From 5 Hz – 1 MHz, at 10% to 100% of output voltage at full load (for 6 V units from 33% to 100% of output voltage)

			N5761A	N5762A	N5763A	N5764A	N5765A	N5766A
DC Output ratings	Voltage		6 V	8 V	12.5 V	20 V	30 V	40 V
	Current		180 A	165 A	120 A	76 A	50 A	38 A
	Power		1080 W	1320 W	1500 W	1520 W	1500 W	1520 W
Output Ripple and Noise	CV p-p 1		60 mV	60 mV	60 mV	60 mV	60 mV	60 mV
	CV rms ²		8 mV	8 mV	8 mV	8 mV	8 mV	8 mV
Load Effect	Voltage		2.6 mV	2.8 mV	3.25 mV	4 mV	5 mV	6 mV
(change from 10% to 90%)	Current		41 mA	38 mA	29 mA	20.2 mA	15 mA	12.6 mA
Source Effect	Voltage		2.6 mV	2.8 mV	3.25 mV	4 mV	5 mV	6 mV
(change from 85-132 VAC input or 170-265 VAC input)	Current		20 mA	18.5 mA	14 mA	9.6 mA	7 mA	5.8 mA
Programming Accuracy	Voltage	0.05%+	3 mV	4 mV	6.25 mV	10 mV	15 mV	20 mV
	Current	0.1%+	180 mA	165 mA	120 mA	76 mA	50 mA	38 mA
Measurement Accuracy	Voltage	0.1%+	6 mV	8 mV	12.5 mV	20 mV	30 mV	40 mV
	Current	0.1%+	540 mA	495 mA	360 mA	228 mA	150 mA	114 mA
Load Transient Recovery Time ³	Time		≤1.5 ms	≤1.5 ms	≤1.5 ms	≤1 ms	≤1 ms	≤1 ms
Supplemental Character	istics Supp	lemental ch	aracteristics are r	ot warranted but a	are descriptions of t	ypical performance	determined either b	y design or type testing.
Output Response Time	Up, full load	I	0.08 s	0.08 s	0.08 s	0.08 s	0.08 s	0.08 s
(settle to within ±1.0% of the rated output, with	Down, full I	oad	0.05 s	0.05 s	0.05 s	0.05 s	0.08 s	0.08 s
a resistive load)	Down, no lo	oad	0.5 s	0.6 s	0.7 s	0.8 s	0.9 s	1.0 s
Command Response Time ⁴					55 ms			
Remote Sense Compensation	Volts/load	lead	1 V	1 V	1 V	1 V	1.5 V	2 V
Over-voltage Protection	Range		0.5-7.5 V	0.5-10 V	1-15 V	1-24 V	2-36 V	2-44 V
	Accuracy		0.06 V	0.08 V	0.125 V	0.20 V	0.30 V	0.40 V
Output Ripple and Noise ⁵	CC rms		360 mA	330 mA	240 mA	152 mA	125 mA	95 mA
Programming Resolution	Voltage		0.72 mV	0.96 mV	1.5 mV	2.4 mV	3.6 mV	4.8 mV
Measurement Resolution	Current		21.6 mA	19.8 mA	14.4 mA	9.12 mA	6 mA	4.6 mA
Front Panel Display Accuracy	Voltage		0.03 V	0.04 V	0.0625 V	0.1 V	0.15 V	0.2 V
(4 digits; ±1 count)	Current		0.90 A	0.825 A	0.60 A	0.38 A	0.25 A	0.19 A

¹ Up to 20 MHz

 $^{^2}$ From 5 Hz - 1 MHz

 $^{^3}$ Time for output voltage to recover within 0.5% of its rated output for a load change from 10 to 90% of its rated output current. Voltage set point from 10% to 100% of rated output

 $^{^{\}rm 4}$ Add this to the output reponse time to obtain the total programming time

⁵ From 5 Hz – 1 MHz, at 10% to 100% of output voltage at full load (for 6 V units from 33% to 100% of output voltage)

		N5767A	N5768A	N5769A	N5770A	N5771A	N5772A
DC Output ratings	Voltage	60 V	80 V	100 V	150 V	300 V	600 V
	Current	25 A	19 A	15 A	10 A	5 A	2.6 A
	Power	1500 W	1520 W	1500 W	1500 W	1500 W	1560 W
Output Ripple and Noise	CV p-p ¹	60 mV	80 mV	80 mV	100 mV	150 mV	300 mV
	CV rms ²	8 mV	8 mV	8 mV	12 mV	20 mV	60 mV
Load Effect	Voltage	8 mV	10 mV	12 mV	17 mV	32 mV	62 mV
(change from 10% to 90%)	Current	10 mA	8.8 mA	8 mA	7 mA	6 mA	5.5 mA
Source Effect	Voltage	8 mV	10 mV	12 mV	17 mV	32 mV	62 mV
(change from 85-132 VAC input or 170-265 VAC input)	Current	4.5 mA	3.9 mA	3.5 mA	3 mA	2.5 mA	2.26 mA
Programming Accuracy	Voltage 0.05%+	30 mV	40 mV	50 mV	75 mV	150 mV	300 mV
	Current 0.1%+	25 mA	19 mA	15 mA	10 mA	5 mA	2.6 mA
Measurement Accuracy	Voltage 0.1%+	60 mV	80 mV	100 mV	150 mV	300 mV	600 mV
	Current 0.1%+	75 mA	57 mA	45 mA	30 mA	15 mA	7.8 mA
Load Transient Recovery Time ³	Time	≤ 1 ms	≤1 ms	≤1 ms	≤ 2 ms	≤ 2 ms	≤ 2 ms
Supplemental Character	istics Supplemental ch	aracteristics are no	ot warranted but are	e descriptions of typ	ical performance de	termined either by	design or type testi
Output Response Time	Up, full load	0.08 s	0.15 s	0.15 s	0.15 s	0.15 s	0.25 s
(settle to within ±1.0% of the rated output, with	Down, full load	0.08 s	0.15 s	0.15 s	0.15 s	0.15 s	0.30 s
a resistive load)	Down, no load	1.1 s	1.2 s	1.5 s	2.0 s	3.0 s	4.0 s
Command Response Time ⁴				55 ms			
Remote Sense Compensation	Volts/load lead	3 V	4 V	5 V	5 V	5 V	5 V
Over-voltage Protection	Range	5-66 V	5-88 V	5-110 V	5-165 V	5-330 V	5-660 V
	Accuracy	0.60 V	0.80 V	1 V	1.5 V	3 V	6 V
Output Ripple and Noise ⁵	CC rms	75 mA	57 mA	45 mA	35 mA	25 mA	12 mA
Programming Resolution	Voltage	7.2 mV	9.6 mV	12 mV	18 mV	36 mV	72 mV
Measurement Resolution	Current	3 mA	2.28 mA	1.8 mA	1.2 mA	0.6 mA	0.312 mA
Front Panel Display Accuracy	Voltage	0.3 V	0.4 V	0.5 V	0.75 V	1.5 V	3 V
(4 digits; ±1 count)	Current	0.125 A	0.095 A	0.075 A	0.050 A	0.025 A	0.013 A

¹ Up to 20 MHz

 $^{^2}$ From 5 Hz - 1 MHz

 $^{^3}$ Time for output voltage to recover within 0.5% of its rated output for a load change from 10 to 90% of its rated output current. Voltage set point from 10% to 100% of rated output

 $^{^{\}rm 4}$ Add this to the output reponse time to obtain the total programming time

⁵ From 5 Hz – 1 MHz, at 10% to 100% of output voltage at full load (for 6 V units from 33% to 100% of output voltage)

Supplemental Characteristics for All Model Numbers

Series and Parallel Capability

Parallel operation

Up to 4 units can be connected in master/slave mode

Series operation

Up to 2 units can be connected in series

Output Terminal Isolation

6 V to 60 V units

No output terminal may be more than ±60 VDC from any other terminal or chassis ground

80 V to 600 V units

No output terminal may be more than ±600 VDC from any other terminal or chassis ground

Store-recall States

Volatile memory locations: 16

Analog Programming

(of output voltage and current)

Input Signal

selectable;

0 to 5 V/0 to 10 V full scale

Input Impedance

selectable;

0 to $5k\Omega/0$ to 10 $k\Omega$ full scale

Interface Capabilities

GPIB

SCPI - 1993, IEEE 488.2 compliant interface

USB 2.0

Requires Agilent I/O Library version L.01.01

10/100 LAN

Requires Agilent I/O library version L.01.01

Web Server

Built-in Web server requires Internet Explorer 5+ or Netscape 6.2+

Environmental Conditions

Environment

Indoor use, installation category II (AC input), pollution degree 2

Operating temperature

 0° C to 40° C @ 100% load

Storage temperature

-20°C to 70°C

Operating humidity

30% to 90% relative humidity (no condensation)

Storage humidity

10% to 95% relative humidity (no condensation)

Altitude

- Up to 3000 meters.

 Derate the output current by 2%/100 m above 2000 m.
- Derate the maximum ambient temperature by 1°C/100 m above 2000 m.

Regulatory Compliance

EMC

- European EMC directive 89/336/EEC for Class A products
- Australian C- Tick mark
- This ISM device complies with Canadian ICES-001. Cet appareil ISM est conforme à la norme NMB-001 du Canada.

Safety

- European Low Voltage Directive 73/23/EEC
- US and Canadian safety standards

• Any LEDs used in this product are Class 1 as per IEC 825-1

Acoustic Noise Declaration

Emission Directive:

- Sound Pressure Lp
 dB(A), At Operator
 Position, *Normal Operation,
 *According to EN 27779
 (Type Test).
- Schalldruckpegel Lp
 dB(A) *Am Arbeitsplatz,
 *Normaler Betrieb, *Nach EN 27779 (Typprüfung).

AC Input

Nominal Input

100 - 240 VAC; 50/60 Hz

Input Current 750 W

10.5 A @ 100 VAC nominal; 5 A @ 200 VAC nominal

Input Current 1500 W

21 A @ 100 VAC nominal; 11 A @ 200 VAC nominal

Input Range

85 - 265 VAC; 47 - 63 Hz.

Power Factor

0.99 at nominal input and rated output power

Efficiency

76% – 87% for 750 W units; 77% – 88% for 1500 W units

Inrush Current

<25 A for 750 W units; <50 A for 1500 W units

Dimensions

(excluding connectors, and handles)

Height 43.6 mm (1.72 in)

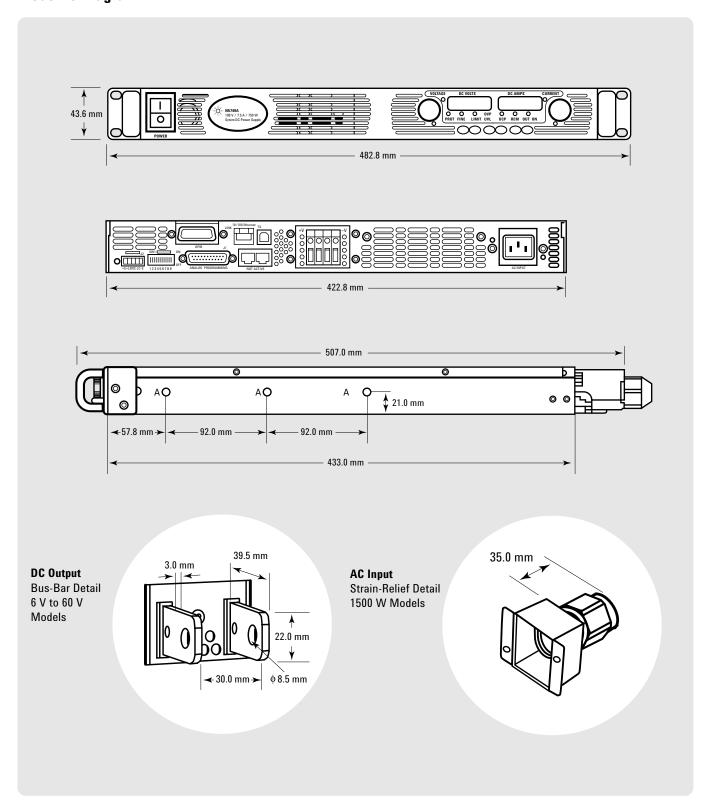
Width 422.8 mm (16.65 in)

Depth 432.8 mm (17.04 in)

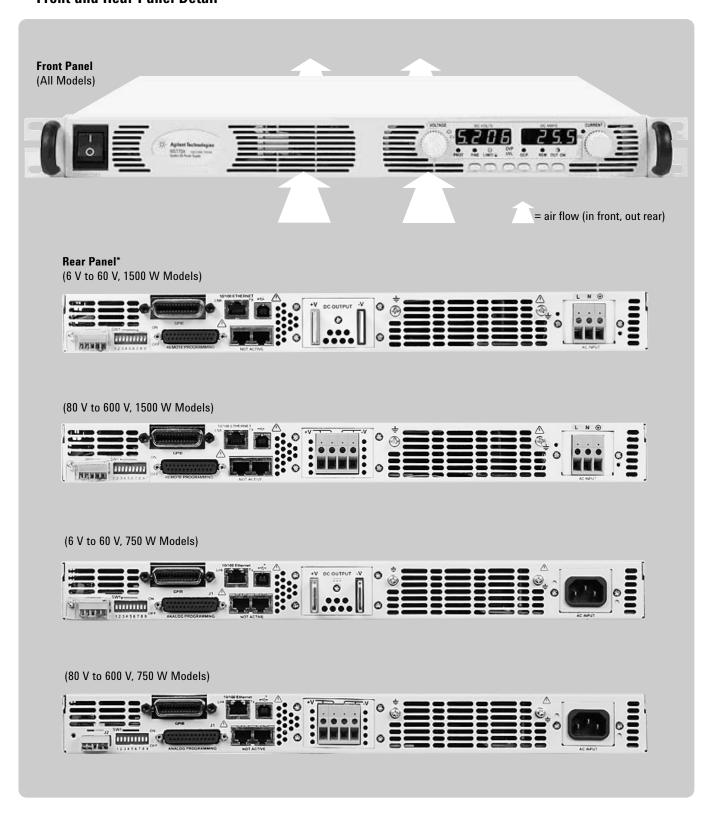
Weight

750 W 7 Kg (15.4 lbs.) **1500 W** 8.5 Kg (18.7 lbs.)

Outline Diagram



Front and Rear Panel Detail



Ordering Information

Available Models

750 W Models		
N5741A	System DC Power Supply	6 V, 100 A, 600 W
N5742A	System DC Power Supply	8 V, 90 A, 720 W
N5743A	System DC Power Supply	12.5 V, 60 A, 750 W
N5744A	System DC Power Supply	20 V, 38 A, 760 W
N5745A	System DC Power Supply	30 V, 25 A, 750 W
N5746A	System DC Power Supply	40 V, 19 A, 760 W
N5747A	System DC Power Supply	60 V, 12.5 A, 750 W
N5748A	System DC Power Supply	80 V, 9.5 A, 760 W
N5749A	System DC Power Supply	100 V, 7.5 A, 750 W
N5750A	System DC Power Supply	150 V, 5 A, 750 W
N5751A	System DC Power Supply	300 V, 2.5 A, 750 W
N5752A	System DC Power Supply	600 V, 1.3 A, 780 W

1500 W Models		
N5761A	System DC Power Supply	6 V, 180 A, 1080 W
N5762A	System DC Power Supply	8 V, 165 A, 1320 W
N5763A	System DC Power Supply	12.5 V, 120 A, 1500 W
N5764A	System DC Power Supply	20 V, 76 A, 1520 W
N5765A	System DC Power Supply	30 V, 50 A, 1500 W
N5766A	System DC Power Supply	40 V, 38 A, 1520 W
N5767A	System DC Power Supply	60 V, 25 A, 1500 W
N5768A	System DC Power Supply	80 V, 19 A, 1520 W
N5769A	System DC Power Supply	100 V, 15 A, 1500 W
N5770A	System DC Power Supply	150 V, 10 A, 1500 W
N5771A	System DC Power Supply	300 V, 5 A, 1500 W
N5772A	System DC Power Supply	600 V, 2.6 A, 1560 W

Options

1500 W Models

Opt 861

Unterminated Power Cord, USA, Canada, Japan, China, Other

Opt 862

Harmonized Unterminated Power Cord, Europe

750 W Models

Opt 900

Power Cord, United Kingdom

Opt 902

Power Cord, Europe

Opt 903

Power Cord, USA, Canada

Opt 918

Power Cord, Japan

Opt 922

Power Cord, China

Accessories

N5740A

Rack Mount Slide Kit (required for rack mounting; standard system 11 rack-mounting hardware will not work)

Related literature

These application notes will help you compare Agilent system DC sources with power supplies from other manufacturers:

- Side-by-Side Comparison: Agilent N5700 Series System DC Source and Sorensen DLM DC Power Supply, AN 1502-1 5989-1628EN http://cp.literature.agilent.com/ litweb/pdf/5989-1628EN.pdf
- How to Convert from a Sorensen DLM to an Agilent N5700, AN 1503-1 5989-1629EN http://cp.literature.agilent.com/ litweb/pdf/5989-1629EN.pdf
- Side-by-Side Comparison: Agilent N5700 Series System DC Source and Xantrex XFR System Power Supplies, AN 1502-2 5989-1630EN http://cp.literature.agilent.com/ litweb/pdf/5989-1630EN.pdf
- How to Convert from a Xantrex XFR to an Agilent N5700, AN 1503-2 5989-1631EN
 http://cp.literature.agilent.com/ litweb/pdf/5989-1631EN.pdf
- Trends in Medium Power (~1 kW) DC Power Supplies, 5989-1331EN
 http://cp.literature.agilent.com/

litweb/pdf/5989-1331EN.pdf

Agilent's IO Libraries Suite ships with the N5700 to help you quickly establish an error-free connection between your PC and instruments regardless of the vendor. It provides robust instrument control and works with the software development environment you choose.

For additional description of Agilent's 10 Libraries Suite features and installation requirements, please go to www.agilent.com/find/iosuite-datasheet

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For the latest and complete specifications, refer to the N5700 User's Guide, Agilent part number 5969-2917. The web contains the most up-to-date version of the User's Guide. Go to http://www.agilent.com/find/N5700

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