High Performance DC Power Supplies speed and accuracy for test optimization

6680A-6684A

Single-Output
5000 W GPIB

Low output ripple and noise
Selectable compensation for inductive loads
Analog control of output voltage and current
Fan-speed control to minimize acoustic noise
Built-in measurements and advanced programmable features
Protection features to ensure DUT safety

Reliable DC power for manufacturing test and long-term burn-in
This series of 5000 watt DC power supplies has the exceptional, proven reliability that test system engineers look for. It also has the features needed for easy test system integration.

Programming of the DC output and the extensive 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 VXI*Plug&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.

The 6680A Series has extremely low ripple and noise for a 5000 watt DC power supply. This helps the built-in measurement system make extremely accurate current and voltage measurements.

Selectable compensation is provided for problem-free powering of inductive loads.

Specifications (at 0° to 55°C unless otherwise specified)		**6680A**	**6681A**	**6682A**	**6683A**	**6684A**	**6680A-J04** Special Order Option
Number of outputs		1	1	1	1	1	1
GPIB		Yes	Yes	Yes	Yes	Yes	Yes
Output ratings							
Voltage		0 to 5 V	0 to 8 V	0 to 21 V	0 to 32 V	0 to 40 V	0 to 3.3 V
Current (40°C then derate linearly 1%/°C from 40°C to 55°C)		0 to 875 A	0 to 580 A	0 to 240 A	0 to 160 A	0 to 128 A	0 to 1000 A
Programming accuracy at 25°C ±5°C							
Voltage	0.04% +	5 mV	8 mV	21 mV	32 mV	40 mV	5 mV
Current	0.1% +	450 mA	300 mA	125 mA	85 mA	65 mA	450 mV
Ripple and noise constant voltage mode from 20 Hz to 20 MHz							
	rms	1.5 mV	1.5 mV	1.5 mV	1.0 mV	1.0 mV	3.4 mV
	Peak to peak	10 mV	10 mV	10 mV	10 mV	10 mV	15 mV
Readback accuracy at 25°C ±5°C		(percent of reading plus fixed)					
Voltage	0.05% +	7.5 mV	12 mV	32 mV	48 mV	60 mV	7.5 mV
Current	0.1% +	600 mA	400 mA	165 mA	110 mA	90 mA	600 mA
Load and line regulation							
Voltage	0.002% +	0.19 mV	0.3 mV	0.65 mV	1.1 mV	1.5 mV	0.19 mV
Current	0.005% +	65 mA	40 mA	17 mA	12 mA	9 mA	77 mA
Transient response time		Less than 900 µs for the output voltage to recover within 150 mV following a change in load from 100% to 50%, or 50% to 100% of the output current rating of the supply					
Supplemental Characteristics		(Non-warranted characteristics determined by design that are useful in applying this product)					
Ripple and noise constant current mode from 20 Hz to 20 MHz							
	rms	290 mA	190 mA	40 mA	28 mA	23 mA	—
Average programming resolution							
Voltage		1.35 mV	2.15 mV	5.7 mV	8.6 mV	10.8 mV	12 mV
Current		235 mA	155 mA	64 mA	43 mA	34 mA	260 mA
OVP		30 mV	45 mV	120 mV	180 mV	225 mV	25 mV
Output voltage programming response time		9 ms	12 ms	45 ms	60 ms	60 ms	9 ms
(excludes command-processing time)		Full-load progrmming rise or fall time (10 to 90% or 90 to 10%, resistive load)					
Output common-mode noise current (to signal-ground binding post)	rms	1.5 mA	1.5 mA	3 mA	3 mA	3 mA	2.0 mA
	peak-to-peak	10 mA	10 mA	20 mA	20 mA	20 mA	12.5 mA

Note 1: Option 6680A-JO4 is not available outside the USA because certification process is not complete.

More detailed specifications at **www.agilent.com/find/6680**

Single-Output: 5000 W GPIB (Continued)

Application Notes:

6671A/72A/81A/82A/90A System DC Power Supplies Product Overview
5988-3050EN

Agilent DC Power Supplies for Base Station Testing
5988-2386EN

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

Supplemental Characteristics for all model numbers

DC Floating Voltage: Output terminals can be floated up to ±60 Vdc maximum 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 power supplies connected directly to the GPIB

Modulation: (analog programming of output voltage and current):
Input Signal: 0 to –5 V for voltage, 0 to +5 V for current
Input Impedance: 30 kΩ/or greater

AC Input (47 to 63 Hz): 180 to 235 Vac (line-to-line, 3 phase), 27.7 A rms maximum worst case, 21.4 A rms nominal; 360 to 440 Vac, 14.3 A rms maximum worst case, 10.7 A rms nominal (maximum line current includes 5% unbalanced phase voltage condition.) Output voltage derated 5% at 50 Hz and below 200 Vac.

Input Power: 7350 VA and 6000 W maximum; 160 W at no load

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

Software Driver:
- IVI-COM
- VXI*Plug&Play*

Size: 425.5 mm W x 221.5 mm H x 674.7 mm D (16.75 in x 8.75 in x 25.56 in)

Weight: Net, 51.3 kg (113 lbs); shipping, 63.6 kg (140 lbs)

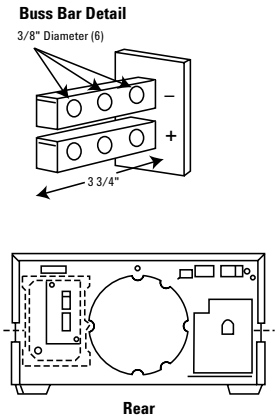
Warranty Period: One year

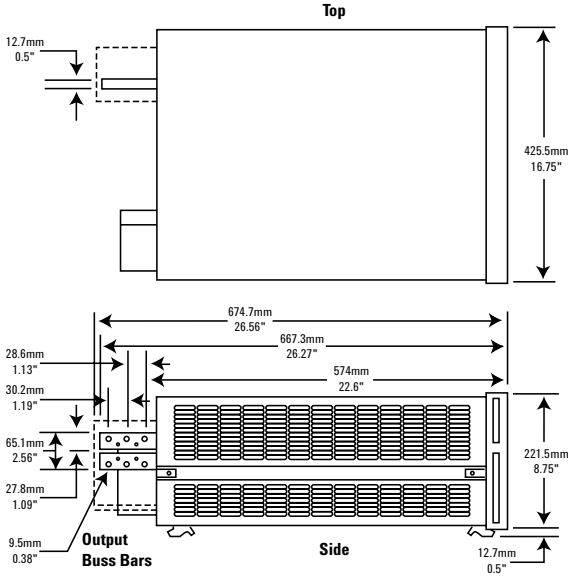
Ordering Information

Opt 208 180 to 235 Vac, 3 phase, 47 to 63 Hz
Opt 400 360 to 440 Vac, 3 phase, 47 to 63 Hz
Opt 602 Two Bus Bar Spacers for paralleling power supplies (p/n 5060-3514)
* **Opt 908** Rack-mount Kit (p/n 5062-3977 and p/n 5062-3974)
* **Opt 909** Rack-mount Kit with Handles (p/n 5063-9221 and p/n 5063-9219).
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 5060-3513 Three 30-A Replacement Fuses for 180 to 235 Vac line
p/n 5060-3512 Three 16-A Replacement Fuses for 360 to 440 Vac line
E3663AC Support rails for Agilent rack cabinets
p/n 5080-2148 Serial link cable 2m (6.6 ft.)

Agilent Models: 6680A, 6681A, 6682A, 6683A, 6684A





More detailed specifications at **www.agilent.com/find/6680**

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.

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