



# POWER SUPPLIES

## 200 Watt System Power Supply

### Model 6002A

- 200 watt autoranging dc output
- Constant-voltage/constant-current operation
- HP-IB programming option



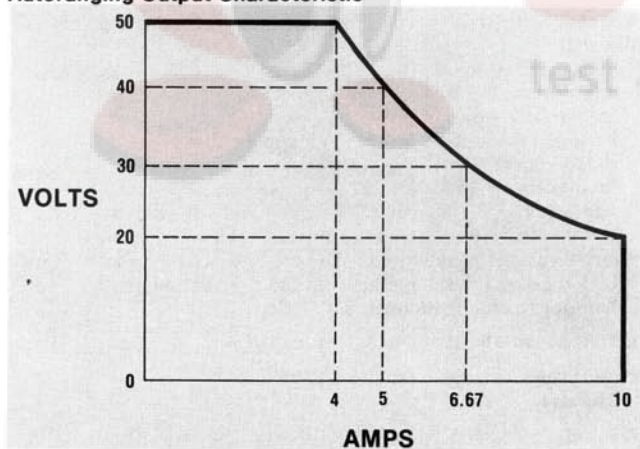
6002A

### Description

The 6002A dc power supply offers an exceptional combination of performance and flexibility. It employs a unique control concept which provides for an autoranging output with the performance characteristics of linear regulation. The 6002A is a 200 watt CV/CC power supply, which may be remotely programmed via the HP-IB, when equipped with Option 001.

As an autoranging power supply, the 6002A can provide 200 watts over a wide range of voltage and currents without external intervention. This allows it to take the place of multiple conventional power supplies. For example, the 6002A can replace both a 50 volt, 4 amp supply and a 20 volt, 10 amp supply.

#### Autoranging Output Characteristic



#### System Features/Remote Control

Analog programming of output voltages and current can be accomplished through the use of remotely controlled resistance or voltage applied to rear panel terminals. Additional control terminals are provided for remote load voltage sensing, auto-series or parallel operation, and for remotely activating the crowbar circuit. A pulse output from the crowbar terminal indicates the overvoltage circuit has been self-activated. A voltage step change appearing on terminal indicates a changeover to or from constant-current operation.

#### HP-IB Option

Digital programming via Option 001 permits control of output voltage or current by the Hewlett-Packard Interface Bus (HP-IB). Two programmable ranges allow better resolution below 10 volts or 2 amps. The selection of HP-IB control of either voltage or current is done by rear panel switches. The IEEE 488 interface functions supported by the 6002A with Option 001 are basic listener (L2) and acceptor handshake (AH1). Complete explanation of these interface functions is available in the IEEE Std. 488-1978.

- Built-in overvoltage protection crowbar
- CV/CC operating status indicators
- Remote analog programming and sensing

### Choosing a System Power Supply

Hewlett-Packard offers many solutions for 200 watt system power supply applications. Depending upon the specific application needs, either the 6034A (page 240) or the 6002A will offer the best solution. The 6034A offers complete and friendly remote programming including voltage, current, and OVP trip level. The output voltage or current can be read back over the HP-IB, and interrupts can be generated on preset conditions. The 6002A offers particularly good performance in the areas of ripple and noise and load transient recovery. The programmability and power supply specification needs should be weighed when choosing the system power supply most suited to a particular application.

### Specifications

**DC output:** voltage and current output can be adjusted over the ranges indicated by front panel controls, analog programming, or an optional HP-IB interface.

**Voltage:** 0-50 V. **Current:** 0-10 A.

Maximum 200 Watts output from 20 V to 50 V.

**Load effect:** constant-voltage, 0.01% +1 mV. Constant-current, 0.01% + 1 mA.

**Source effect:** CV, 0.01% +1 mV; CC, 0.01% + 1 mA.

**PARD (ripple and noise):** rms/p-p, 20 Hz to 20 MHz; CV, 1 mV/10 mV; CC, 5 mA rms.

**Temperature coefficient:** CV, 0.02% +200  $\mu$ V/°C; CC 0.02% +5 mA/°C.

**Drift:** CV, 0.05% +1 mV/8 hrs; CC, 0.05% +5 mA/8 hrs.

**Load transient recovery:** 100  $\mu$ s for output voltage to recover within 15 mV of nominal voltage setting following a load current change of 50% to 100% or 100% to 50% of full load current.

**Response time:** maximum time for output voltage to change between 0 to 99.9% or 100% to 0.1% of maximum rated output voltage. Up Programming: no load, 100 ms; full load, 100 ms. Down Programming: no load, 400 ms; full load, 200 ms.

**Overvoltage protection:** trip voltage adjustable from 2.5 V to 60 V.

**DC output isolation:** 150 V dc.

**Power:** 100, 120, 220, or 240 V ac (-13%, +6%), 48-63 Hz.

**Temperature rating:** 0°C to 55°C operating, -40°C to +75°C storage. Supply is cooled by built-in fan.

**Size:** 180 H x 212 W x 422 mm D (6.97" x 8.36" x 16.6").

**Weight:** net, 14.5 kg (32 lb). Shipping, 15.9 kg (35 lb).

#### HP-IB Option

**Programmable ranges:** high: 0-50 V or 0-10 A,  
low: 0-10 V or 0-2 A.

**Programming speed:** same as response time.

**Accuracy:** hi range: CV, 0.2% +25 mV; CC, 0.2% +25 mA.  
lo range: CV, 0.2% + 10 mV; CC, 0.2% +25 mA.

**Resolution:** hi range: CV, 50 mV; CC, 10 mA. (12 bit)  
lo range: CV, 10 mV; CC, 2 mA. (12 bit)

**Isolation:** 250 volts dc from bus data lines to power supply.

#### Accessories

**5061-0060:** rack mounting adapter kit for one 6002A **Price** \$80.00

**5061-0094:** cabinet lock-together kit to connect two 6002A's **Price** \$38.00

**5061-0078:** rack flange kit to mount 2 locked 6002A's **Price** \$35.00

#### Options

**001:** HP-IB interface **Price** add \$560.00

**910:** one extra operating and service manual **Price** add \$7.50

### 6002A Autoranging DC Power Supply

**\$1775**