

N5745A DC System Power Supply, 30V, 25A, 750W

Product Status: Currently Orderable | Currently Supported

Overview

Key Specifications

Output Ratings

- Voltage: 30 V
- Current: 25 A
- Power: 750 W

Programming Accuracy

- Voltage 0.05%+ 15 mV
- Current 0.1%+ 25 mA

Ripple & Noise

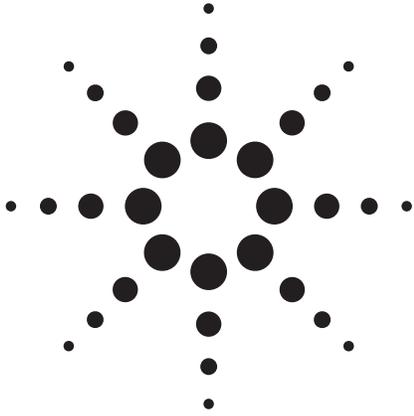
- CV p-p: 60 mV
- CV rms: 8 mV
- CC rms: 63 mA

Load Regulation

- Load Effect (change from 10% to 90%) Voltage: 5 mV
- Load Effect (change from 10% to 90%) Current: 10 mA
- Load Transient Recovery Time: ≤ 1 ms

Description

Agilent basic DC power supplies offer essential features for a tight budget. The single-output, 750-1500 W GPIB, LAN, USB, LXI Class C N5700 series provide 1U high size, universal AC input, analog/resistance control of output voltage and current, as well as parallel and series connection of multiple supplies. The Agilent 750W, single output N5745A is a compact 1U package that offers solid performance and a variety of basic and enhanced capabilities.



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
- Command compatibility for Sorensen DLM and Xantrex XFR DC Supplies
- LAN, USB, and GPIB interfaces standard
- Fully compliant to LXI Class C specification 

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.



Agilent Technologies

Performance Specifications

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0 to 40°C.

		N5741A	N5742A	N5743A	N5744A	N5745A	N5746A
DC Output ratings¹	Voltage	6 V	8 V	12.5 V	20 V	30 V	40 V
	Current	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 ²	60 mV	60 mV	60 mV	60 mV	60 mV	60 mV
	CV rms ³	8 mV	8 mV	8 mV	8 mV	8 mV	8 mV
Load Effect (change from 10% to 90%)	Voltage	2.6 mV	2.8 mV	3.25 mV	4 mV	5 mV	6 mV
	Current	25 mA	23 mA	17 mA	12.6 mA	10 mA	8.8 mA
Source Effect (change from 85-132 VAC input or 170-265 VAC input)	Voltage	2.6 mV	2.8 mV	3.25 mV	4 mV	5 mV	6 mV
	Current	12 mA	11 mA	8 mA	5.8 mA	4.5 mA	3.9 mA
Programming Accuracy¹	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 Time⁴	Time	≤1.5 ms	≤1.5 ms	≤1.5 ms	≤1 ms	≤1 ms	≤1 ms
Supplemental Characteristics Supplemental characteristics are not warranted but are descriptions of typical performance determined either by design or type testing.							
Output Response Time (settle to within ±1.0% of the rated output, with a resistive load)	Up, full load	0.08 s	0.08 s	0.08 s	0.08 s	0.08 s	0.08 s
	Down, full load	0.05 s	0.05 s	0.05 s	0.05 s	0.08 s	0.08 s
	Down, no load	0.5 s	0.6 s	0.7 s	0.8 s	0.9 s	1.0 s
Command Response Time⁵				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 Noise⁶	CC rms	200 mA	180 mA	120 mA	76 mA	63 mA	48 m
Programming Resolution Measurement Resolution	Voltage	0.72 mV	0.96 mV	1.5 mV	2.4 mV	3.6 mV	4.8 mV
	Current	12 mA	10.8 mA	7.2 mA	4.56 mA	3 mA	2.3 mA
Front Panel Display Accuracy (4 digits; ±1 count)	Voltage	0.03 V	0.04 V	0.06 V	0.10 V	0.15 V	0.20 V
	Current	0.50 A	0.45 A	0.30 A	0.19 A	0.13 A	0.10 A

Notes:

¹ Minimum voltage is guaranteed to a maximum of 0.2% of the rated output voltage. Minimum current is guaranteed to a maximum of 0.4% of the rated output current.

² Up to 20 MHz

³ From 5 Hz – 1 MHz

⁴ 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

⁵ Add this to the output response time to obtain the total programming time

⁶ 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 Ω /0 to 10 k Ω 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 <70 dB(A), At Operator Position, *Normal Operation, *According to EN 27779 (Type Test).
- Schalldruckpegel Lp <70 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.)