

Single-Output System Power Supplies 5,000 W

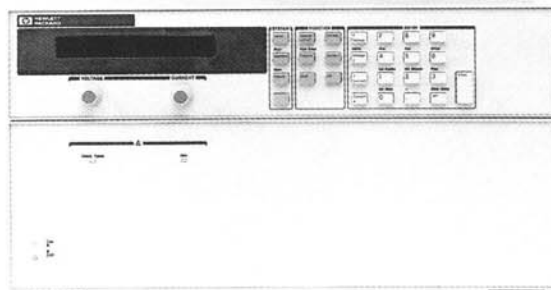
HP 6680A, 6681A, 6682A, 6683A, 6684A



DESIGNED FOR
HP-IB
SYSTEMS



- "One-Box" solution: includes V and I read-back
- Low ripple and noise
- Fast up- and down-programming
- High-accuracy current programming and read back
- Standard Commands for Programmable Instruments (SCPI)
- Selectable compensation for inductive loads



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

		HP 6680A	HP 6681A	HP 6682A	HP 6683A	HP 6684A
Output ratings	Voltage	0 to 5 V	0 to 8 V	0 to 21 V	0 to 32 V	0 to 40 V
	Current (derated 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
Programming accuracy: at 25° C ± 5° C	Voltage	0.04% +	5 mV	8 mV	21 mV	32 mV
	Current	0.1% +	450 mA	300 mA	125 mA	85 mA
Ripple and noise: from 20 Hz to 20 MHz	Constant voltage	rms	1.5 mV	1.5 mV	1.0 mV	1.0 mV
		peak-to-peak	10 mV	10 mV	10 mV	10 mV
	Constant current	rms	290 mA	190 mA	40 mA	20 mA
			23 mA	15 mA	3 mA	1.5 mA
Read-back accuracy: at 25° C ± 5° C (percent of reading plus fixed)	Voltage	0.05% +	7.5 mV	12 mV	32 mV	48 mV
	Current	0.1% +	600 mA	400 mA	165 mA	110 mA
Load and line regulation	Voltage	0.002% +	190 μV	300 μV	650 μV	1.1 mV
	Current	0.005% +	65 mA	40 mA	17 mA	12 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 percent or 50 to 100 percent of the output current rating of the supply.

Supplemental Characteristics (Nonwarranted characteristics determined by design that are useful in applying this product)

		HP 6680A	HP 6681A	HP 6682A	HP 6683A	HP 6684A
Average programming resolution	Voltage	1.35 mV	2.15 mV	5.7 mV	8.6 mV	10.8 mV
	Current	235 mA	155 mA	64 mA	43 mA	34 mA
	OVP	30 mV	45 mV	120 mV	180 mV	225 mV
Output voltage programming response time (excludes command-processing time)	Full-load programming rise or fall time (10 to 90% or 90 to 10%, resistive load)	9 ms	12 ms	45 ms	60 ms	60 ms
Output common mode noise current (to signal-ground binding post)	rms	1.5 mA	1.5 mA	3 mA	3 mA	3 mA
	peak-to-peak	10 mA	10 mA	20 mA	20 mA	20 mA
Price		\$5,550	\$5,550	\$5,550	\$5,550	\$5,550

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 HP-IB.

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; 360 to 440 Vac, 14.4 A rms maximum (maximum line current includes 5% unbalanced phase voltage condition.) Output voltage derated up to 95% at 50 Hz and below 200 Vac.

Input Power: 7350 VA and 6000 W maximum; 160 W at no load
HP-IB Interface Capabilities: SH1, AH1, T6, L4, SR1, RLI, PP0, DC1, DT1, E1, and CO. IEEE488.2 and SCPI command set.

Regulatory Compliance: Listed to UL 1244; certified to CSA 22.2 No. 231; conforms to IEC 1010; carries the CE mark.

RFI Suppression: Complies with CISPR-11 Group 1 Class A

Size: 425.5 mm W × 220 mm H × 675.6 mm D (16.75 in × 8.75 in × 26.6 in) See page 50 for more details.

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

Warranty period: Three years

Key Features (For more information, see page 20)

- HP-IB-programmable voltage and current
- Measured voltage and current read back over HP-IB
- SCPI (standard commands for programmable instruments)
- Serial link to connect up to 16 outputs on one HP-IB address
- Auto-parallel up to five units
- Outputs can be connected in series

- Programmable overvoltage and overcurrent protection
- Overtemperature protection
- Discrete fault indicator/remote inhibit (DFI/RI)
- Self-test occurs at power-up or from an HP-IB command
- Electronic calibration via HP-IB or from front panel
- Four nonvolatile store and recall states
- User-definable power-on state
- Digital I/O for control of external relays
- Fan-speed control minimizes acoustic noise

Ordering Information

Option Descriptions

10 AWG; 300V, 4-wire unterminated line cord included with standard voltage option.

Opt 400 360 to 440 Vac, 3 phase, 47 to 63 Hz \$0

If Opt 400 is not ordered, power supply will be configured to operate at 180 to 235 Vac, 3 phase, 47 to 63 Hz. A 2.5mm² wire size, 450V, 4-wire connection, harmonized cordage unterminated line cord included with this option.

Opt 601 Output Connector Kit (required for bench applications) includes bus-bar spacer, connector bolts, and output cover (HP p/n 5060-3515) \$82

Opt 602 Two Bus Bar Spacers for paralleling power supplies (HP p/n 5060-3514) \$51

Opt 908 Rack Mount Kit (HP p/n 5062-3977 and p/n 5062-3974). **Support rails required.** \$77

Opt 909 Rack Mount Kit with Handles (HP p/n 5062-3983 and p/n 5062-3974). **Support rails required.** \$128

Opt 910 Service Manual (HP p/n 5960-5590) and extra operating manual (HP p/n 5961-2579). Standard unit is shipped with operating manual only. \$36

Accessories

HP p/n 5060-3513 Three 30-A Replacement Fuses for 180 to 235 Vac line \$29

HP p/n 5060-3512 Three 16-A Replacement Fuses for 360 to 440 Vac line \$29