

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 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

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 |

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

* Support rails required

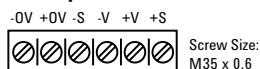
Accessories

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

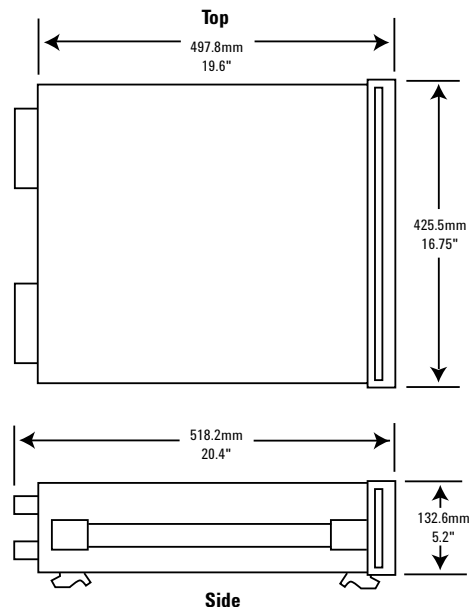
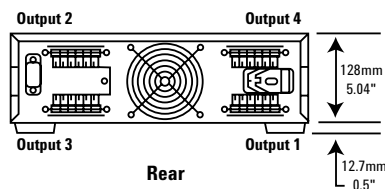
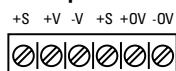
Agilent Models: 6621A, 6622A, 6623A, 6624A, 6627A

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 | 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)

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Supplemental Characteristics for all model numbers

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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
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- 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

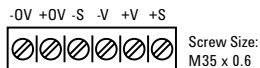
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- E3663AC Support rails for Agilent rack cabinets

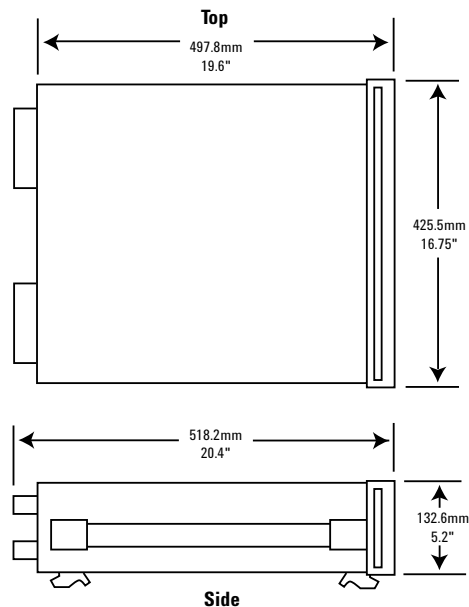
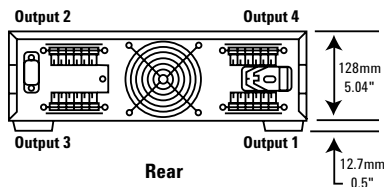
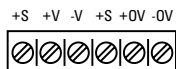
Agilent Models: 6625A, 6626A, 6628A, 6629A

Terminal Strip Detail

Output 2 & 3



Output 1 & 4



**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.

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