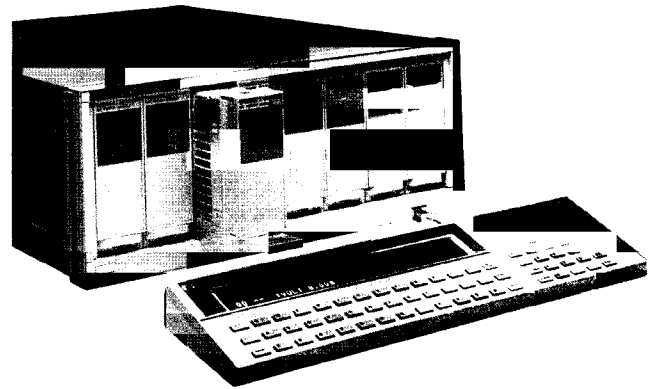


# Power Supplies

## Modular Power System

HP 66000A  
HP 66001A  
HP 66101A  
to 66106A

- High density 1200W mainframe in 7 inches of rack space
- 8-slot modular power system
- Stable, low ripple and noise power source
- High-accuracy readback of voltage and current
- Advanced programmable voltage and current control
- Sequence up to 20 voltage and current setting per output
- Optional isolation and polarity-reversal relays
- Three-year standard warranty



### HP 66000 Modular Power System

HP 66000 Modular Power System is ideal for automated testing environments for supplying bias power and stimulus to subassemblies and final products.

#### Key Features

- GPIB programmable voltage and current
- Series and parallel operation
- Programmable over-voltage and over-current protection
- Self-test initiated at power-up or from GPIB command
- Electronic calibration over GPIB or from keyboard
- Over-temperature protection
- Discrete fault indicator/remote inhibit (DFI/RI)
- Five nonvolatile store-recall states per output
- User-definable power-on state

### Abbreviated Specification and Characteristics

		HP 66101A	HP 66102A	HP 66103A	HP 66104A	HP 66105A	HP 66106A
<b>Output ratings</b> (at 40° C)	Output Voltage	0 to 8 V	0 to 20 V	0 to 35 V	0 to 60 V	0 to 120 V	0 to 200 V
	Output Current	0 to 16 A	0 to 7.5 A	0 to 4.5 A	0 to 2.5 A	0 to 1.25 A	0 to 0.75 A
	Output Power	128 W	150 W	150 W	150 W	150 W	150 W
<b>Programming accuracy</b> (at 25° C ±5° C)	Voltage 0.03%+	3 mV	8 mV	13 mV	27 mV	54 mV	90 mV
	Current 0.03%+	6 mA	3 mA	2 mA	1.2 mA	0.6 mA	0.4 mA
<b>Readback accuracy</b> (via HP-IB or keyboard display at 25° C ±5° C)	Voltage 0.02%+	2 mV	5 mV	8 mV	16 mV	32 mV	54 mV
	Current 0.02%+	6 mA	3 mA	2 mA	1 mA	0.6 mA	0.3 mA
<b>Ripple and noise</b> (20 Hz to 20 MHz)	Constant voltage rms	2 mV	3 mV	5 mV	9 mV	18 mV	30 mV
	peak to peak	5 mV	7 mV	10 mV	15 mV	25 mV	50 mV
	Constant current rms	8 mA	4 mA	2 mA	1 mA	1 mA	1 mA
<b>Line Regulation</b>	Voltage	0.5 mV	0.5 mV	1 mV	2 mV	3 mV	5 mV
	Current	0.75 mA	0.5 mA	0.3 mA	0.1 mA	50 µA	30 µA
<b>Load Regulation</b>	Voltage	1 mV	1 mV	1 mV	2 mV	4 mV	7 mV
	Current	0.5 mA	0.2 mA	0.2 mA	0.1 mA	50 µA	10 µA
<b>Transient Response Time:</b> Less than 1 ms for the output voltage to recover within 100 mV of its previous level following any step change in load current up to 10 percent of rated current							
<b>Average resolution</b>	Voltage	2.4 mV	5.9 mV	10.4 mV	18.0 mV	36.0 mV	60.0 mV
	Current	4.6 mA	2.3 mA	1.4 mA	0.75 mA	0.39 mA	0.23 mA
	Output voltage programming (OVP)	50 mV	120 mV	200 mV	375 mV	750 mV	1.25 V
<b>OVP accuracy</b>		250 mV	500 mV	800 mV	1 V	1.5 V	2.5 V

**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 across each load lead. Add 2 mV to the voltage load regulation specification for each 1-V change in the negative output lead caused by a load current change.

**Command Processing Time:** The average time for the output voltage to change after getting an HP-IB command is 20 ms

**Output Programming Response Time** (with full resistive load): The rise time (10/90%) of the output voltage is less than 20 ms. The fall time (90/10%) of the output voltage is less than 20 ms (66101A–66103A) or 50 ms for (HP 66104A–66105A). The output voltage change settles within 1 LSB (0.025% x rated voltage) of the final value in less than 120 ms.

**Down Programming:** An active down-programmer sinks approximately 10% of the rated output current

**Calibration Interval:** One year

#### ac Input of System Mainframe

Voltage	100 Vac	120 Vac	200 Vac	220 Vac	230 Vac	240 Vac
Maximum current	29 A	25 A	16 A	16 A	16 A	15 A

**Input Power of System Mainframe:** 3200 VA (max.), 1800 W (max.), 1600 W (typ.)

**Regulatory Compliance:** Listed to UL-1244; certified to CSA 22.2 No. 231; complies with EN61010-1, carries the CE mark

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

**Weight:**  
Net: HP 66000A, 15 kg (33 lb); HP 66001A, 1.05 kg (2.3 lb); HP 66101–66106A, 2.7 kg (6 lb).

**Shipping:** HP 66000A, 19 kg (41 lb); HP 66001A, 1.34 kg (2.95 lb); HP 66101–66106A, 4.1 kg (9 lb).

**Size:** HP 66000A: 425.7 mm W x 184.94 mm H x 677.93 mm D (16.76 in x 7.28 in x 26.69 in), including feet and rear connectors

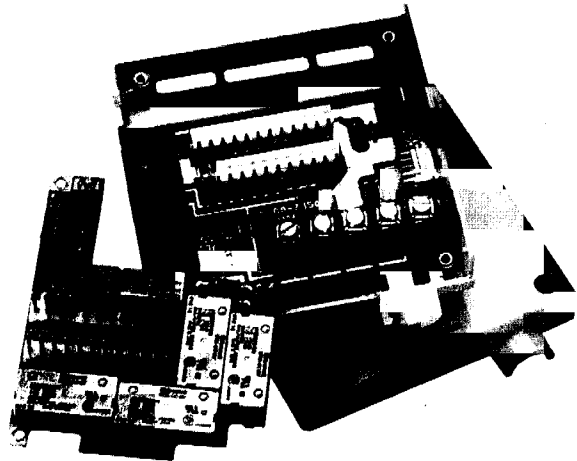
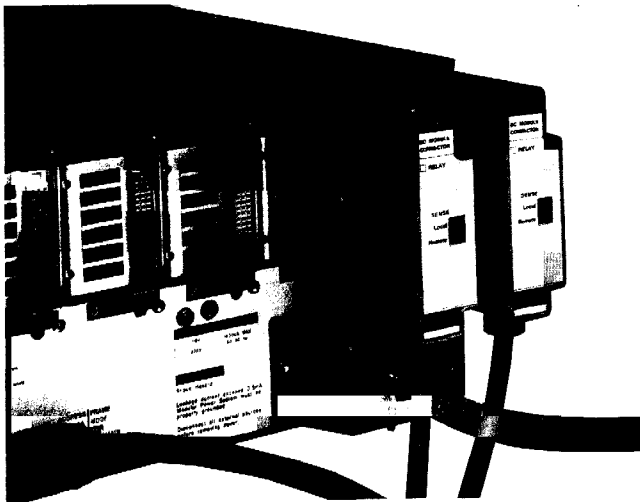
**Warranty Period:** Three years

#### Key Literature

1999/00 HP Power Products Catalog, p/n 5968-2199

For more information, visit our web site:

<http://www.hp.com/go/modularPS>



Isolation and polarity reversal relays are available as an option to the modules. The relay assembly fits into the module connector and can be fully controlled and sensed over the GPIB.

### Simple Way to Integrate Multiple Power Sources

A single HP 66000A mainframe can hold up to eight modules. Six modules are available with voltage ranges up to 200 V and current ranges up to 16 A. The built-in HP serial link feature can control up to 16 outputs at one GPIB address by connecting an auxiliary mainframe.

System assembly is simplified thanks to a quick-disconnect connector assembly on each module. Once your wires are connected to the load, the connector design permits the modules to be removed from the front of the mainframe without disconnecting cabling or removing the mainframe from the rack. One connector assembly is shipped with each module.

### No Compromise Performance with Modular Convenience

HP 66000 MPS offers high performance and reliability and the advantages of modularity. The HP 66000 MPS offers high stability for applications that need precise output control, accurate readback measurements, and low output noise.

### Advanced Programmable Control

HP 66000 MPS features a powerful output capability, precise control of voltage and current, programmable protection features, user-definable power-on state and five non-volatile store-recall states per output. An optional keyboard offers full control of all programmable features. GPIB interface is a standard feature fully compatible with the industry-standard SCPI command set.

Increase test throughput by using the output sequencing feature of the HP 66000 MPS. This powerful feature allows you to download up to 20 voltage, current, and dwell-time parameter sets per output. This sequence can be paced by the programmed dwell times. As an alternative, triggers can be used to step through the output list. The output sequences can be executed without controller intervention, thereby increasing overall test system throughput.

### Ordering Information

	<b>Price</b>
HP 66000A MPS Mainframe	\$2,000
Opt 908 Rackmount Kit (HP p/n 5062-3978)	+\$42
Opt 909 Rackmount Kit with Handles (HP p/n 5062-3984)	+\$104
<b>Note: Options 908 and 909</b> require cabinet rails or a slide kit (HP p/n 1494-0059) to support the loaded mainframe's weight.	
Opt 910 Extra Manual Set (Standard unit is shipped with Installation Guide only.)	+\$37
HP 66001A MPS Keyboard includes 2m (6 ft) cables (Order HP66002A to rackmount)	\$966
HP 66002A (Rack Kit for HP 66001A keyboard)	\$95
<b>Module Options</b>	
HP 66101A dc Power Module 8 V, 16 A	\$1,838
HP 66102A dc Power Module 20 V, 7.5 A	\$1,838
HP 66103A dc Power Module 35 V, 4.5 A	\$1,838
HP 66104A dc Power Module 60 V, 2.5 A	\$1,838
HP 66105A dc Power Module 120 V, 1.25 A	\$1,838
HP 66106A dc Power Module 200 V, 0.75 A	\$1,838
Opt 760 Open/Close and Polarity Reversal Relays	+\$188
Opt 910 Extra Manual Set: User's Guide, Programming Guide and Service Manual (Standard unit is shipped with Installation Guide only.)	+\$37

### Accessories

HP p/n 5060-3351 Field-Installable Relay Kit	\$150
HP p/n 5060-3386 Standard Connector Assembly	\$142
HP p/n 5060-3387 Standard Connector Assembly with installed relays (Option 760)	\$280
HP p/n 66000-90001 Mainframe Installation Guide	\$14
HP p/n 5959-3360 dc Power Module User's Guide	\$22
HP p/n 5959-3362 dc Power Module Programming Guide	\$23
HP p/n 66000-90003 Mainframe Service Manual	\$28
HP p/n 5959-3364 dc Power Module Service Manual	\$47
HP p/n 1252-1488 4-Pin FLT/Inhibit Connector	\$10

### Line Cord Options

A line cord option must be specified. For details, refer to page 176.