6610C Series Single-Output, 40-50 W GPIB Power Supplies

Data Sheet

Speed and accuracy for test optimization

- Small, compact size for bench and system use
- Fast, low-noise outputs
- Dual-range, precision low current measurement
- Built-in measurements and advanced programmable features
- Protection features to ensure DUT safety

This series of linear-regulated 40-50 W DC power supplies is designed to maximize the throughput of DUTs through the manufacturing test process with fast programming and measurement, and also active downprogramming. It offers many advanced programmable features including stored states and status reporting. Programming is done using industry standard SCPI commands via the GPIB or RS-232. Test system integration is further simplified by using the VXI*plug&play* drivers. The optional relays simplify system design and troubleshooting.

The half-rack size of the 6610C series makes it a convenient DC power supply for the R&D lab bench. The built-in microamp measurement system helps the engineer to easily and accurately monitor the output voltage and current without a complicated test setup.

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Specifications

Specifications *(at 0 ° to 55 °C unless otherwise specified)*	**6611C**	**6612C**	**6613C**	**6614C**	**6611C-J05** Special order option
Number of outputs	1	1	1	1	1
GPIB	Yes	Yes	Yes	Yes	Yes
Output ratings					
Voltage	0 to 8 V	0 to 20 V	0 to 50 V	0 to 100 V	0 to 10 V
Current	0 to 5 A	0 to 2 A	0 to 1 A	0 to 0.5 A	0 to 5 A
Programming accuracy (at 25 °C ± 5 °C)					
Voltage	5 mV	10 mV	20 mV	50 mV	5 mV
+Current 0.05% +	2 mA	1 mA	0.75 mA	0.5 mA	2 mA
Ripple and noise 20 Hz to 20 MHz, with outputs ungrounded or with either terminal grounded					
Voltage rms	0.5 mV	0.5 mV	0.5 mV	0.5 mV	0.5 mV
peak-to-peak	3 mV	3 mV	4 mV	5 mV	3 mV
Normal mode rms	2 mA	1 mA	1 mA	1 mA	2 mA
DC measurement accuracy via GPIB or front-panel meters with respect to actual output at 25 °C ± 5 °C					
Voltage 0.03% +	2 mV	3 mV	6 mV	12 mV	2 mV
Low current range					
–20 mA to + 20 mA 0.1% +	2.5 µA	2.5 µA	2.5 µA	2.5 µA	2.5 µA
High current range					
+20 mA to + rated I 0.2% +	0.5 mA	0.25 mA	0.2 mA	0.1 mA	0.5 mA
–20 mA to – rated I 0.2% +	1.1 mA	0.85 mA	0.8 mA	0.7 mA	1.1 mA
Load regulation					
Voltage	2 mV	2 mV	4 mV	5 mV	2 mV
Current	1 mA	0.5 mA	0.5 mA	0.5 mA	1 mA
Line regulation					
Voltage	0.5 mV	0.5 mV	1 mV	1 mV	0.5 mV
Current	0.5 mA	0.5 mA	0.25 mA	0.25 mA	0.5 mA

Transient response time

Less than 100 µs for the output to recover to its previous level (within 0.1% of the voltage rating of the supply or 20 mV, whichever is greater) following any step change in load current of up to 50% of the output current rating of the supply

Supplemental characteristics *(Non-warranted characteristics determined by design and useful in applying the product)*	**6611C**	**6612C**	**6613C**	**6614C**	**6611C-J05** Special order option
Average programming resolution					
Voltage	2 mV	5 mV	12.5 mV	25 mV	3 mV
Current	1.25 mA	0.5 mA	0.25 mA	0.125 mA	1.25 mA
Sink current	3 A	1.2 A	0.6 A	0.3 A	3 A

Supplemental characteristics for all model numbers

DC floating voltage: Output terminals can be floated up to ± 240 VDC maximum from chassis ground

Remote sensing: Up to two volts dropped in each load lead. Add 2 mV to the voltage load regulation specification for each one volt change in the positive output lead due to load current change.

Command processing time: Average time required for the output voltage to begin to change following receipt of digital date is 4 ms for the power supplies connected directly to the GPIB.

Output programming response time: The rise and fall time (10/90% and 90/10%) of the output voltage is less than 2 ms. The output voltage change settles within 1 LSB (0.025% x rated voltage) of final value in less than 6 ms.

GPIB interface capabilities: IEEE-488.2, SCPI command set, and 6610A/B Series programming compatibility

Input power: (full load): 1.6 A, 100 W (6611C: 2.2 A, 120 W)

Regulatory compliance: Complies with EMC directive 89/336/EEC (ISM 1B).

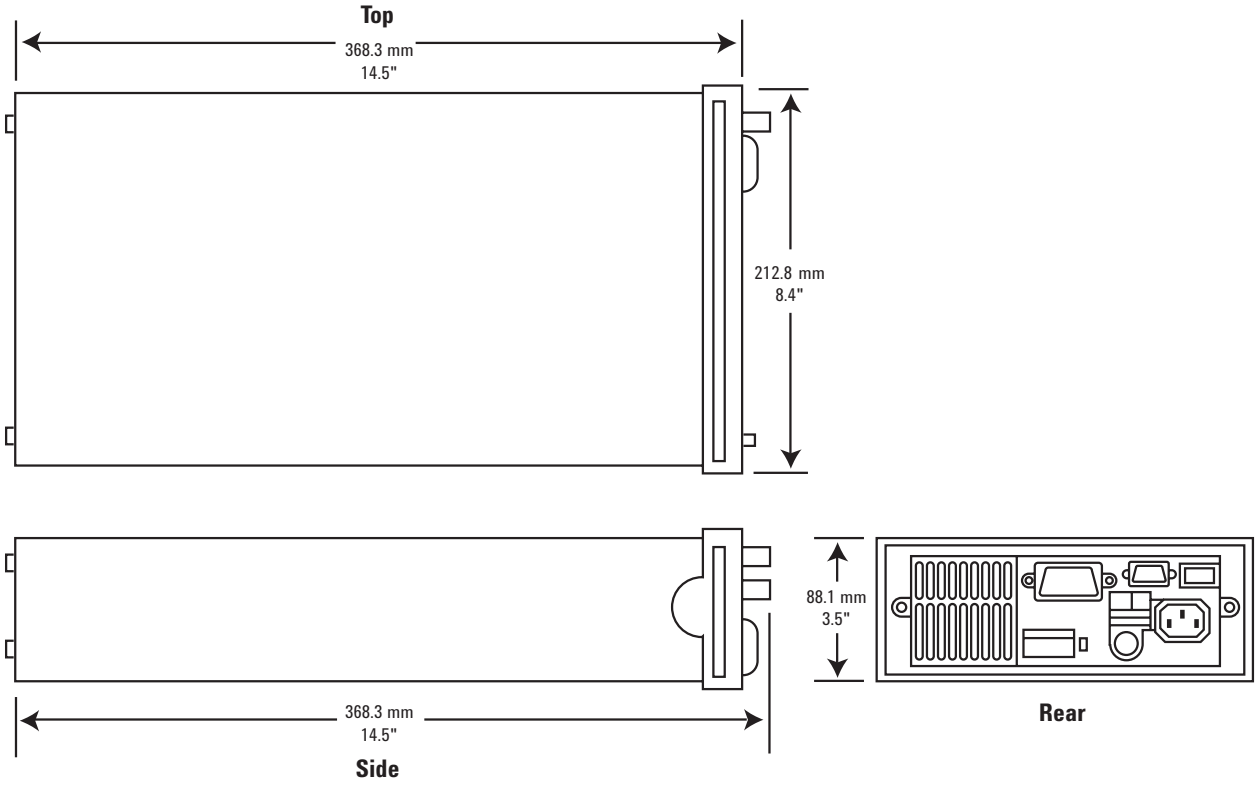
Software driver: VXI*plug&play*

Size: 212.8 mm W x 88.1 mm H x 368.3 mm D (8.4 in x 3.5 in x 14.5 in)

Weight: 8.2 kg (18.16 lb) net; 10.6 kg (23.5 lb) shipping

Warranty: One year

Agilent models: 6611C, 6612C, 6613C, 6614C, 6611C-J05



Ordering information

Opt 100 87 to 106 VAC, 47 to 63 Hz
Opt 120 104 to 127 VAC, 47 to 63 Hz
Opt 220 191 to 233 VAC, 47 to 63 Hz
Opt 230 207 to 253 VAC, 47 to 63 Hz
Opt 760 Isolation and reversal relays
Opt 87J Removes feet for use in rack system

Opt 0L1 Full documentation on CD-ROM, and printed standard documentation package. CD-ROM includes User's Guide, Programming Guide, Service Manual and Quick Start Guide
Opt 0B3 Printed service manual

Accessories

p/n 1494-0015 Rack slide kit
E3663AC Support rails for Agilent rack cabinets
1CM002A* Rack mount flange kit 88.1 mm H (2U), 1.5 inch hole space for side by side mounting of two units. Requires lock link kit (and support rails)
5061-9694 Lock link kit
1CM024A* Rack mount flange kit 88.1 mm H (2U), one bracket, one half-module bracket, and filler panel

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

* Support rails required

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