



Single-Output: 200 W GPIB



6641A - 6645A

- Increase test throughput with fast up and down programming time
- Protect valuable assemblies with fast protection features
- Proven reliability
- Low ripple and noise

This series of 200 W linear-regulated dc power supplies is designed to maximize the throughput of DUTs through the manufacturing test process with fast up and down programming time.

Valuable assemblies can be destroyed by a minor component failure that can allow a surge of voltage or current to flow to the DUT. Fast protection features, including fast crowbar, mode crossover protection, and the ability to connect the protection circuitry of multiple power supplies can increase production yield.

Programming of the dc output and the protection features can be done either from the front panel or using industry standard SCPI commands, via the GPIB. Using the serial link, up to 16 power supplies can be connected through one GPIB address. Test system integration can be further simplified by using the *VXIPlug&Play* drivers. The output voltage and current can also be controlled with analog signals. This is helpful for certain types of noisy environments, and also immediate reactions to process changes.

Lab bench use is enhanced by the fan speed control, which helps to minimize the acoustic noise.

Specifications

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

	6641A	6642A	6643A	6644A	6645A
Number of outputs	1	1	1	1	1
GPIB	Yes	Yes	Yes	Yes	Yes
Output ratings					
Output voltage	0 to 8 V	0 to 20 V	0 to 35 V	0 to 60 V	0 to 120 V
Output current (40° C)	0 to 20 A	0 to 10 A	0 to 6 A	0 to 3.5 A	0 to 1.5 A
Maximum current (50° C/55° C)	18 A/17 A	9 A/8.5 A	5.4 A/5.1 A	3.2 A/3 A	1.4 A/1.3 A
Programming accuracy at 25° C ±5° C					
Voltage	0.06% + 5 mV	10 mV	15 mV	26 mV	51 mV
Current	0.15% + 26 mA	13 mA	6.7 mA	4.1 mA	1.7 mA
Ripple and noise from 20 Hz to 20 MHz					
Voltage rms	300 μV	300 μV	400 μV	500 μV	700 μV
peak-peak	3 mV	3 mV	4 mV	5 mV	7 mV
Current rms	10 mA	5 mA	3 mA	1.5 mA	1 mA
Readback accuracy at 25° C ±5° C (percent of reading plus fixed)					
Voltage	0.07% + 6 mV	15 mV	25 mV	40 mV	80 mV
+Current	0.15% + 18 mA	9.1 mA	5 mA	3 mA	1.3 mA
-Current	0.35% + 40 mA	20 mA	12 mA	6.8 mA	2.9 mA
Load regulation					
Voltage	1 mV	2 mV	3 mV	4 mV	5 mV
Current	1 mA	0.5 mA	0.25 mA	0.25 mA	0.25 mA
Line regulation					
Voltage	0.5 mV	0.5 mV	1 mV	1mV	2 mV
Current	1 mA	0.5 mA	0.25 mA	0.25 mA	0.25 mA
Transient response time	Less than 100 μs for the output voltage 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 rated current				
Supplemental Characteristics	(Non-warranted characteristics determined by design and useful in applying the product)				
Average resolution					
Voltage	2 mV	5 mV	10 mV	15 mV	30 mV
Current	6 mA	3 mA	2 mA	1.2 mA	0.5 mA
OVP	13 mV	30 mV	54 mV	93 mV	190 mV
OVP accuracy	160 mV	400 mV	700 mV	1.2 V	2.4 V



Single-Output: 200 W GPIB (Continued)

Supplemental Characteristics for all model numbers

dc Floating Voltage: Output terminals can be floated up to ± 240 Vdc from chassis ground

Remote Sensing: Up to half the rated output voltage can be dropped in each load lead. The drop in the load leads subtracts from the voltage available for the load.

Command Processing Time: Average time required for the output voltage to begin to change following receipt of digital data is 20 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 15 ms. The output voltage change settles within 1 LSB (0.025% x rated voltage) of final value in less than 60 ms.

Down Programming: An active down programmer sinks approximately 20% of the rated output current

Modulation: (Analog programming of output voltage and current)

Input Signal: 0 to -5 V

Input Impedance: 10 k Ohm nominal

ac Input: (ac input frequency 47 to 63 Hz)
Voltage 100 Vac 120 Vac 220 Vac 240 Vac
Current 4.4 A 3.8 A 2.2 A 2.0 A

Input Power 480 VA, 400 W at full load; 60 W at no load

GPIB Interface Capabilities SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT1, E1, and C0. IEEE-488.2 and SCPI-compatible command set

Regulatory Compliance: Complies with UL 3111-1, IEC 61010-1.

Size: 425.5 mm W x 88.1 mm H x 439 mm D (16.75 in x 3.5 in x 17.3 in)
See page 101 for more details.

Weight: Net, 14.2 kg (31.4 lb); shipping, 16.3 kg (36 lb)

Warranty Period: Three years

Specifications

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

	6641A-J04 Special Order Option	6643A-J11 Special Order Option	6644A-J09 Special Order Option	6645A-J05 Special Order Option	6645A-J06 Special Order Option
Number of Outputs	1	1	1	1	1
GPIB	Yes	Yes	Yes	Yes	Yes
Output ratings					
Output voltage	13 V	40 V	70 V	150 V	170 V
Output current (40°C)	15.3 A	5 A	3 A	1.2 A	1 A
Maximum current (50°C/55°C)	13.77 A/13 A	4.5 A/4.25 A	2.7 A/2.55 A	1.08 A/1.02 A	0.9 A/0.85 A
Programming accuracy at 25°C $\pm 5^\circ\text{C}$					
Voltage	0.06% +	8.5 mV	17.5 mV	31 mV	65 mV
Current	0.15% +	21 mA	6.7 mA	4.1 mA	1.7 mA
Ripple and noise					
from 20 Hz to 20 MHz					
Voltage	rms	300 μV	450 μV	600 μV	900 μV
	peak-peak	3 mV	3.5 mV	6 mV	9 mV
	Current rms	8 mA	3 mA	1.5 mA	1 mA
Readback accuracy at 25°C $\pm 5^\circ\text{C}$ (percent of reading plus fixed)					
Voltage	0.07% +	10 mV	30 mV	47 mV	100 mV
+Current	0.15% +	15 mA	5 mA	3 mA	1.3 mA
-Current	0.35% +	40 mA	12 mA	6.8 mA	2.9 mA
Load regulation					
Voltage		1 mV	3 mV	4.5 mV	7 mV
Current		1 mA	0.25 mA	0.25 mA	0.25 mA
Line regulation					
Voltage		0.5 mV	1 mV	1.5 mV	2.5 mV
Current		1 mA	0.25 mA	0.25 mA	0.25 mA
Transient response time Less than 100 μs for the output voltage 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 rated current					
Supplemental Characteristics (Non-warranted characteristics determined by design and useful in applying the product)					
Average resolution					
Voltage		3.5 mV	12 mV	1.4 mV	37.5 mV
Current		5 mA	2 mA	1.2 mA	0.5 mA
OVP		23 mV	62 mV	110 mV	250 mV
OVP accuracy		260 mV	800 mV	1.5 mV	3 V

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 240 209 to 250 Vac, 47 to 63 Hz
- * Opt 908 Rack-mount Kit (p/n 5063-9212)
- * Opt 909 Rack-mount Kit w/ Handles (p/n 5063-9219)
- Opt 0L2 Extra Standard Documentation Package
- Opt 0B3 Service Manual
- Opt 0B0 No Documentation Package
- * Support rails required

Accessories

- p/n 1494-0060 Accessory Slide Kit
- p/n 1252-3698 7-pin Analog Plug
- p/n 1252-1488 4-pin Digital Plug
- p/n 5080-2148 Serial Link Cable 2 m (6.6 ft)
- E3663AC Support rails for Agilent rack cabinets

Your Requested Excerpt from the Agilent Power Products Catalog

The preceding page(s) are an excerpt from the *2002-2003 Power Products Catalog*.

We hope that these pages supply the information that you currently need.

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