Agilent Power Products

Selection Guide *January 2014*





A guide to power product solutions to match your test and measurement needs









Introduction

No surprises from Agilent -

delivering high-quality power products for more than 50 years.

Since power supplies are used in such a wide variety of applications, Agilent offers a full line of DC and AC power supplies to meet your test requirements.

Our family starts with high-value basic power supplies and goes up to high-performance products. In addition, we have specialty power supplies and three modular power supplies to give you the flexibility you need in test system development. For whatever application or industry you work in, Agilent power supplies offer excellent performance and high reliability to give you confidence when making your power supply purchase.

Because Agilent knows how to make power supplies.





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Power Supply Categories



Basic

Affordable, quiet and stable power supplies for both manual and simple computer-controlled operation. The Agilent line of basic power supplies is optimized to provide DC power in applications where speed and accuracy are a low consideration. These power supplies are a high-value fit for the bench and in a system rack.

Performance

Speed, accuracy and advanced programming features make the performance power supplies the right choice when the DC power supply is a factor in test performance. With features such as DUT protection, fast programming times and downloadable V and I sequences, these DC power supplies can reduce your risk during test and system development.

Specialty

Sometimes it is best to have a power supply with unique capabilities that are tailored to a specific application. For example, the Agilent 66300 Mobile Communications DC Sources are designed to emulate the unique characteristics of a battery for mobile device testing and maintain those characteristics even when using long load leads, such as in an ATE system. The Agilent E4360 Solar Array Simulator simulates solar panel I-V characteristics for satellite development and testing.

Modular

Agilent offers fully programmable power supplies in a modular format: the N6700 low-profile modular power system, N6705B DC power analyzer, and 66000 modular power system series. With this feature, you now have an extensive choice of power options—from basic through performance. Additionally, all modules interact in the same way at a single interface node, which simplifies system architecture and reduces cost when the test system inevitably changes.

AC Sources

Agilent provides AC power products that provide precise power, accurate measurements, and efficient analysis for AC power applications. These one-box solutions are offered in a variety of power levels to help you test a variety of AC-powered devices.

DC Electronic Loads

Electronic loads sink current and dissipate power in an accurate and controlled manner. Connected to circuit under test, an electronic load provides a convenient way to vary the load on the circuit's output in order to understand the circuit's performance. Agilent offers two families of electronic loads—a single output family and a modular, multiple output family.

Selecting the Right DC Power Supply For Your Application

When you need just a **basic power supply**, it's quite easy to pick the right one based on your voltage and current requirements. The voltage and current tables are found on pages 8-9. From there you can go to the product page(s) for more detail.

When you have **specialized requirements** that need features such as source and measure, it is quite easy to select from a set of power supplies that are designed exactly for those requirements. Refer to page 19 for specialty power products.

But when you have **more complex requirements** and you know the power supply is an important part of your test bench, where do you start and what do you need to consider?

Of course you need to select the right voltage and current, but there are other factors to consider when selecting a DC power supply for your applications. This guide gives a definition of the feature, states why it's important, and tells you how to use that feature when specifying the right power supply. In addition, the product families are listed so you can quickly see which product best fits your application. With that information, you can go to the product pages for detailed specifications.

Use the following information to help select the features you need in a DC power supply. Then go to the product page(s) for more detail.

U8000 Series *p10*

OUTPUT CHARACTERISTICS

| RIPPLE AND NOISE | | LOW ripple and | MEDIUM ripple and noise 5–500 mVp-p | |
|---|--|---|---|--|
| Use the ripple and noise specification | | noise <10 mVp-p | | |
| to determine what, if any, affects these variations will have on your circuit or device. | Ideally, an output is free from any variations in voltage. In practice, there are periodic variations, called ripple, and random variations, called noise. Typically specified as either Vrms or Vp-p, the most useful spec is Vp-p. With Vp-p you will know the maximum variation away from the DC setpoint. | 6541A-55A p14 6611C-55A p14 66309B-32A p29 B2961A-62A p15 E3600 series p10 N6751A-66A p17 N6781A-84A p22 N6900 Series p16 N7900 Series p16 U8031A-32A p10 | 66101A-06A p19 6671A-92A p14 N5700 Series p12 N6731B-46B p17 N6773A-77A p17 N8700 Series p12 N8900 Series p13 U8001A-02A p10 | |
| PROGRAMMING ACCURACY | | HIGH accuracy <0.03% | MEDIUM accuracy >0.05% | |
| Use programming accuracy to determine if the power supply can produce a voltage and current within the precision needed by your device. | Programming accuracy is a measure of how closely the output will be to the setpoint. Specified as a percent of output plus an offset, you can calculate whether or not the power supply has the precision required. In addition, many power supplies have built-in voltmeters and ammeters to measure its output. | 6620 Series p14 B2961A-62A p15 N6751A-66A p17 N6781A-82A p22 N6784A p22 N6900 Series p16 N7900 Series p16 | 6600 Series p19 66100 Series p29 E3600 Series p10 N5700 Series p12 N6731B-46B p17 N6773A-77A p17 N6783A p28 N8700 Series p12 N8900 Series p13 | |

| \cap | TDI IT | RES | $D \cap V$ | ICE |
|--------|--------|-----|------------|-----|
| UU | ITUI | DEO | ロロハ | 1OL |

Use this specification to select the power supply that is fast enough for your application.

| | FAST output response <15 ms | MEDIUM output response <200 ms |
|--|---|--|
| When the setpoint changes it will take some time before the output reaches the setting. How fast it reaches the setpoint is a result of its regulation design and the output bandwidth. The specifications are typically for a voltage change from 10% to 90% of its rated output or a load change of 50% to 100%. | 6610A-55A ρ14 66300 Series ρ29 B2961A-62A ρ15 N6751A-66A ρ17 N6781A-84A ρ22 N6900 Series ρ16 N7900 Series ρ16 | 66100 Series p19 6671A-92A p14 E3600 Series p10 N5700 Series p12 N6731B-46B p17 N6773-77A p17 N8700 Series p12 N8900 Series p13 U8000 Series p10 |

CONTROL

COMPUTER INTERFACE

Specify power supplies with the appropriate hardware and software interface for computer control.

| | ivianuai oniy | manual control |
|--|--|----------------|
| Many DC power supplies have both manual and computer control. Some are only manually controlled. Hardware interfaces for DC power supplies include GPIB, USB, and LAN (LXI Core). Software interfaces include the SCPI language and drivers such as IVI-C, IVI-COM, and VXI <i>plug&play</i> . | 6500 Series ρ14 E3620A-30A ρ10 U8000 Series ρ10 | All others |

ANALOG VOLTAGE CONTROL SIGNAL

Specify a power supply with an analog input whenever you need to amplify the power or need to track an analog voltage.

| | WITH analog input | WITHOUT analog input |
|---|--|-------------------------|
| Some power supplies provide an analog voltage control input to cause the voltage output to follow this input. Essentially, it amplifies the power since the power supply can provide current up to its rated maximum. | 6540 Series p14 6550 Series p14 6640 Series p14 6650 Series p14 N5700 Series p12 N8700 Series p12 N8900 Series p13 | All others |

OUTPUT MEASUREMENTS

MEASURE V & I OUTPUT

Specify power supplies with built-in measurements whenever you need to check the actual voltage and current.

| | Built-in measurement |
|---|-------------------------|
| Many power supplies have a built in voltmeter and ammeter to read back their own output. The measurements can be displayed on the front panel or queried by a computer connected to the interface. These measurements are particularly useful in computer-controlled systems. Measurement (or read back) accuracy is specified as a percent of full scale plus an offset. | All models |

PACKAGING

PHYSICAL SIZE

Use the size specification to match bench or system use.

| | HALF rack | FULL rack |
|--|---|--------------|
| Agilent power supplies have standard EIA 19-inch rack dimensions. The width is either half rack width or full rack width while the height ranges from 1U to 5U (1.75 in to 8.57 in). While any size can be used on the bench or in a system rack, the half rack width is generally better for bench applications while the full rack width works well in system racks. Of special note is the 1U height of the N5700 and N6700 Series. | 6610 Series p14 66300 Series p29 B2961A-62A p15 E3600 Series p10 U8000 Series p10 | All others |

FRONT OR REAR OUTPUT TERMINALS

Select the model with its output terminals in the best location for your application on either the bench or in a system rack.

| | terminals | | terminals |
|--|---|---------------------------------|------------|
| The output terminals can be located on the front of the power supply or the rear. System and high-current power supplies have their outputs located on the rear panel while bench and some low current power supplies have outputs on the front. | 6610 Series B2961A-62A E3620A-31A N6705B U8000 Series | p14 p15 p10 p18 p10 | All others |

NUMBER OF OUTPUTS

Specify multiple outputs per unit when you need to save space on the bench or in a system rack.

Agilent power supplies are configured with 1 to 8 outputs per unit. Multiple output power supplies can save space on the bench or in a rack. Of special note are the 66000 and N6700 modular mainframes that can hold up to 8 and 4 modules respectively.

| outputs | outputs | |
|------------|--------------|-----|
| All others | 66000 mfr | p19 |
| | 6620 Series | p14 |
| | 66300 Series | p29 |
| | B2961A-62A | p15 |
| | E3620-31A | p10 |
| | E3646A-49A | p10 |
| | E4360 mfr | p30 |
| | N6700 mfr | p17 |
| | 118031A-32A | n10 |



mfr = mainframes for the E4360, N6700 and 66000 modular power supplies

SPECIALTY

DUT PROTECTION

Select power supplies with DUT protection whenever your load may be damaged by over voltage or over current.

| Ī | |
|---|---|
| | Many power supplies can be set for a maxi- |
| | mum voltage and current to protect the device |
| | under test (DUT). When set, the power |
| | supply will limit the voltage and/or current |
| | regardless of the load. This feature provides a |
| | margin of safety when something goes wrong. |

WITHOUT WITH **DUT** protection **DUT** protection

All others

WITH

E3620A-31A p10

POWER ARBITRARY WAVEFORMS

Select power supplies with a LIST feature whenever your device requires the power input to change over time.

| To produce an output that changes over time, |
|---|
| some power supplies have a built-in memory |
| that can be pre-programmed with a list of set- |
| points. This eliminates a step-by-step interac- |
| tion between the host computer and the power |
| supply while simplifying the test program. |

Automatic connect, disconnect, and polarity

reversal can be accomplished with program-

eliminate an external relay and have an easy

mable output relays. By doing so, you will

WITHOUT LIST memory LIST memory

All others **66000 Series** p19 **B2961A-62A** *p15* **E4360 Series** *p30* **N6700 Series** p17 N6705B **N6900 Series** *p16* **N7900 Series** *p16*

OUTPUT DISCONNECT OR POLARITY REVERSAL

Select power supplies with optional output relays when your application requires power to be physically disconnected from the device.

WITH optional relays

66000 Series p19 **6630 Series** p14 **66300 Series** *p29* **N6700 Series** *p17* **N7900 Series** p16

WITHOUT optional relays





DC Voltage and Current At a Glance

| | | | Voltage ranges: 5 V to 40 V | | |
|--|-----------|---------|--|--|--|
| Model numbers | Page | Outputs | 5 to 9 V | 12 to 20 V | 21 to 40 V |
| 6611C-14C | 14 | 1 | 0-8 V, 5 A (6611C) | 0-20 V, 2 A (6612C) | |
| 6621A-24A, 6627A | 14 | 2 to 4 | 0-7 V, 5 A or 0-20 V, 2 A | 0-7 V, 10 A or 0-20 V, 4 A | 0-20 V, 2 A or 0-50 V, 0.8 A |
| 6625A-26A, 6628A-29A | 14 | 2 to 4 | 0-7 V, 15 mA or 0-50 V, 500 mA | 0-16 V, 200 mA or 0-50 V, 1 A | |
| 6631B-34B | 14 | 1 | 0-8 V, 10 A (6631B) | 0-20 V, 5 A (6632B) | |
| 6541A-45A and 6641A-45A | 14 | 1 | 0-8 V, 20 A (65/6641A) | 0-20 V, 10 A (65/6642A) | 0-35 V, 6 A (65/6643A) |
| 6551A-55A and 6651A-55A | 14 | 1 | 0-8 V, 50 A (65/6651A) | 0-20 V, 25 A (65/6652A) | 0-35 V, 15 A (65/6653A) |
| 6571A-75A and 6671A-75A | 14 | 1 | 0-8 V, 220 A (65/6671A) | 0-20 V, 100 A (65/6672A) | 0-35 V, 60 A (65/6673A) |
| 6680A-84A | 14 | 1 | 0-5 V, 875 A (6680A) 0-8 V, 580 A (6681A) | 0-21 V, 240 A (6682A) | 0-32 V, 160 A (6683A) 0-40 V, 128 A (6684A) |
| 6690A-92A | 14 | 1 | | 0-15 V, 440 A (6690A) | 0-30 V, 220 A (6691A) |
| 66001A-6A | 19 | 1 to 8* | 0-8 V, 16 A (66601A) | 0-20 V, 7.5 A (66602A) 0-20, 5 A (66603A) | 0-35, 4.5 A (66603A) |
| 66309B-32A | 29 | 1 to 2 | | 0-15 V, 3 A (all 663xx) | |
| E3620A | 10 | 2 | | | 0-25 V, 1 A (E3620A x2) |
| E3630A-31A | 10 | 3 | 0-6 V, 2.5 (E3630A x1) 0-6 V, 5 A (E3631A x1) | 0-±20 V, 0.5 A (E3630A x2) | 0-±25 V, 1 A (E3631A x2) |
| E3632A-34A ** | 10 | 1 | 0-8 V, 20 A (E3633A r1) | 0-15 V, 7 A (E3632A r1) 0-20 V, 10 A (E3633A r2) | 0-30 V, 4 A (E3632A r2) 0-25 V, 7 A (E3634A r1) |
| E3640A-45A ** | 10 | 1 | 0-8 V, 3 A (E3640A r1) 0-8 V, 5 A (E3642A r1) 0-8 V, 8 A (E3644A r1) | 0-20 V, 1.5 A (E3640A r2) 0-20 V, 2.5 A (E3642A r2) 0-20 V, 4 A (E3644A r2) | 0-35 V, 0.8 A (E3641A r1) 0-35 V,1.4 A (E3643A r1) 0-35 V, 2.2 A (E3645A r1) |
| E3646A-49A ** | 10 | 2 | 0-8 V, 3 A (E3646A r1) 0-8 V, 5 A (E3648A r1) | 0-20 V, 1.5 A (E3646A r2) 0-20 V, 2.5 A (E3648A r2) | 0-35 V, 0.8 A (E3647A r1) 0-35 V, 1.4 A (E3649A r1) |
| N5741A-52A | 12 | 1 | 0-6 V, 100 A (N5741A) 0-8 V, 90 A (N5742A) | 0-12.5 V, 60 A (N5743A) 0-20 V, 38 A (N5744A) | 0-30 V, 25 A (N5745A) 0-40 V, 19 A (N5746A) |
| N5761A-72A | 12 | 1 | 0-6 V, 180 A (N5761A) 0-8 V, 165 A (N5762A) | 0-12.5 V, 120 A (N5763A) 0-20 V, 76 A (N5764A) | 0-30 V, 50 A (N5765A) 0-40 V, 38 A (N5766A) |
| N6731B-36B | 17 | 1 to 4* | 0-5 V, 10 A (N6731B) 0-8 V, 6.25 A (N6732B) | 0-20 V, 2.5 A (N6733B) | 0-35 V, 1.5 A (N6734B) |
| N6741B-46B | 17 | 1 to 4* | 0-5 V, 20 A (N6741B) 0-8 V, 12.5 A (N6742B) | 0-20 V, 5 A (N6743B) | 0-35 V, 3 A (N6744B) |
| N6751A-52A N6761A-62A N6773A-77A | 17 | 1 to 4* | | 0-20 V, 15 A (N6773A) | 0-35 V, 8.5 A (N6774A) |
| N6753A-56A N6763A-66A | 17 | 2* | | 0-20 V, 50 A (N6753A) 0-20 V, 50 A (N6755A) 0-20 V, 50 A (N6763A) 0-20 V, 50 A (N6765A) | |
| N6781A-84A | 22, 28 | 1 to 4* | 0-6 V, +3 to-2 A (N6783A-MFG) 0-8 V, +3 to-2 A (N6783A-BAT) | 0-20 V, ±3 A (N6781A-82A) 0-±20 V, ±3 A (N6784A) | |
| N6950A-52A, N6970A-72A N7950A-52A, N7970A-72A | 16 16 | 1 | 0-9 V, 100 A (N69/N7950A) 0-9 V, 200 A (N69/N7970A) | 0-20 V, 50 A (N69/N7951A) 0-20 V, 100 A (N69/N7971A) | 0-40 V, 25 A (N69/N7952A) 0-40 V, 50 A (N69/N7972A) |
| N8731A-42A | 12 | 1 | 0- 8 V, 400 A (N8771A) | 0-10 V, 300 A (N8732A) 0-15 V, 220 A (N8733A) 0-20 V, 165 A (N8734A) | 0-30 V, 110 A (N8735A) 0-40 V, 85 A (N8736A) |
| N8754A-62A | 12 | 1 | | 0-20 V, 250 A (N8754A) | 0-30 V, 170 A (N8755A) 0-40 V, 125 A (N8756A) |
| U8001A | 10 | 1 | | | 0-30 V, 3 A |
| U8002A | 10 | 1 | | | 0-30 V, 5 A |
| U8031A | 10 | 3 | | | 0 - 30 V, 6 A (Output 1 & 2); 5 V, 3 A (Output 3) |

^{*} Power modules that require a modular mainframe (66000 Series, N6700 Series, N6705, E4360 Series)
** Dual range power supplies; r1 denotes range 1; r2 denotes range 2

DC Voltage and Current At a Glance CONTINUED

| | | | Voltage ranges: 50 V t | to 1500 V | |
|--|----------------------|-------------|---|--|--|
| Model numbers | Page | Outputs | 50 to 80 V | 100 to 210 V | 300 to 1500 V |
| 6611C-14C | 14 | 1 | 0-50 V, 1 A (6613C) | 0-100 V, 0.5 A (6614C) | |
| 6621A-24A, 6627A | 14 | 2 to 4 | 0-20 V, 4 A or 0-50 V, 2 A | | |
| 6631B-34B | 14 | 1 | 0-50 V, 2 A (6633B) | 0-100 V, 1 A (6634B) | |
| 6541A-45A and 6641A-45A | 14 | 1 | 0-60 V, 3.5 A (65/6644A) | 0-120 V, 1.5 A (65/6645A) | |
| 6551A-55A and 6651A-55A | 14 | 1 | 0-60 V, 9 A (65/6654A) | 0-120 V, 4 A (65/6655A) | |
| 6571A-75A and 6671A-75A | 14 | 1 | 0-60 V, 35 A (65/6674A) | 0-120 V, 18 A (65/6675A) | |
| 6690A-92A | 14 | 1 | 0-60 V, 110 A (6692A) | | |
| 66101A-6A | 19 | 1 to 8* | 0-60 V, 2.5 A (66104A) | 0-120 V, 1.25 A (66105A) 0-200 V, 0.75 A (66106A) | |
| B2961A-62A | 15 | 1 to 2 | 0-±210 V, ±0.105A to ±3A (B2961A/62A) | 0-±210 V, ±0.105A to ±3A (B2961A/62A) | |
| E3632A-34A ** | 10 | 1 | 0-50 V, 4 A (E3634A r2) | | |
| E3640A-45A ** | 10 | 1 | 0-60 V, 0.5 A (E3641A r2) 0-60 V, 0.8 A (E3643A r2) 0-60 V, 1.3 A (E3645A r2) | | |
| E3646A-49A ** | 10 | 2 | 0-60 V, 0.5 A (E3647A r2) 0-60 V, 0.8 A (E3649A r2) | | |
| E4361A | 30 | 1 to 2* | 0-65 V, 8.5 A | | |
| E4362A | 30 | 1 to 2* | | 0 - 130 V, 5 A | |
| N5741A-52A | 12 | 1 | 0-60 V, 12.5 A (N5747A) 0-80 V, 9.5 A (N5748A) | 0-100 V, 7.5 A (N5749A) 0-150 V, 5 A (N5750A) | 0-300 V, 2.5 A (N5751A) 0-600 V, 1.3 A (N5752A) |
| N5761A-72A | 12 | 1 | 0-60 V, 25 A (N5767A) 0-80 V, 19 A (N5768A) | 0-100 V, 15 A (N5769A) 0-150 V, 10 A (N5770A) | 0-300 V, 5 A (N5771A) 0-600 V, 2.6 A (N5772A) |
| N6731B-36B | 17 | 1 to 4* | 0-60 V, 0.8 A (N6735B) | 0-100 V, 0.5 A (N6736B) | |
| N6741B-46B | 17 | 1 to 4* | 0-60 V, 1.6 A (N6745B) | 0-100 V, 1 A (N6746B) | |
| N6751A-52A N6761A-62A N6773A-77A | 17 | 1 to 4* | 0-50 V, 5 A (N6751A) 0-50 V, 10 A (N6752A) 0-50 V, 1.5 A (N6761A) 0-50 V, 3 A (N6762A) 0-60 V, 5 A (N6775A) | 0-100 V, 3 A (N6776A) 0-150 V, 2 A (N6777A) | |
| N6753A-56A N6763A-66A | 17 | 2* | 0-60 V, 20 A (N6754A) 0-60 V, 17 A (N6756A) 0-60 V, 20 A (N6764A) 0-60 V, 17 A (N6766A) | | |
| N6953A-54A N6973A-77A N7953A-54A N7973A-77A | 16 16 16 16 | 1 1 1 | 0-60 V, 16.7 A (N69/N7953A) 0-60 V, 33.3 A (N69/N7973A) 0-80 V, 12.5 A (N69/N7954A) 0-80 V, 25 A (N69/N7974A) | 0-120 V, 16.7 A (N69/N7976A) 0-160 V, 12.5 A (N69/N7977A) | |
| N8731A-42A | 12 | 1 | 0-60 V, 55 A (N8737A) 0-80 V, 42 A (N8738A) | 0-100 V, 33 A (N8739A) 0-150 V, 22 A (N8740A) | 0-300 V, 11 A (N8741A) 0-600 V, 5.5 A (N8742A) |
| N8754-62A | 12 | 1 | 0-60 V, 85 A (N8757A) 0-80 V, 42 A (N8738A) | 0-100 V, 50 A (N8759A) 0-150 V, 34 A (N8760A) | 0-300 V, 17 A (N8761A) 0-600 V, 8.5 A (N8762A) |
| N8920A - 57A | 13 | 1 | 0-80 V, 170 A (N8920A/40A) 0-80 V, 340 A (N8925A/45A) 0-80 V, 510 A (N8931A/51A) | 0-200 V, 70 A (N8921A/41A) 0-200 V, 140 A (N8926A/46A) 0-200 V, 210 A (N8932A/52A) | 0-500 V, 30A (N8923A/43A) 0-500 V, 60 A (N8928A/48A) 0-500 V, 90 A (N8934A/54A) 0-750 V, 20 A (N8924A/44A) 0-750 V, 40 A (N8929A/49A) 0-750 V, 60 A (N8935A/55A) 0-1000 V, 30 A (N8937A/57A) |
| U8032A | 10 | 3 | 0-60 V, 3 A (Output 1 & 2); 5 V, 3 A (Output 3) | | |

^{*} Power modules that require a modular mainframe (66000 Series, N6700 Series, N6705, E4360 Series)
** Dual range power supplies; r1 denotes range 1; r2 denotes range 2

E3600 and U8000 Series Basic Power Supplies

Essential features for a tight budget

When you need reliable power with minimal features, you can rely on the E3600 and U8000 Series basic power supplies.

The E3600 Series offers an extensive choice of voltages, programmability, and number of outputs.

The U8000 Series offers more affordable DC power and provides features typical only in programmable power supplies, such as output sequencing capability, fully integrated overvoltage and overcurrent protection, capability to save and recall up to three memory states, keypad lock and more.

- 30 W to 375 W outputs, 6 V to 60 V, and 0.5 A to 20 A
- Single- to triple-output models in half-rack width size
- · Low noise, linear regulation
- Dual range outputs to provide more current at lower voltage settings
- Computer control via GPIB on most E3600 models. Manual control only on the U8000 Series and some E3600 models.







U8001A, U8002A, U8031A, U8032A



| | Model | On Marion | Modimin VIV. | Mohimm1/4) | Mon | Mir of our | Con range | "Puter intert | Procend noise | 14 (4) (4) (4) (4) (4) (4) (4) (4) (4) (4 |
|-------|--------|-----------|----------------------|------------------------|-----|------------|-----------|---------------|---------------|---|
| | U8001A | 90 | 30 | 3 | 1 | 1 | No | 12 | 10 | ½ RU w |
| | U8002A | 150 | 30 | 5 | 1 | 1 | INO | 12 | 10 | x 2 RU h |
| | U8031A | 375 | 30 | 6 | 3 | 1 | No | 10 | 10 | ½ RU w |
| | U8032A | 375 | 60 | 3 | 3 | 1 | 140 | 10 | 10 | x 4 RU h |
| | E3620A | 50 | 25 V / 25 V* | 1 A / 1 A* | 2 | 1 | No | 1.5 | 10 | ½ RU w |
| | E3630A | 35 | 6 V / +20 V / -20 V* | 2.5 A / 0.5 A / 0.5 A* | 3 | 1 | 140 | 1.5 | 10 | x 2 RU h |
| | E3631A | 80 | 6 V / +25 V / -25 V | 5A/1A/1A | 3 | 1 | | 2 | 1.5 | |
| | E3632A | 120 | 15 V r1 / 30 V r2 | 7 A r1 / 4 A r2 | 1 | 2 | GPIB | 2 | 1 | ½ RU w |
| | E3633A | 200 | 8 V r1 / 20 V r2 | 20 A r1 / 10 A r2 | 1 | 2 | di ib | 3 | 1 | x 3 RU h |
| Basic | E3634A | 200 | 25 V r1 / 50 V r2 | 7 A r1 / 4 A r2 | 1 | 2 | | 3 | 3 | |
| Ba | E3640A | 30 | 8 V r1 / 20 V r2 | 3 A r1 / 1.5 A r2 | 1 | 2 | | 5 | 5 | |
| | E3641A | 30 | 35 V r1 / 60 V r2 | 0.8 A r1 / 0.5 A r2 | 1 | 2 | | 8 | 5 | |
| | E3642A | 50 | 8 V r1 / 20 V r2 | 5 A r1 / 2.5 A r2 | 1 | 2 | GPIB | 5 | 5 | ½ RU w |
| | E3643A | 50 | 35 V r1 / 60 V r2 | 1.4 A r1 / 0.8 A r2 | 1 | 2 | UI ID | 8 | 5 | x 2 RU h |
| | E3644A | 80 | 8 V r1 / 20 V r2 | 8 A r1 / 4 A r2 | 1 | 2 | | 5 | 5 | |
| | E3645A | 80 | 35 V r1 / 60 V r2 | 2.2 A r1 / 1.3 A r2 | 1 | 2 | | 8 | 5 | |
| | E3646A | 60 | 8 V r1 / 20 V r2 | 3 A r1 / 1.5 A r2 | 2 | 2 | | 5 | 5 | |
| | E3647A | 60 | 35 V r1 / 60 V r2 | 0.8 A r1 / 0.5 A r2 | 2 | 2 | GPIB | 8 | 5 | ½ RU w |
| | E3648A | 100 | 8 V r1 / 20 V r2 | 5 A r1 / 2.5 A r2 | 2 | 2 | urID | 5 | 5 | x 3 RU h |
| | E3649A | 100 | 35 V r1 / 60 V r2 | 1.4 A r1 / 0.8 A r2 | 2 | 2 | | 8 | 5 | |

Output 1 / Output 2 / Output 3

^{**} NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full.

The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

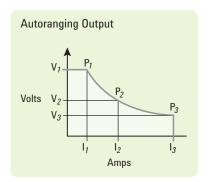
6030 Series Basic Autoranging DC Power Supplies

Autoranging to do the job of multiple power supplies

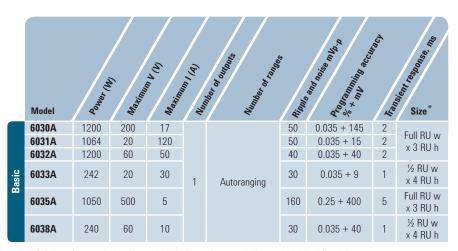
The 6030 Series basic power supplies offer autoranging outputs that give you maximum power at a variety of operating voltages. This enables you to use one power supply to do the job of multiple power supplies, saving rack space and reducing your system complexity.

- 240 W to 1200 W outputs, up to 500 V, and up to 120 A
- Built-in measurements and advance programming features simplify system design
- Full protection from over voltage and over current
- · Computer control via GPIB









^{*} NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full.

The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

N5700 Series and N8700 Series Basic DC Power Supplies

Space-saving basic power with modern interfaces

Now get up to 5200 W in a compact, 2U package with the N8700 Series or up to 1560 W in a compact, 1U package with the N5700 Series. Both series offers solid performance and a variety of basic and enhanced capabilities.

- Remote programming via GPIB, LAN and USB interfaces with the SCPI command set (drivers available)
- Analog control and monitoring of output voltage and current
- Connect multiple supplies in parallel or series for greater output current or voltage respectively
- · Built-in measurements
- Front panel control and advanced programmable features
- Built-in protection features such as OVP, OCP, UVL, and OTP
- · LXI Core compliant



| t | | | | | | | | / / | Q.q. | No. | s(ms) |
|---|-------|------------------|--------------|---------------|-----------------|------|---------------|--------------|--|--------------|--|
| | | | | Morinum V (V) | Merimum 1 (4) | | Winder of our | Hipn of Fann | Solution of the solution of th | מכנווי | Size* |
| | | | 3.45 | | wind the second | | o to l | , o , o , | Oue o | | THE STATE OF THE S |
| | | Model | Onnor | Mot | Water | Nur. | W. W. | Riph | 40% | Trans | Size* |
| | | N5741A | 600 | 6 | 100 | | | 0.0 | 0.0 | - | |
| | | N5742A | 720 | 8 | 90 | | | 60 | 0.5 + 4 | ≤1.5 | |
| | | N5743A N5744A | 750 760 | 12.5 20 | 60 38 | | | 60 | 0.5 + 6.25 0.5 + 10 | ≤1.5 ≤1 | |
| | | N5744A N5745A | 750 | 30 | 25 | | | 60 | 0.5 + 10 0.5 + 15 | ≤1 | E D |
| | | N5746A | 760 | 40 | 19 | 1 | 1 | 60 | 0.5 + 20 | ≤1 | Full RU w |
| | | N5747A | 750 | 60 | 12.5 | 1 | 1 | 60 | 0.5 + 30 | ≤1 | x 1 RU h |
| | | N5748A | 760 | 80 | 9.5 | | | 80 | 0.5 + 40 | ≤1 | I KU N |
| | | N5749A | 750 | 100 | 7.5 | | | 80 | 0.5 + 50 | ≤1 | |
| | | N5750A | 750 | 150 | 5 | | | 100 | 0.5 + 75 | ≤2 | |
| | ü | N5751A | 750 | 300 | 2.5 | | | 150 | 0.5 + 150 | ≤2 | |
| | Basic | N5752A | 780 | 600 | 1.3 | | | 300 | 0.5 + 300 | ≤2 | |
| | ä | N5761A N5762A | 1080 1320 | 6 8 | 180 165 | | | 60 | 0.5 + 3 0.5 + 4 | ≤1.5 ≤1.5 | |
| | | N5762A N5763A | 1500 | 12.5 | 120 | | | 60 | 0.5 + 4 0.5 + 6.25 | ≤1.5 ≤1.5 | |
| | | N5764A | 1520 | 20 | 76 | | | 60 | 0.5 + 0.25 | ≤1.0 | |
| | | N5765A | 1500 | 30 | 50 | | | 60 | 0.5 + 15 | : ≤1 | E II DII |
| | | N5766A | 1520 | 40 | 38 | 1 | 1 | 60 | 0.5 + 20 | _· ≤1 | Full RU w |
| | | N5767A | 1500 | 60 | 25 | 1 | | 60 | 0.5 + 30 | ≤1 | X 1 DULL |
| | | N5768A | 1520 | 80 | 19 | | | 80 | 0.5 + 40 | ≤1 | 1 RU h |
| | | N5769A | 1500 | 100 | 15 | | | 80 | 0.5 + 50 | ≤1 | |
| | | N5770A | 1500 | 150 | 10 | | | 100 | 0.5 + 75 | ≤2 | |
| | | N5771A | 1500 | 300 | 5 | | | 150 | 0.5 + 150 | ≤2 ≤2 | |
| | | N5772A | 1560 | 600 | 2.6 | | | 300 | 0.5 + 300 | <u> </u> | |
| ľ | | N8731A | 3200 | 8 | 400 | | | 60 | 0.05 + 4 | <1 | |
| | | N8732A | 3300 | 10 | 330 | | | 60 | 0.05 + 5 | <1 | |
| | | N8733A | 3300 | 15 | 220 | | | 60 | 0.05 + 7.5 | <1 | |
| | | N8734A | 3300 | 20 | 165 | | | 60 | 0.05 + 10 | <1 | |
| | | N8735A N8736A | 3300 | 30 40 | 110 | | | 60 60 | 0.05 + 15 | <1 | Full RU w |
| | | N8737A | 3400 | 60 | 85 55 | 1 | 1 | 60 | 0.05 + 20 0.05 + 30 | <1 | X |
| | | N8738A | 3360 | 80 | 42 | | | 80 | 0.05 + 30 0.05 + 40 | <1 | 2 RU h |
| | | N8739A | 3300 | 100 | 33 | | | 100 | 0.05 + 40 0.05 + 50 | <1 | |
| | es. | N8740A | 3300 | 150 | 22 | | | 100 | 0.05 + 75 | <2 | |
| | Basic | N8741A | 3300 | 300 | 11 | | | 300 | 0.05 + 150 | <2 | |
| | ä | N8742A | 3300 | 600 | 5.5 | | | 500 | 0.05 + 300 | <2 | |
| | | N8754A | 5000 | 20 | 250 | | | 75 | 0.025 + 15 | <1 | |
| | | N8755A | 5100 | 30 | 170 | | | 75 | 0.025 + 22.5 | 5 <1 | |
| | | N8756A | 5000 | 40 | 125 | | | 75 | 0.025 + 30 | <1 | |
| | | N8757A | 5100 | 60 | 85 | | | 75 | 0.025 + 45 | <1 | Full RU w |
| | | N8758A | 5200 | 80 | 65 | 1 | 1 | 100 | 0.025 + 60 | <1 | X |
| | | N8759A | 5000 | 100 | 50 | | | 100 | 0.025 + 75 | <1 | 2 RU h |
| | | N8760A | 5100 | 150 | 34 | | | | 0.025 + 112 | | |
| | | N8761A | 5100 | 300 | 17 | | | 300 | 0.025 + 225 | | |
| | | N8762A | 5100 | 600 | 8.5 | | | 500 | 0.025 + 450 | <2 | |





N8731A: front/back



N5749A: front/back

^{*} NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full.

The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

NEW N8900 Series Autoranging System DC Power Supplies

High-power, autoranging output does the job of multiple supplies

The N8900 Series autoranging DC power supplies provide unprecedented flexibility by offering a wide range of voltage and current combinations at full power. Just one N8900 does the job of multiple power supplies! It's like having many power supplies in one!

- Up to 1500 V, up to 510A
- 5 kW, 10 kW and 15 kW models in a small 3 U package
- Easily parallel to create "one" power supply with >100 kW of power
- Protection from over-voltage, overcurrent and over-temperature
- Control via GPIB, USB, LAN (LXI Core), and analog programming



N8900 Series



| | | Oner (W) | Maximum | Movinus. | (4) | Numt of outpus | Ripole an. | enoise mp. 9 | ADE HOSE | Thou. | Size* |
|------------|--------|----------|---------|----------|-----|----------------|-------------|--------------|----------|-------|-------------|
| | Model | 40 | Ži, | N. | 13 | 12 | G IV | 50. | A.C. | A | Size |
| | N8920A | 5000 | 80 | 170 | | | 200 | ≤80 | | | |
| | N8921A | 5000 | 200 | 70 | | | 300 | ≤200 | | | |
| | N8923A | 5000 | 500 | 30 | | | 350 | ≤500 | | 208 | |
| | N8924A | 5000 | 750 | 20 | | | 800 | ≤750 | | | |
| | N8925A | 10000 | 80 | 340 | | | 200 | ≤80 | | | |
| | N8926A | 10000 | 200 | 140 | | | 300 | ≤200 | | | Full RU w |
| Basic | N8928A | 10000 | 500 | 60 | 1 | 1 | 350 | ≤500 | ≤1.5 | | Y X |
| Ba | N8929A | 10000 | 750 | 40 | · | | 800 | ≤750 | _1.0 | | 3 RU h |
| | N8930A | 10000 | 1000 | 30 | | | 800 | ≤1000 | | | |
| | N8931A | 15000 | 80 | 510 | | | 200 | ≤80 | | | |
| | N8932A | 15000 | 200 | 210 | | | 300 | ≤200 | | | |
| | N8934A | 15000 | 500 | 90 | | | 350 | ≤500 | | | |
| | N8935A | 15000 | 750 | 60 | | | 800 | ≤750 | | | |
| | N8937A | 15000 | 1500 | 30 | | | 1000 | ≤1500 | | | |
| | N8940A | 5000 | 80 | 170 | | | 200 | ≤80 | | | |
| | N8941A | 5000 | 200 | 70 | | | 300 | ≤200 | | | |
| | N8943A | 5000 | 500 | 30 | | | 350 | ≤500 | | | |
| | N8944A | 5000 | 750 | 20 | | | 800 | ≤750 | | | |
| | N8945A | 10000 | 80 | 340 | | | 200 | ≤80 | | | |
| | N8946A | 10000 | 200 | 140 | | | 300 | ≤200 | | | |
| . <u>e</u> | N8948A | 10000 | 500 | 60 | | 4 | 350 | ≤500 | .4.5 | 400 | Full RU w |
| Basic | N8949A | 10000 | 750 | 40 | 1 | 1 | 800 | ≤750 | ≤1.5 | 400 | x 3 RU h |
| | N8950A | 10000 | 1000 | 30 | | | 800 | ≤1000 | | | 3 110 11 |
| | N8951A | 15000 | 80 | 510 | | | 200 | ≤80 | | | |
| | N8952A | 15000 | 200 | 210 | | | 300 | ≤200 | | | |
| | N8954A | 15000 | 500 | 90 | | | 350 | ≤500 | | | |
| | N8955A | 15000 | 750 | 60 | | | 800 | ≤750 | | | |
| | N8957A | 15000 | 1500 | 30 | | | 1000 | | | | |

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6500 and 6600 Series High-Performance DC Power Supplies

High-performance when the power supply matters to test

The 6500 and 6600 Series high-performance power supplies are designed to meet your most demanding requirements. With an extensive feature set, the 6600 Series can help you reduce test time and simplify your test system design.

- 40 W to 6600 W outputs, up to 120 V, and up to 875 A
- Fast, low-noise outputs increase your test throughput
- Extensive programming capability for flexible system design (6600 only)
- Built-in measurements and advance programming features simplify system design
- Computer control via GPIB on the 6600 Series. GPIB not available on the 6500 Series.



| | | , de la companya de l | Maximin V (V) | Moeillim (4) | | Numi of our | E. Rine of san | 0.05 + 5 | ADEM DOCUMENT | Size** |
|-------------|----------|--|---------------|--------------|-----|-------------|----------------|------------------------|---------------|----------------|
| | Model | Q | 4 | 7 | 1/2 | 120 | iği M | 85.% | 150 | Size |
| | 6611C | 40 | 8 | 5 | | | _ | 0.00 | | ½ RU w |
| | 6612C | 40 | 20 | 2 | 1 | 1 | 3 | 0.05 + 10 | <100 | /2 11U VV |
| G e | 6613C | 50 | 50 | 1 | ' | | 4 | 0.05 + 20 | 100 | 2 RU h |
| Performance | 6614C | 50 | 100 | 0.5 | | | 5 | 0.05 + 50 | | |
| | 6621A | 80 | 20 / 7 | 4 / 10 | 2 | | | 0.06 + 19 | | |
| Ē | 6622A | 100 | 20 / 50 | 4 / 2 | 2 | | | 0.06 + 50 | | Full RU w |
| - | 6623A | 80 | 20 / 50 / 20* | 5/2/10* | 3 | 2 | 3 | 0.06 + 50 | <75 | X |
| | 6624A | 40 | 20/20/50/50* | 5/5/2/2* | 4 | | | 0.06 + 50 | | 3 RU h |
| | 6627A | 40 | 50 | 2 | 4 | | | 0.06 + 50 | | |
| = | 6625A | 40 | 50/50* | 0.5/2* | 2 | | | | | |
| Precision | 6626A | 50 | 50/50/50/50* | 0.5/0.5/2/2* | 4 | 0 | 0 | 0.040 40 | 75 | Full RU w |
| ec. | 6628A | 50 | 50 | 2 | 2 | 2 | 3 | 0.016 + 10 | <75 | X |
| ᇫ | 6629A | 50 | 50 | 2 | 4 | | | | | 3 RU h |
| | 6631B | 80 | 8 | 10 | | | | 0.05 + 5 | | |
| | 6632B | 100 | 20 | 5 | | | | 0.05 + 3 0.05 + 10 | | Full RU w |
| | 6633B | 100 | 50 | 2 | 1 | 1 | 3 | 0.05 + 10 0.05 + 20 | <100 | X |
| | 6634B | 100 | 100 | 1 | | | | 0.05 + 20 0.05 + 50 | | 2 RU h |
| | 65/6641A | 160 | 8 | 20 | | | 3 | 0.03 + 50 0.06 + 5 | | |
| | 65/6642A | 200 | 20 | 10 | | | 3 1 4 5 | 0.06 + 3 | | F. II DI I |
| | 65/6643A | 210 | 35 | 6 | 1 | 1 | | 0.06 + 10 0.06 + 15 | ~100 | Full RU w |
| | 65/6644A | 210 | 60 | 3.5 | | ' | | 0.06 + 15 0.06 + 26 | <100 | x 2 RU h |
| | 65/6645A | 180 | 120 | 1.5 | | | 7 | 0.06 + 20 0.06 + 51 | | |
| | 65/6651A | 400 | 8 | 50 | | | 3 | 0.06 + 51 | | |
| | 65/6652A | 500 | 20 | 25 | | | 3 | 0.06 + 10 | | Full RU w |
| | 65/6653A | 525 | 35 | 15 | 1 | 1 | 4 | 0.06 + 10 0.06 + 15 | <100 | rull HU W X |
| ě | 65/6654A | 540 | 60 | 9 | ' | ' | 5 | 0.06 + 13 | ×100 | 3 RU h |
| ≡ ≡ | 65/6655A | 480 | 120 | 4 | | | 7 | 0.06 + 51 | | 0 1.0 1. |
| Performance | 65/6671A | 1760 | 8 | 220 | | | 7 | 0.04 + 8 | | |
| Pe | 65/6672A | 2000 | 20 | 100 | | | 9 | 0.04 + 20 | | Full RU w |
| | 65/6673A | 2100 | 35 | 60 | 1 | 1 | 9 | 0.04 + 20 | <900 | X |
| | 65/6674A | 2100 | 60 | 35 | · | | 11 | 0.04 + 60 | .000 | 3 RU h |
| | 65/6675A | 2160 | 120 | 18 | | | 16 | 0.04 + 120 | | |
| | 6680A | 4375 | 5 | 875 | | | | 0.04 + 5 | | |
| | 6681A | 4640 | 8 | 580 | | | | 0.04 + 8 | | Full RU w |
| | 6682A | 5040 | 21 | | 1 | 1 | 10 | 0.04 + 21 | <900 | X |
| | 6683A | 5120 | 32 | 160 | | | | 0.04 + 32 | | 5 RU h |
| | 6684A | 4800 | 40 | 128 | | | | 0.04 + 40 | | |
| | 6690A | 6600 | 15 | 440 | | | 15 | 0.04 + 15 | | Full RU w |
| | 6691A | 6600 | 30 | 220 | 1 | 1 | 25 | 0.04 + 30 | <900 | X |
| | 6692A | 6600 | 60 | 110 | | | 25 | 0.04 + 60 | | 5 RU h |





6680A

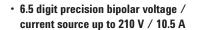
^{*} Output 1 / Output 2 / Output 3 / Output 4

^{**} NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full.

The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

NEW B2961A/62A 6.5 Digit Low Noise Power Source

The Agilent B2961A/B2962A 6.5 Digit Low Noise Power Source is an advanced low cost power supply/source offering 6.5 digit best-in-class precision, wide and bipolar (4-quadrant) output ranges of 100 nV - 210 V / 10 fA - 3 A (DC) / 10.5 A (pulsed) and extremely low noise of 10 μ Vrms and 1 nVrms/ \sqrt{Hz} (at 10 kHz). It also offers other innovative features such as graphing capability and arbitrary waveform generating capability (1 mHz - 10 kHz), which allow tests and evaluation that conventional power supply/ sources cannot do. These superior capabilities make the B2961A and B2962A ideal companion instruments for use with other instruments such as oscilloscopes, network analyzers, spectrum analyzers, frequency counters, digital multi meters, nano-voltmeters, etc. The Agilent B2961A/B2962A can support the difficult measurement challenges faced by researchers, electronic development engineers and electronic technicians working on advanced devices and materials.



- 10 µVrms output noise with external ultra-low noise filter
- 100 nV / 10 fA sourcing resolution
- Precision arbitrary waveform generation capability
- Programmable output resistance and emulation
- Time domain voltage / current monitoring on the front panel





B2961A/62A

| | Model | | | B2961A/62A | B2961A/62A with LNF (Low Noise Filter) | B2961A/62A with ULNF (Ultra Low Noise Filter) |
|-------------|-----------------------------|------------------------|---------|--------------------------|--|---|
| | Number of cha | nnels | | 1 / 2 | 1/2 | 1 / 2 |
| | | Voltage | | ± 210 V | ± 210 V | ± 42 V |
| | Manantant | Current | DC | ± 3.03 A | ± 3.03 A | ± 105 mA |
| | Max output | Current | Pulsed | ± 10.5 A | ± 10.5 A | ± 105 mA |
| | | Power | | 31.8 W | 31.8 W | 31.8 W |
| nce | Source | Max digits | Digits | 6½ | 6½ | 6½ |
| Performance | | Min resolution | Voltage | 100 nV | 100 nV | 100 nV |
| Perf | | IVIIII TESOIULIOII | Current | 10 fA | 10 pA | 10 pA |
| | | 0.1 Hz – 10 Hz | | < 5 μVpp < 1 pApp | < 5 μVpp < 1 pApp | < 5 μVpp < 1 pApp |
| | Noise | 10 Hz – 20 MH: | Z | 3 mVrms | 350 μVrms | 10 μVrms 1 nVrms/√Hz at 10 kHz |
| | Measurement | Measurement Max digits | | 4½ | 4½ | 4½ |
| | Min programm arbitrary wave | | r | 10 μs (100,000 pts/s) | 10 μs (100,000 pts/s) | 10 μs (100,000 pts/s) |

NEW N6900 and N7900 Advanced Power System (APS)

Overcome your toughest power test challenges

With Advanced Power System (APS) 1 kW and 2 kW system power supplies, you get a new level of power supply performance. VersaPower architecture delivers industry-leading specifications and innovative features for today's advanced ATE power testing needs — the fastest, most accurate, integrated power system.

- Accelerate test-system throughput with industry-leading speed
- Capture your DUT's current profile with accurate measurements
- Reduce your ATE development time and cost with highly integrated capabilities

Need high performance in your ATE system?

Choose the Agilent N6900 Series APS DC Power Supply.

Need high speed dynamic sourcing and measurement?

Choose the Agilent N7900 Series APS Dynamic DC Power Supply.

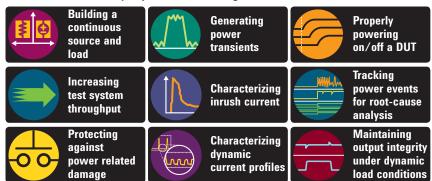
Get lots of power in a small test-system footprint

Two power ranges deliver a large amount of power in a small test-system footprint.





Overcome a wide variety of power test challenges with the APS



| | Model | Power II. | Mesim | Maxim. | Nums (A) | Numb outputs | Ripale ranges | 0.03+1.5 | Tansien ro | Sie |
|--------------|------------------|--------------|---------|-----------|----------|--------------|---------------|--------------------|------------|-----------|
| | N6950A N6951A | 1000 1000 | 9 20 | 100 50 | | | 9 | 0.03+1.5 0.03+3 | | Full RU w |
| | N6952A | 1000 | 40 | 25 | 1 | 1 | 9 | 0.03+6 | 100 | X |
| | N6953A | 1000 | 60 | 16.7 | | | 9 | 0.03+9 | | 1 RU h |
| | N6954A | 1000 | 80 | 12.5 | | | 9 | 0.03+12 | | |
| | N6970A | 2000 | 9 | 200 | | | 9 | 0.03+1.5 | | |
| | N6971A | 2000 | 20 | 100 | | | 9 | 0.03+3 | | Full RU w |
| | N6972A | 2000 | 40 | 50 | | | 9 | 0.03+6 | | |
| | N6973A | 2000 | 60 | 33 | 1 | 1 | 9 | 0.03+9 | 100 | X |
| | N6974A | 2000 | 80 | 25 | | | 9 | 0.03+12 | | 2 RU h |
| 8 | N6976A | 2000 | 120 | 16.7 | | | 30 | 0.03+17 | | |
| Performancec | N6977A | 2000 | 160 | 12.5 | | | 30 | 0.03+24 | | |
| <u></u> | N7950A | 1000 | 9 | 100 | | | 9 | 0.03+1 | | |
| 튭 | N7951A | 1000 | 20 | 50 | | | 9 | 0.03+2 | | Full RU w |
| | N7952A | 1000 | 40 | 25 | 1 | 1 | 9 | 0.03+4 | 100 | X |
| | N7953A | 1000 | 60 | 16.7 | | | 9 | 0.03+6 | | 1 RU h |
| | N7954A | 1000 | 80 | 12.5 | | | 9 | 0.03+8 | | |
| | N7970A | 2000 | 9 | 200 | | | 9 | 0.03+1 | | |
| | N7971A | 2000 | 20 | 100 | | | 9 | 0.03+2 | | |
| | N7972A | 2000 | 40 | 50 | | | 9 | 0.03+4 | | Full RU w |
| | N7973A | 2000 | 60 | 33 | 1 | 1 | 9 | 0.03+6 | 100 | X |
| | N7974A | 2000 | 80 | 25 | | | 9 | 0.03+8 | | 2 RU h |
| | N7976A | 2000 | 120 | 16.7 | | | 30 | 0.03+11 | | |
| | N7977A | 2000 | 160 | 12.5 | | | 30 | 0.03+14 | | |

NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full.

The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

N6700 Low-Profile Modular Power System

Extensive family of modular power in a 1U package

The N6700 Series 1U-high, multiple-output programmable DC power supply system gives you the flexibility to optimize performance, power and price to match your test needs.

- Small size: up to 4 outputs in 1U of rack space
- Mainframes are available with 400 W, 600 W, or 1200 W capability
- Mix and match from 34 different DC power modules, ranging 50 W, 100 W, 300 W, or 500 W
- Streamline your tasks with built-in measurements, output sequencing, and optional LIST mode, built-in digitizer and disconnect relays
- Ultra fast command processing time (<1 ms) reduces test time
- Computer control via GPIB, USB, and LAN (LXI Core)
- New high-power DC modules: N6755A-56A, N6763A-66A, N6777A



N6700 low-profile modular power system mainframe

Power (W)

400

600

1200

Model

N6700B

N6701A

N6702A

N6762A

N6763A

N6764A

N6765A

N6766A

Max #

modules

4

| Physical size* |
|----------------|
| Full RU w |

1 RU h

N6702A

0.016 + 6

0.03 + 5

0.03 + 12

0.03 + 5

0.03 + 12

<100

4.5

5

6

5

Model N6731B 50 10 0.1 + 19N6732B 50 8 6.25 12 0.1 + 19N6733B 50 20 2.5 14 0.1 + 20N6734B 50 35 15 0.1 + 351.5 N6735B 50 60 8.0 25 0.1 + 60N6736B 50 100 0.5 30 0.1 + 100<200 N6741B 100 5 20 11 0.1 + 19N6742B 100 12.5 12 0.1 + 19N6743B 100 20 5 14 0.1 + 20N6744B 100 35 15 0.1 + 353 N6745B 100 60 1.6 25 0.1 + 60N6746B 100 100 1 30 0.1 + 100N6773A 300 20 20 0.1 + 2015 N6774A 0.1 + 35300 35 8.5 22 N6775A 300 60 5 35 0.1 + 60<250 45 0.1 + 100N6776A 300 100 3 N6777A 300 150 2 68 0.1 + 1505 50 4.5 0.06 + 19N6751A 50 10 N6752A 100 50 4.5 0.06 + 191 N6753A 300 20 50 5 0.06 + 10Autoranging <100 300 20 N6754A 60 6 0.06 + 2550 0.06 + 10N6755A 500 20 5 N6756A 500 17 6 0.06 + 2550 1.5 4.5 0.016 + 6N6761A 50



Additional N6780 series source measure unit modules and application specific modules available, see page 22.

3

50

20

50

17

1

1

2

Autoranging

100

300

300

500

500

50

20

60

20

^{*} NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full.

The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

N6705B DC Power Analyzer

Quickly understand your device's power consumption

Gain insight into your device's power consumption in minutes without writing a single line of code. The N6705B combines one to four DC power supplies, a DMM, an oscilloscope, an arbitrary waveform generator, and a data logger in one integrated package.

- Saves time no programming required and it eliminates the need to gather multiple instruments
- Flexible, modular system—mix and match power modules to optimize your testing
- Uses the same modules as the N6700 Series low-profile modular power supply—see page 14
- Computer control via GPIB, USB, and LAN (LXI Core)



| Function | Description |
|------------------------------|--|
| Output speed | Voltage changes as fast as 160 µs per step voltage change |
| Voltmeter accuracy | Up to 0.025% + 50 μ V, up to 18-bit resolution |
| Ammeter accuracy | Up to 0.025% + 8 nA, up to 18-bit resolution |
| Arbitrary Waveform | Bandwidth up to 100 kHz, output power up to 300 W |
| Scope function | Digitizes voltage and current at up to 200 kHz, up to 512 k points, up to 18-bits resolution |
| Data logger function | Measurement interval from 20 μs to 60 s, maximum of 500 Mreadings per data log |
| Non-volatile data storage | 4 GB |



66000 Modular Power System

Speed and accuracy with up to eight outputs

The 66000 Series modular DC power supplies give you up to eight outputs per mainframe. The modular design conserves rack space and simplifies system cabling and assembly.

- Modular system permits up to 8 outputs of 150 W per output in 4U of rack space
- Modules are available with 150 W, 8 V to 200 V, 0.75 A to 16 A
- Simplify reconfiguration or repair with easily swappable modules
- Streamline your tasks with built-in measurements, LIST mode, and optional keyboard for manual control
- Full protection from over voltage and over current
- · Computer control via GPIB



66000 modular power system mainframe

| Model | Power, (W) | Max # modules | Physical size* |
|--------|------------|------------------|--------------------|
| 66000A | 1200 | 8 | Full RU w x 4 RU h |

| | 66000 mod | dules (M) somo | Mexim. | Maximus | Wimber | Number | Hippe a. | " " noise muo. p. %. Se amming acc. | Transien estionse | | |
|-------------|-----------|----------------|--------|---------|--------|--------|----------|-------------------------------------|-------------------|-----------|--|
| | 66101A | 128 | 8 | 16 | | | 5 | 0.03 + 3 | | | |
| 8 | 66102A | 150 | 20 | 7.5 | | | | | 7 | 0.03 + 8 | |
| mai | 66103A | 150 | 35 | 4.5 | 1 | 1 | 10 | 0.03 + 13 | <1 | | |
| Performance | 66104A | 150 | 60 | 2.5 | I | ı | 15 | 0.03 + 27 | <1 | | |
| Per | 66105A | 150 | 120 | 1.25 | | | | | 25 | 0.03 + 54 | |
| | 66106A | 150 | 200 | 0.75 | | | 50 | 0.03 + 90 | | | |

* NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full.

The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

N3300 and 6060 Series DC Electronic Loads

Programmable loads with measurements

The N3300 and 6060 Series DC electronic loads give you flexibility for testing power supplies and other devices requiring a load. The built-in measurement system provides both accuracy and convenience and eliminates the need for a DMM, external shunts and wiring.

The N3300 multiple-input models are fast, accurate, and ideal for high-volume manufacturing, while single input 6060 models are ideal for evaluation of DC power sources and power components on your bench.

N3300 Multiple Input Electronic Loads

- Increase test throughput with short command processing time and stor command sequences
- Test multiple power supply outputs with up to 6 modules with 150 W to 600 W capability
- Operate in constant current, constant voltage, or constant resistance modes
- Measure voltage and current simultaneously
- Use in parallel for greater current sinking capability
- Computer control with GPIB



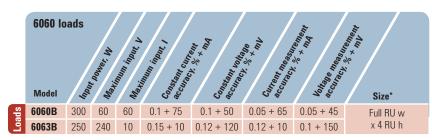
N3300 mainframes

| Model | Max # modules | Physical size* |
|--------|------------------|--------------------|
| N3300A | 6 | Full RU w x 4 RU h |
| N3301A | 2 | ½ RU w x 4 RU h |

| | N3300 ma | dules | Power W exim | Maxi. | Consent cures. | Consider Units | Am + Wall of the Children weeds of the Children weeds of the Children weeds of the Children with the Children was a second of the Children weeds of the Children was a second of the Children | Voltage mesure | Width, "A" ement Storth, |
|-------|----------|-------|-----------------|-------|----------------|----------------|---|----------------|-----------------------------|
| | | | | | | | · | | 7.6 |
| | N3302A | 150 | 60 | 30 | 0.1 + 10 | 0.1 + 8 | 0.05 + 6 | 0.05 + 8 | 1 |
| | N3303A | 250 | 240 | 10 | 0.1 + 7.5 | 0.1 + 40 | 0.05 + 5 | 0.05 + 20 | 1 |
| Loads | N3304A | 300 | 60 | 60 | 0.1 + 15 | 0.1 + 8 | 0.05 + 10 | 0.05 + 8 | 1 |
| Ë | N3305A | 500 | 150 | 60 | 0.1 + 15 | 0.1 + 20 | 0.05 + 10 | 0.05 + 16 | 2 |
| | N3306A | 600 | 60 | 120 | 0.1 + 37.5 | 0.1 + 8 | 0.05 + 20 | 0.05 + 8 | 2 |
| | N3307A | 250 | 150 | 30 | 0.1 + 15 | 0.1 + 20 | 0.05 + 6 | 0.05 + 16 | 1 |

6060 Single Input Electronic Loads

- Cost effective load for single input applications
- Ideal for bench applications, provides optional front panel connection
- · Computer control via GPIB



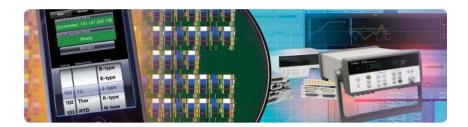
NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full. The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

Agilent AC Power Source/Power Analyzer

An integrated AC power solution

The Agilent AC power source/power analyzer provides precise, accurate measurements and efficient analysis of AC power. These "one-box" solutions let you generate, measure and analyze AC power. Agilent's AC power sources are ideal for power-supply testing, AC-mains CE-mark testing, UPS testing and much more.

- Variety of power levels: 375 VA, 750 VA, and 1750 VA
- Built in measurements for power analysis
- · GPIB computer interface included





6813B

6813B AC power source/power analyzer

| | Model | RMS power | RMS current | RMS voltage | Peak current | DC voltage | Output frequency range |
|---------|-------|--------------|----------------|----------------|-----------------|---------------|------------------------------|
| ces | 6811B | 375 VA | 3.25 A | 300 V | 40 A | 40 V | DC: |
| Sources | 6812B | 750 VA | 6.5 A | 300 V | 40 A | 750 V | 45 Hz to 1 |
| AC | 6813B | 1750 VA | 13 A | 300 V | 80 A | 1750 V | kHz |

N6780 Series Source Measure Units (SMUs)

The N6781A is a 2-quadrant SMU for battery drain analysis. It offers advance features to accurately capture the power consumption of portable, battery-powered devices. When used with the 14585A Software, the N6781A becomes an even more powerful battery drain analysis solution, offering additional insights into your measurements.

The N6782A is a 2-quadrant SMU for function test of a device. It has the ability to modulate its output up to 100 kHz along with the capability to source and sink current.

The N6784A is a 4-quadrant SMU that provides precise sourcing and measurement for general purpose applications.

The N6780 source measure units (SMUs) are modules for the N6705B DC power analyzer mainframe for R&D, and the N6700 low-profile mainframes for ATE.

- Seamless, dynamic measurements down to nA and µV (N6781A and N6782A only)
- Glitch-free operation change sourcing ranges or measurement ranges without any glitches
- Excellent transient response for stable output voltage with dynamic loads
- 2 or 4-quadrant operation: use as a DC power supply or electronic load
- Fast modulation of DC output to create arbitrary waveforms up to 100 kHz
- Computer control via GPIB, USB, and LAN (LXI Core)



| | Flexible/reconfigurable | | | | |
|--------------------|--|--|--|--|--|
| Available Slots | Mainframe accepts up to 4 DC power modules | | | | |
| Power | 600 W total DC module output power | | | | |
| Instrument Control | GPIB, USB, LAN (LXI Class C Compliant) | | | | |

N6780 SMU modules

| | Model | Power (W) | Max voltage (V) | Max current (A) | Ripple and noise (mVp-p) | Programming accuracy % + µV | Transient response (µs) |
|-----------|--------|--------------|--------------------|--------------------|--------------------------|-----------------------------|-------------------------|
| 4 | N6781A | 20 | 20 | ± 3 | 12 | 0.025 + 200 | ≤ 35 |
| Specialty | N6782A | 20 | 20 | ± 3 | 12 | 0.025 + 200 | ≤ 35 |
| ςς | N6784A | 20 | ± 20 | ± 3 | 12 | 0.025 + 200 | ≤ 35 |

14585A Control and Analysis Software

The software for the DC power analyzer compliments the front panel of the N6705 mainframe, offering advanced functionality and PC control. It is a flexible R&D tool for any application. When used to control an N6781A SMU, it can be used for advanced battery drain analysis applications.

- Control and analyze data from up to four N6705 DC power analyzer and any installed modules at once
- Easily create complex waveforms to stimulate or load down a DUT by inputting a formula, choosing from built-in, or importing waveform data.
- Data log measurements directly to a PC
- · Perform statistical analysis of power consumption

B2900A Series Precision Source/Measure Units

The Agilent B2900A Series of Precision Source/ Measure Units are compact and cost-effective bench-top Source/Measure Units (SMUs). These capabilities are ideal for a wide variety of IV (current versus voltage) measurement tasks that require both high resolution and accuracy. The innovative graphical user interface with four viewing modes (single view, dual view, graph view and roll view) improves usability and productivity of bench-top tests, debug and characterization dramatically. The Agilent B2900A series is also well-suited for production with the fast measurement speed.

- Test up to 210 V and 3 A (DC) or 10.5 A (pulsed) with a single instrument
- Source and measurement resolution down to 10 fA and 100 nV
- Innovative GUI facilitate fast bench-top test, debug and characterization
- Ultrafast throughput for lower cost-of-test





| | | | | B2901A | B2902A | B2911A | B2912A |
|-----------|---|-------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|----------|
| | Number of channels | | | 1 | 2 | 1 | 2 |
| | | Voltage | | ± 210 V | ± 210 V | ± 210 V | ± 210 V |
| | Max output | Current | DC | ± 3.03 A | ± 3.03 A | ± 3.03 A | ± 3.03 A |
| | ινιαχ υμιρμι | | Pulsed | ± 10.5 A | ± 10.5 A | ± 10.5 A | ± 10.5 A |
| | | Power | | 31.8 W | 31.8 W | 31.8 W | 31.8 W |
| | | Max digits | Digits | 5 ½ | 5 ½ | 6 ½ | 6 ½ |
| Ţ. | Source | Min resolution | Voltage | 1 μV | 1 μV | 100 nV | 100 nV |
| Specialty | | | Current | 1 pA | 1 pA | 10 fA | 10 fA |
| Sp | | Max Digits | Digits | 6 ½ | 6 ½ | 6 ½ | 6 ½ |
| | Measurement | Max | Voltage | 100 nV | 100 nV | 100 nV | 100 nV |
| | | resolution | Current | 100 fA | 100 fA | 10 fA | 10 fA |
| | Min programmable interval for List sweep/AWG waveform | | | 20 µs | 20 µs | 10 µs | 10 µs |
| | Min trigger interval for digitizing (Max sample rate) | | 20 μs (50,000 pts/s) | 20 μs (50,000 pts/s) | 10 μs (100,000 pts/s) | 10 μs (100,000 pts/s) | |

USB Modular Source Measure Unit

Source and measure DC voltage/current reliably

The Agilent USB modular source measure unit (SMU) allows you to perform sweeps and make measurements using a single device. The SMU offers voltage and current programming/readback with high accuracy measurement capabilities. You can configure each of the three channels separately or in a matrix — in series or parallel — for increased power. It comes bundled with Agilent Measurement Manager (AMM) software that includes a command logger function to help you convert SCPI commands into snippets of VEE, V, C+ and C# code.

- * Three-channel, four-quadrant operation (\pm 20 V, \pm 120 mA)
- High measurement sensitivity of 100 pA with 16-bit resolution
- · 0.1% basic accuracy
- Low current measurement capability down to nA levels
- Embedded test script able to support three channels with coherent source and measurement capabilities (for U2723A)
- IV Curve application support in the Agilent Measurement Manager Software (for U2723A)
- Faster rise/fall time (for U2723A)
- Hi-Speed USB 2.0 (480 Mbps)



U2722A





| Model | U2722A/23A |
|-----------------------------------|-------------------------------|
| Number of outputs | 3 |
| Output ratings (at 0 °C to 50 °C) | |
| Voltage | -20 V to 20 V per channel |
| Current | -120 mA to 120 mA per channel |

| | Model | | U2722A/23A | |
|-----------|--------------------------|----------|------------------|------------|
| | | Range | Accuracy 1 | Resolution |
| | Voltage | ± 2 V | 0.075% + 1.5 mV | 0.1 mV |
| | programming/ readback | ± 20 V | 0.05% + 10 mV | 1 mV |
| | | ± 1 μA | 0.085% + 0.85 nA | 100 pA |
| Specialty | | ± 10 μA | 0.085% + 8.5 nA | 1 nA |
| Spe | Current programming/ | ± 100 μA | 0.075% + 75 nA | 10 nA |
| | readback | ± 1 mA | 0.075% + 750 nA | 100 nA |
| | | ± 10 mA | 0.075% + 7.5 μA | 1 μΑ |
| | | ± 120 mA | 0.1% + 100 μA | 20 μΑ |

| | Model | | U2722A | U2723A |
|-----------|--------------------------|----------|------------|------------|
| | Rise/fall time (ms) 1 | Range | Accuracy 1 | Accuracy 1 |
| | | ± 1 μA | 170.0 | 15.0 |
| | | ± 10 μA | 18.0 | 5.0 |
| Specialty | For resistive | ± 100 μA | 6.0 | 1.0 |
| Spec | measurement ² | ± 1 mA | 1.0 | 1.0 |
| Ť | | ± 10 mA | 1.0 | 1.0 |
| | | ± 120 mA | 1.0 | 1.0 |

- 1 Drive 50% of 1 V or 10 V output with a resistive load. Rise time is from 10% to 90% of program voltage change at maximum current. Fall time is from 90% to 10% of program voltage change at maximum current.
- 2 Measurements obtained are per default bandwidth setting.

Modular Source Monitor Unit Series

The modular source monitor unit (SMU) series provides precision voltage and current source and measurement capabilities. The wide range of available models and advanced measurement features provides a variety of price-performance points for parametric measurement and analysis. Modular product family members enable customization now and provide for future expansion as requirements change, while 2-channel units provide cost-effective solutions for simple test needs. The E5270B is targeted at precision semiconductor device characterization, and the E5260 Series (E5260A, E5262A, and E5263A) is targeted at high-speed production test.

- Modular product family for precision measurement or high speed measurement
- Modularity enable customization now and provides for future expansion as requirements change
- 2-channel units provide cost-effective solutions for simple test needs
- Source and measurement up to 200 V/1A
- Ultra low current measurement down to 0.1 fA
- A Ground Unit (GNDU) is available per mainframe



E5260A high-speed measurement mainframe

Slots: 8
GND sink: 4 A

E5262A 2-channel high-speed source/monitor unit

Fixed configuration: 2 x E5291A GND sink: 2.2 A

E5263A 2-channel high-speed source/monitor unit

Fixed configuration: 1 x E5290A, 1 x E5291A

GND sink: 2.2 A

E5260A modules

| | Module | Description | Max force V | Max force I | Voltage measurement resolution | Current measurement resolution | Required slots |
|--------|--------|--|-------------------|-------------------|--------------------------------------|--------------------------------------|----------------|
| ialty | E5290A | High Speed Type High Power SMU Module | ± 200 | ± 1 | 100 μV | 5 pA | 2 |
| Specia | E5291A | High Speed Type Medium Power SMU Module | ± 100 | ± 0.2 | 100 μV | 5 pA | 1 |

E5270B precision measurement mainframe

Slots: 8 GND sink: 4 A

E5270B modules

| | Module | Description | Max force V | Max force I | Voltage measurement resolution | Current measurement resolution | Required slots |
|-----------|--------|--|-------------------|-------------------|--------------------------------------|--------------------------------|----------------|
| | E5280B | Precision High Power SMU Module | ± 200 | ± 1 | 2 μV | 10 fA | 2 |
| alty | E5281B | Precision Medium Power SMU Module | ± 100 | ± 0.1 | 0.5 μV | 10 fA | 1 |
| Specialty | E5287A | Atto Level High Resolution SMU Module | ± 100 | ± 0.1 | 0.5 μV | 1 fA | 1 |
| | E5288A | Atto Sense and Switch Unit (ASU) for Atto Level High Resolution SMU Module | ± 100 | ± 0.1 | 0.5 μV | 0.1 fA | NA |

Semiconductor Device Analyzer

The B1500A Semiconductor Device Analyzer integrates multiple measurement and analysis capabilities for accurate and quick device characterization into a single instrument. It is the only parameter analyzer with the versatility to provide both a wide range of device characterization capabilities along with uncompromised measurement reliability and repeatability. It supports all aspects of measurement, from fundamental current-voltage (IV) and capacitance-voltage (CV) characterization up to state-of-the-art fast pulsed IV testing. In addition, the B1500A's ten-slot modular architecture allows you to add or upgrade measurement modules if your measurement needs change over time.

Agilent EasyEXPERT, resident GUI-based software running on the B1500A's embedded Windows 7 platform, supports efficient and repeatable device characterization. Furnished with hundreds of ready-to-use measurements (application tests), the B1500A provides an intuitive and powerful environment for test execution and analysis. It facilitates the accurate and fast electrical characterization and evaluation of devices, materials, semiconductors, active/passive components, or virtually any other type of electronic device.



B1500A

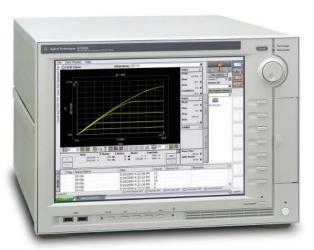
| | Test coverage | Supported module | Key specifications | Key features | |
|-----------|---|--|---|---|--|
| | | B1510A High Power Source/ Measure Unit (HPSMU) | Up to 200 V / 1 A Min 10 fA / 2 μV resolution | • Min 100 µs Sampling (time domain) measurement | |
| | For DC and | B1511B Medium Power Source/Measure Unit (MPSMU) | Up to 100 V/0.1 A Min 10 fA / 0.5 μV resolution Optional ASU for 0.1 fA and IV/CV switching | Min 500 µs pulse width with 100 µs resolution Quasi-static capacitance Spot sween | |
| | pulsed IV measurement | B1517A High Resolution Source/Measure Unit (HRSMU) | Up to 100 V/0.1 A Min 1 fA / 0.5 μV resolution Optional ASU for 0.1 fA and IV/CV switching | voltage (QSCV) measurement with leakage current compensation and other capabilities | |
| Ly. | | B1514A 50 µs Pulse Medium Current Source/Measure Unit (MCSMU) | • Up to 30 V / 1 A (0.1 A DC) | Min 50 µs pulse width with 2 µs resolution Oscilloscope view for precision pulsed measurement | |
| Specialty | For capacitance measurement | B1520A Multi-Frequency Capacitance Measurement Unit (MFCMU) | 1 kHz to 5 MHz frequency range 25 V built-in DC bias and 100 V DC bias with SMU and SCUU | AC impedance measurement (C-V, C-f, C-t) Easy, fast and accurate IV and CV measurements with automated switching via SCUU | |
| | For ultra-fast pulsed and transient IV measurement | B1530A Waveform Generator/Fast Measurement Unit (WGFMU) | 10 ns programmable resolution for waveform generation 200 MSa/s simultaneous high-speed measurement 10 V peak-to-peak output | No load line effects; accurate pulsed IV measurement using SMU-based technology Enabled for advanced applications, such as NBTI/PBTI, RTN, etc. | |
| | For pulse generation | B1525A High Voltage Semiconductor Pulse Generator Unit (HV-SPGU) | - Up to ± 40 V high voltage output | Two-level and three-level pulsing and arbitrary waveform generation capability on each channel Ideal for non-volatile memory testing | |
| | For ultra-fast pulsed high-k/ SOI evaluation | B1542A 10 ns Pulsed IV parametric test solution | Min 10 ns gate pulse width with 2 ns rise and fall times 1 µs current measurement resolution | Accurate Id-Vd and Id-Vg measurement Easy switching between DC and pulsed measurements | |

Power Device Analyzer/Curve Tracer

The Agilent B1505A Power Device Analyzer/Curve Tracer is the only single box solution available with the capability to characterize high power devices from the sub-picoamp level up to 10 kV and 1500 A. This capability allow evaluation of novel new device such as IGBT and materials such as GaN and SiC.

- All-in-one solution for current-voltage (IV) from sub-pA up to 10 kV and 1500 A
- Capacitance-voltage (CV) at up to 3000V of DC bias
- 10µs high power pulse measurement
- $\mu\Omega$ on-resistance measurement capability
- Oscilloscope View for voltage / current pulse verification
- MS Windows-based EasyEXPERT software simplifies data management and data analysis
- Upgradable and scalable hardware architecuture





B1505A Power device analyzer/curve tracer

Slots: 1

| | Measurement resources | Required module/expander | Required slots | Main specification |
|-----------|--|-------------------------------|----------------|--|
| | High Power SMU (HPSMU) | B1510A HPSMU | 2 | Up to 200 V, 1 A force, 10 fA current resolution |
| | Medium Power SMU (MPSMU) | B1511A MPSMU | 1 | Up to 100 V, 100 mA force, 10 fA current resolution |
| | High Current SMU (HCSMU) | B1512A HCSMU | 2 | 20 A/20 V (Pulsed); 1 A/40 V (DC) *1 |
| | High Voltage SMU (HVSMU) | B1513B HVSMU | 2 | 1500 V/8 mA; 3000 V/4 mA; (Pulsed and DC) |
| Specialty | Medium Current SMU (MCSMU) | B1514A MCSMU | 1 | 1 A/30 V (Pulsed); 100 mA/30 V (DC) |
| Spe | Multi Frequency Capacitance Measurement Unit (MFCMU) | B1520A MFCMU | 1 | 1 kHz to 5 MHz. 0 to ±25 V, using MFCMU internal DC bias |
| | High Voltage Medium Current Unit (HVMCU) | M1266A, B1513B, 2 x B1514A | 4 | ±1500 V/2.5 A (Pulsed), ±2200 V/1.1 A (Pulsed) |
| | Ultra High Current Unit (UHCU) | N1265A, 2 x B1514A | 2 | 1500 A/60 V (Pulsed), 22.5 kW peak power |
| | Ultra High Voltage Unit (UHVU) | N1268A, 2 x B1514A | 2 | 10 kV/10 mA (DC), 10 kV/20 mA (Pulsed) |

^{*1.} The current ranges can be increased to 40 A/20 V (pulsed) and 2 A/40 V (DC using two HCSMUs with the Dual HCSMU combination adapter.

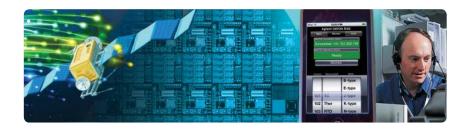
N6783A Application-Specific Modules

The Agilent N6783A-BAT Battery Charge/Discharge Module is a basic, 2-quadrant module designed to be used by battery-powered (mobile) device designers. The N6783A-BAT's 2-quadrant operation allows it to act as a power supply to charge the battery or as an electronic load to discharge the battery. When used in the N6705B DC Power Analyzer mainframe along with the 14585A Control and Analysis software, short-and long-term measurements for battery validation are made easy.

The Agilent N6783A-MFG Mobile Communications DC Power Module offers advanced features specifically for testing battery-powered (mobile) devices in manufacturing. The N6783A-MFG offers fast, accurate measurements and excellent voltage transient response to address the unique challenges associated with testing mobile wireless devices.

The N6783A-BAT and N6783A-MFG modules can be used with the N6700 low-profile mainframes for ATE and with the N6705B DC power analyzer mainframe for R&D.

- Optimized for basic battery charge/ discharge application (N6783A – BAT)
- Optimized for mobile device manufacturing test (N6783A-MFG)
- Fast transient response ensures stable power supply output voltage
- Digitizing measurement system for flexible, accurate current measurements
- USB, LAN (LXI Core), and GPIB interfaces





N6700 modular power system mainframe

| Model | Power, (W) | Max # modules |
|--------------------------------|------------|---------------|
| N6700B low-profile (ATE) | 400 | 4 |
| N6701A low-profile (ATE) | 600 | 4 |
| N6702A low-profile (ATE) | 1200 | 4 |
| N6705B DC power analyzer (R&D) | 600 | 4 |

N6783 Application-specific modules

| | Model | Power (W) | Max voltage (V) | Max current (A) | Ripple and noise (mVp-p) | Programming accuracy % + µV | Transient response (µs) |
|-----------|----------------|--------------|--------------------|--------------------|--------------------------|-----------------------------|-------------------------|
| Specialty | N6783A- BAT | 24 | 8 | +3 to -2 A | 8 | 0.1 + 10 | ≤ 45 |
| | N6783A- MFG | 18 | 6 | +3 to -2 A | 8 | 0.1 + 10 | ≤ 45 |



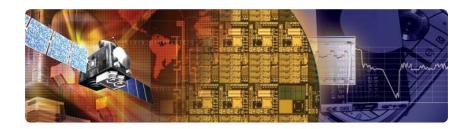
66300 Mobile Communications DC Sources

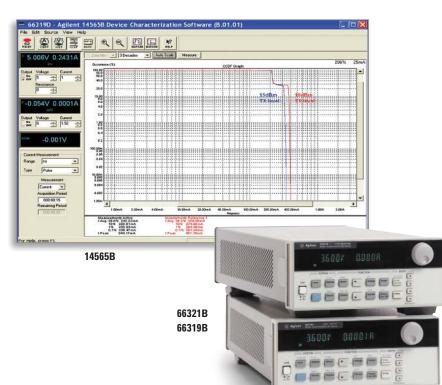
66300 mobile communications power supplies are designed and optimized to help you test mobile wireless devices. They provide the DC sourcing, current sinking, and measurement capabilities to address the unique challenges of simulating batteries and battery packs and measuring the current drawn by your device under test.

- Fast DC power source to replace and simulate the battery during testing
- Fast voltage transient response ensures maximum test-system throughput by minimizing device shutdowns
- Dynamic measurement system enables accurate current measurement from µA to A
- When the 66319B/D and 66321B/D are coupled with the 14565B Software, it gives you a powerful analysis tool to optimize your device designs for long battery life

Agilent 14565B Device Characterization Software

- Graphical user software no programming required
- 3 modes of operation: waveform capture, data logging, CCDF statistical analysis
- Visualization and analysis tools to help you identify anomalies and characterize and quantify battery drain to optimize your design
- Automation capability allows you to control the 14565B from other programs to automate and synchronize DUT activity with current drain measurements





| | Model | Domor O | Morimin V.V. | Marinum 1(4) | Minne | Numb of output | Ripni enge | Programming & | Transi | Size* |
|-----------|----------|---------|--------------|--------------|-------|----------------|------------|---------------|--------|--------|
| | 66309B/D | 45 | 15 | 3 (5 A peak) | 2 | | 6 | 0.05 + 10 | <35 | |
| <u>2</u> | 66311B | 45 | 15 | 3 (5 A peak) | 1 | | 6 | 0.05 + 10 | <35 | ½ RU w |
| Specialty | 66319B/D | 45 | 15 | 3 (5 A peak) | 2 | 1 | 6 | 0.05 + 10 | <20 | х |
| Sp | 66321B/D | 45 | 15 | 3 (5 A peak) | 1 | | 6 | 0.05 + 10 | <20 | 2 RU h |
| | 66332A | 100 | 20 | 5 | 2 | | 3 | 0.05 + 10 | <100 | |

* NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full.

The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)

E4360 Modular Solar Array Simulation

The modular solar array simulator (SAS) is a DC power source that simulates the output characteristics of a solar array. The SAS is primarily a current source with very low output capacitance. It is capable of simulating the I-V curve of different arrays under different environmental conditions (temperature, age, etc.). You can set the I-V curve from the front panel or program it over GPIB, LAN (LXI Core) or USB.

- Accurate simulation of any type of solar array
- Small size: up to 2 outputs in 2U of rack space
- High output power—up to 600 W per output
- Fast I-V curve changes to simulate eclipse or spin
- 14360A System Control Tools software included to simplify control of multiple solar array simulators in a system
- Custom turn-key system or individual instruments available

E4360A SAS mainframe



E4360 modular solar array simulator mainframes

| | Model | Power, W | Modules | Max # of modules | Physical size* |
|-----------|--------|-------------|-------------------------------|------------------|--------------------|
| <u>.</u> | E4360A | 1200 | Choose from E4361A and E4362A | 2 | Full RU w x 2 RU h |
| Specialty | E4367A | | Pre-configured with 2x E4361A | | Full RU w x 1 RU h |
| | E4368A | | Pre-configured with 2x E4362A | | Full RU w x 1 RU h |

E4360A modules



E4360 modules

| | Model | Power, W | Max Voc | Max Isc | Number of outputs | Ripple and noise mVp-p | Programming accuracy % + mV |
|------|--------|-------------|------------|------------|-------------------|---------------------------|-----------------------------------|
| alty | E4361A | 510 | 65 | 8.5 | 1 | 125 | 0.075 + 10 |
| obec | E4362A | 600 | 130 | 5 | | 195 | 0.075 + 20 |

^{*} NOTE: RU refers to rack unit of a standard 19" EIA equipment rack. The width is either 1/2 or full. The height is in number of rack units which are 1.75" (44.4 mm) each. For example: a 3 RU h has a height of 5.25" (133.3 mm)



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