

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 *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.

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
<b>Number of outputs</b>	1	1	1	1	1	1
<b>GPIB</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Output ratings</b>						
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
<b>Programming accuracy at 25°C ±5°C</b>						
Voltage	0.04% +	5 mV	8 mV	21 mV	32 mV	40 mV
Current	0.1% +	450 mA	300 mA	125 mA	85 mA	65 mA
<b>Ripple and noise constant voltage mode from 20 Hz to 20 MHz</b>						
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
<b>Readback accuracy at 25°C ±5°C (percent of reading plus fixed)</b>						
Voltage	0.05% +	7.5 mV	12 mV	32 mV	48 mV	60 mV
Current	0.1% +	600 mA	400 mA	165 mA	110 mA	90 mA
<b>Load and line regulation</b>						
Voltage	0.002% +	0.19 mV	0.3 mV	0.65 mV	1.1 mV	1.5 mV
Current	0.005% +	65 mA	40 mA	17 mA	12 mA	9 mA
<b>Transient response time</b>	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					
<b>Supplemental Characteristics</b> (Non-warranted characteristics determined by design that are useful in applying this product)						
<b>Ripple and noise constant current mode from 20 Hz to 20 MHz</b>						
rms	290 mA	190 mA	40 mA	28 mA	23 mA	—
<b>Average programming resolution</b>						
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
<b>Output voltage programming response time</b>	9 ms	12 ms	45 ms	60 ms	60 ms	9 ms
(excludes command-processing time) Full-load programming rise or fall time (10 to 90% or 90 to 10%, resistive load)						
<b>Output common-mode noise current</b>						
rms	1.5 mA	1.5 mA	3 mA	3 mA	3 mA	2.0 mA
(to signal-ground binding post) peak-to-peak	10 mA	10 mA	20 mA	20 mA	20 mA	12.5 mA

**Note 1:** Option 6680A-J04 is not available outside the USA because certification process is not complete.

More detailed specifications at [www.agilent.com/find/6680](http://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  $\pm 60$  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 k $\Omega$ /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
- VXIPlug&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

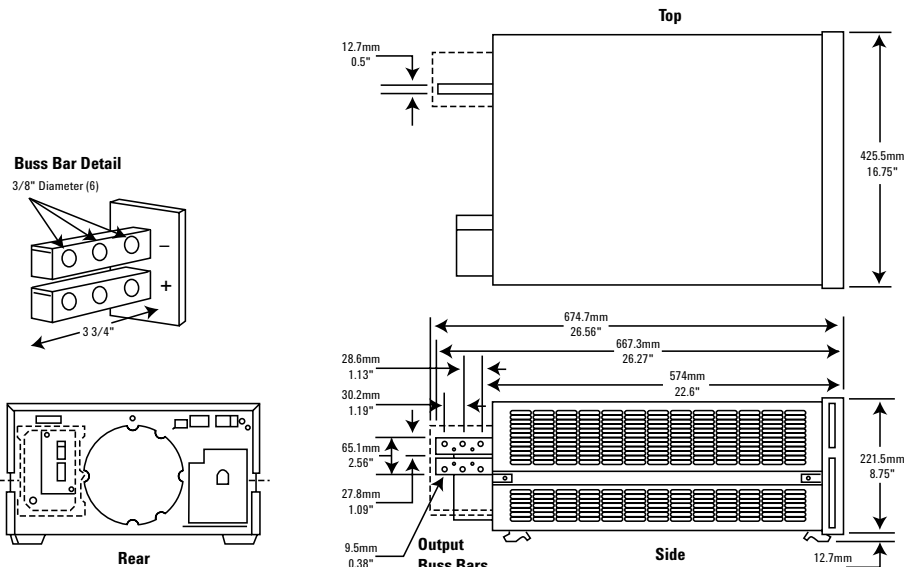
**p/n 5060-3513** Three 30-A Replacement Fuses for 180 to 235 Vac line

**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**



**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](http://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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[www.agilent.com/find/contactus](http://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](mailto:tm_ap@agilent.com)

Contacts revised: 09/26/05

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