

High Performance DC Power Supplies speed and accuracy for test optimization



6621A-6624A, 6627A

Multiple-Output 40 W-105 W GPIB

- Up to four fully isolated power supplies in a 3 U package
- Dual-range outputs
- Fast, low-noise outputs
- Built-in measurements and advanced programmable features
- Protection features to ensure DUT safety

Two, three, or four isolated outputs are integrated into one package, conserving rack space and GPIB addresses. Most of the outputs also provide dual ranges, for more current at lower voltage levels. The outputs can be connected in parallel or series to further increase the flexibility that these products offer the system designer.

Programming is done using industry standard SCPI commands. Test system integration can be further simplified by using the *VXIPlug&Play* drivers. These power supplies help reduce test time with fast up and down programming, which is enhanced by an active downprogrammer which can sink the full rated current.

Application Notes:

10 Practical Tips You Need to Know About Your Power Products
5965-8239E

10 Hints for Using Your Power Supply to Decrease Test Time
5968-6359E

Understanding Linear Power Supply Operation
(AN1554)
5989-2291EN

Modern Connectivity - Using USB and LAN I/O Converters
(AN 1475-1)
5989-0123EN

Specifications

(at 0° to 55° C unless otherwise specified)

		40 W output	40 W output	80 W output	80 W output	105 W output
Output power	Low-range volts, amps	0 to 7 V, 0 to 5 A	0 to 20 V, 0 to 2 A	0 to 7 V, 0 to 10 A	0 to 20 V, 0 to 4 A	0-35 V, 0-3 A
	High range volts, amps	0 to 20 V, 0 to 2 A	0 to 50 V, 0 to 0.8 A	0 to 20 V, 0 to 4 A	0 to 50 V, 0 to 2 A	—
Output combinations for each model (total number of outputs)	6621A (2)	—	—	2	—	—
	6622A (2)	—	—	—	2	—
	6623A (3)	1	1	1	—	—
	6624A (4)	2	2	—	—	—
	6627A (4)	—	4	—	—	—
	6623A(3) Special Order Option J03	—	2	—	—	1
Programming accuracy	Voltage	19 mV + 0.06%	50 mV + 0.06%	19 mV + 0.06%	50 mV + 0.06%	35 mV + 0.06%
	Current	50 mA + 0.16%	20 mA + 0.16%	100 mA + 0.16%	40 mA + 0.16%	30 mA + 0.16%
Readback accuracy (at 25°C ±5°C)	Voltage	20 mV + 0.05%	50 mV + 0.05%	20 mV + 0.05%	50 mV + 0.05%	35 mV + 0.05%
	+Current	10 mA + 0.1%	4 mA + 0.1%	20 mA + 0.1%	8 mA + 0.1%	6 mA + 0.1%
	-Current	25 mA + 0.2%	8 mA + 0.2%	50 mA + 0.2%	20 mA + 0.2%	15 mA + 0.2%
Ripple and noise (peak-to-peak, 20 Hz to 20 MHz; rms, 20 Hz to 10 MHz)	Constant voltage rms	500 µV	500 µV	500 µV	500 µV	500 µV
	peak-to-peak	3 mV	3 mV	3 mV	3 mV	3 mV
	Constant current rms	1 mA	1 mA	1 mA	1 mA	1 mA
	Load regulation	Voltage	2 mV	2 mV	2 mV	2 mV
	Current	1 mA	0.5 mA	2 mA	1 mA	2 mA
Load cross regulation	Voltage	1 mV	2.5 mV	1 mV	2.5 mV	N/A
	Current	1 mA	0.5 mA	2 mA	1 mA	N/A
Line regulation	Voltage	0.01% + 1 mV	0.01% + 1 mV	0.01% + 1 mV	0.01% + 1 mV	0.01% + 1 mV
	Current	0.06% + 1 mA	0.06% + 1 mA	0.06% + 1 mA	0.06% + 1 mA	0.06% + 1 mA

Transient response time Less than 75 µs for the output to recover to within 75 mV of nominal value following a load change within specifications

More detailed specifications at www.agilent.com/find/6620

Multiple-Output: 40 W-105 W GPIB (Continued)

Specifications

(at 0° to 55°C unless otherwise specified)

40 W output	40 W output	80 W output	80 W output	105 W output
-------------	-------------	-------------	-------------	--------------

Supplemental Characteristics

(Non-warranted characteristics determined by design and useful in applying the product)

Average programming resolution	Voltage	6 mV	15 mV	6 mV 20 mV (high)	6 mV 20 mV (high)	10.5 mV
	Current	25 mA	10 mA	50 mA 20 mA (high)	50 mA 20 mA (high)	15 mA
OVP		100 mV	250 mV	100 mV 2	50 mV	175 mV
Output programming response time (time to settle within 0.1% of full scale output, after Vset command has been processed)		2 ms	6 ms	2 ms	6 ms	6 ms

Supplemental Characteristics for all model numbers

DC Floating Voltage: All outputs can be floated up to ±240 Vdc from chassis ground

Remote Sensing: Up to 1 V drop per load lead. The drop in the load leads is subtracted from the voltage available for the load.

Command Processing Time: 7 ms typical with front-panel display disabled

Down Programming: Current sink limits are fixed approximately 10% higher than source limits for a given operating voltage above 2.5 V

Input Power: 550 W max., 720 VA max.

GPIB Interface Capabilities: SH1, AH1, T6, L4, SR1, RL1, PP1, DC1, DT0.

Software Driver:
VXIPlug&Play

Regulatory Compliance: Listed to UL1244; conforms to IEC 61010-1; carries the CE mark.

Size: 425.5 mm W x 132.6 mm H x 497.8 mm D (16.75 in x 5.22 in x 19.6 in)

Weight: Net, 17.4 kg (38 lb); shipping, 22.7 kg (50 lb)

Warranty Period: One year

Ordering Information

- Opt 100** 87 to 106 Vac, 47 to 66 Hz Input, 6.3 A (Japan only)
- Opt 120** 104 to 127 Vac, 47 to 63 Hz
- Opt 220** 191 to 233 Vac, 47 to 66 Hz, 3.0 A
- Opt 240** 209 to 250 Vac, 47 to 66 Hz, 3.0 A
- Opt 750** Relay Control and DFI/RI
- Opt S50** similar to option 750, however the remote inhibit does not latch
- * **Opt 908** Rack-mount Kit (p/n 5062-3977)
- * **Opt 909** Rack-mount Kit w/Handles (p/n 5063-9221)
- Opt 0L1** Full documentation on CD-ROM, and printed standard documentation package

- Opt 0L2** Extra copy of standard printed documentation package
- Opt 0B0** Full documentation on CD-ROM only
- Opt 0B3** Service Manual

* Support rails required

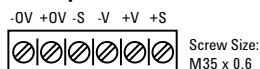
Accessories

- p/n 1494-0059** Rack Slide Kit
- E3663A** Support rails for Agilent rack cabinets

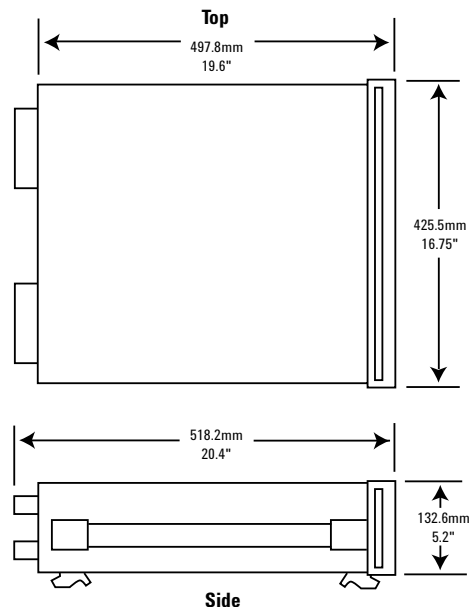
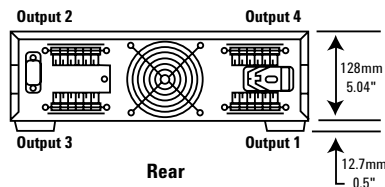
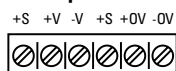
Agilent Models: 6621A, 6622A, 6623A, 6624A, 6627A

Terminal Strip Detail

Output 2 & 3



Output 1 & 4





6625A, 6626A, 6628A, 6629A

Precision Multiple-Output 25 W-50 W GPIB

- Up to four fully isolated power supplies in a 3 U package
- Fast, low-noise outputs
- Dual-range, precision low current measurement
- Built-in measurements and advanced programmable features
- Protection features to ensure DUT safety

Two or four isolated outputs are integrated into one package, conserving rack space and GPIB addresses. Dual ranges allow for more current at lower voltage levels. The outputs can be connected in parallel or series to further increase the flexibility that these products offer the system designer. Programming is done using industry standard SCPI commands and test system integration can be further simplified by using the *VXIPlug&Play* drivers. These power supplies help reduce test time with fast up and down programming, which is enhanced by the active down-programmer which can sink the full rated current.

These power supplies are very useful on the R&D bench. The accuracy of both the programming and the measurement systems allow precise control and monitoring of prototype bias power. The extensive protection features protect valuable prototypes, including very fast CV/CC crossover. The power supply can be controlled from either the front panel keypad or, for automated testing, from the GPIB.

Specifications

(at 0° to 55° C unless otherwise specified)

		25 W output	50 W output
Output power	Low-range volts, amps	0 to 7 V, 0 to 15 mA	0 to 16 V, 0 to 200 mA
	High range volts, amps	0 to 50 V, 0 to 500 mA	0 to 50 V, 0 to 1 A or 0 to 16 V, 0 to 2 A
Output combinations for each model (total number of outputs)	6625A (2) Precision	1	1
	6626A (4) Precision	2	2
	6628A (2) Precision	—	2
	6629A (4) Precision	—	4
Programming accuracy (at 25°C ±5°C)	Voltage	1.5 mV + 0.016% (low) 10 mV + 0.016% (high)	3 mV + 0.016% (low) 10 mV + 0.016% (high)
	Current	15 µA + 0.04% (low) 100 µA + 0.04% (high)	185 µA + 0.04% (low) 500 µA + 0.04% (high)
Readback accuracy (at 25°C ±5°C)	Voltage	0.016% + 2 mV (low) 0.016% + 10 mV (high)	0.016% + 3.5 mV (low) 0.016% + 10 mV (high)
	+/-Current	0.03% + 15 µA (low) 0.03% + 130 µA (high)	0.04% + 250 µA (low) 0.04% + 550 µA (high)
Ripple and noise (peak-to-peak, 20 Hz to 20 MHz; rms, 20 Hz to 10 MHz)	Constant voltage rms	500 µV	500 µV
	peak-to-peak	3 mV	3 mV
Load regulation	Constant current rms	0.1 mA	0.1 mA
	Voltage	0.5 mV	0.5 mV
Load cross regulation	Current	0.005 mA	0.01 mA
	Voltage	0.25 mV	0.25 mV
Line regulation	Current	0.005 mA	0.01 mA
	Voltage	0.5 mV	0.5 mV
Transient response time change within specifications	Current	0.005 mA	0.01 mA
	Voltage	0.5 mV	0.5 mV
Supplemental Characteristics		(Non-warranted characteristics determined by design and useful in applying the product)	
Average programming resolution	Voltage	25-watt output	50-watt output
		460 µV (low) 3.2 mV (high)	1 mV (low) 3.2 mV (high)
	Current	1 µA (low) 33 µA (high)	13 µA (low) 131 µA (high)
		OVP	230 mV
Output programming response time		6 ms	6 ms

(time to settle within 0.1% of full scale output, after Vset command has been processed)

More detailed specifications at www.agilent.com/find/6620

Precision Multiple-Output: 25 W-50 W GPIB (Continued)

Application Notes:

10 Practical Tips You Need to Know About Your Power Products
5965-8239E

10 Hints for Using Your Power Supply to Decrease Test Time
5968-6359E

Understanding Linear Power Supply Operation
(AN1554)
5989-2291EN

Modern Connectivity - Using USB and LAN I/O Converters
(AN 1475-1)
5989-0123EN

Supplemental Characteristics for all model numbers

DC Floating Voltage: All outputs can be floated up to ± 240 Vdc from chassis ground

Remote Sensing: Up to 10 V drop per load lead. The drop in the load leads is subtracted from the voltage available for the load.

Command Processing Time: 7 ms typical with front-panel display disabled

Input Power: 550 W max., 720 VA max.

GPIB Interface Capabilities: SH1, AH1, T6, L4, SR1, RL1, PP1, DC1, DT0, C0, E1.

Software Driver:
VXIPlug&Play

Regulatory Compliance: Listed to UL 1244; conforms to IEC 61010-1.

Size: 425.5 mm W x 132.6 mm H x 497.8 mm D (16.75 in x 5.22 in x 19.6 in)

Weight: 6626A, 6629A: Net, 17.4 kg (38 lb); shipping, 22.7 kg (50 lb) 6625A, 6628A: Net, 15.5 kg (34 lb); shipping, 20.8 kg (46 lb)

Warranty Period: One year

Ordering Information

- Opt 100** 87 to 106 Vac, 47 to 66 Hz Input, 6.3 A (Japan only)
- Opt 120** 104 to 127 Vac, 47 to 63 Hz
- Opt 220** 191 to 233 Vac, 47 to 66 Hz, 3.0 A
- Opt 240** 209 to 250 Vac, 47 to 66 Hz, 3.0 A
- Opt 750** Relay Control and DFI/RI
- Opt S50** Similar to option 750, however the remote inhibit does not latch
- * **Opt 908** Rack-mount Kit (p/n 5062-3977)
- * **Opt 909** Rack-mount Kit w/Handles (p/n 5063-9221)
- Opt 0L1** Full documentation on CD-ROM, and printed standard documentation package

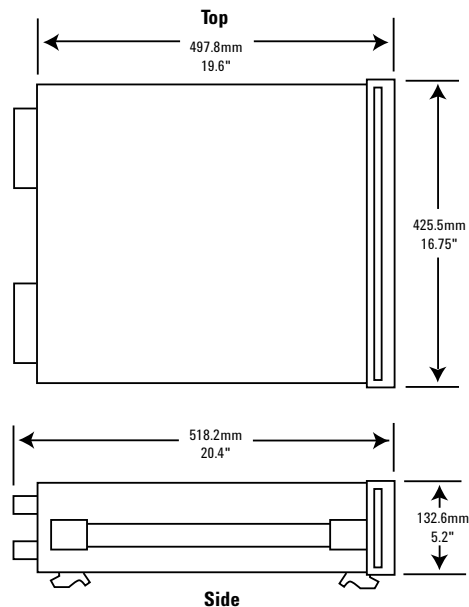
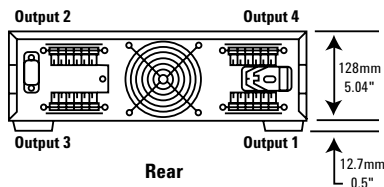
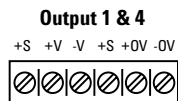
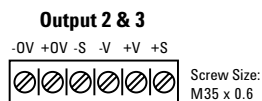
- Opt 0L2** Extra copy of standard printed documentation package
- Opt 0B0** Full documentation on CD-ROM only
- Opt 0B3** Service Manual
- * Support rails required

Accessories

- p/n 1494-0059 Rack Slide Kit
- E3663AC Support rails for Agilent rack cabinets

Agilent Models: 6625A, 6626A, 6628A, 6629A

Terminal Strip Detail



**Your Requested Excerpt from the
Agilent System and Bench Instruments Catalog 2006**

The preceding page(s) are an excerpt from the 2006 System and Bench Instruments Catalog. We hope that these pages supply the information that you currently need. If you would like to have further information about the extensive selection of Agilent DC power supplies, please visit www.agilent.com/find/power to print a copy of the complete catalog, or to request that a copy be sent to you. You will also find a lot of other useful information on this Web site.

In the full System and Bench Instruments Catalog, you will find that Agilent offers much more than DC power supplies. This catalog contains detailed technical and application information on digital multimeters, DC power supplies, arbitrary waveform generators, and many more instruments. If you need basic, clean, power for your lab bench, it's there. In each power product category we have also integrated the capabilities you need for a complete power solution, including extensive measurement and analysis capabilities.

Please give us a call at your local Agilent Technologies sales office, or call a regional office listed, for assistance in choosing or using Agilent power products.

Keep up to date with Agilent's Test and Measurement Email Updates

As an Email Update subscriber, you will receive periodic customized email updates that match the areas of interest that you have specified. Your update will include products and services, applications and support information, events and promotions. Sign up today at www.agilent.com/find/emailupdates. Check off DC power supplies, AC power sources or electronic loads on your registration form, and we will promptly let you know what's new in power products. Our Privacy Statement at www.agilent.com/go/privacy describes our commitment to you regarding your privacy.

www.agilent.com

For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office. The complete list is available at:

www.agilent.com/find/contactus

Phone or Fax

United States:

(tel) 800 829 4444
(fax) 800 829 4433

Canada:

(tel) 877 894 4414
(fax) 800 746 4866

China:

(tel) 800 810 0189
(fax) 800 820 2816

Europe:

(tel) 31 20 547 2111

Japan:

(tel) (81) 426 56 7832
(fax) (81) 426 56 7840

Korea:

(tel) (080) 769 0800
(fax) (080) 769 0900

Latin America:

(tel) (305) 269 7500

Taiwan:

(tel) 0800 047 866
(fax) 0800 286 331

Other Asia Pacific Countries:

(tel) (65) 6375 8100
(fax) (65) 6755 0042
Email: tm_ap@agilent.com
Contacts revised: 09/26/05

Product specifications and descriptions in this document subject to change without notice.

© Agilent Technologies, Inc. 2006
Printed in the USA, February 8, 2006

