

240



# POWER SUPPLIES

General Purpose: 120-2000 W Output

Models 6259B-6274B & 895A

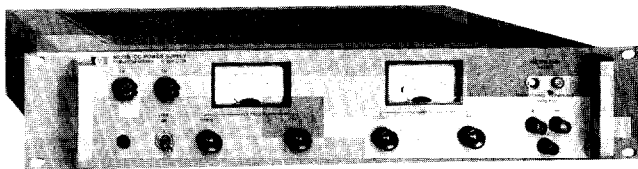
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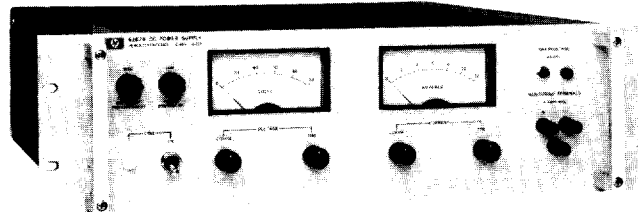
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- Built-in overvoltage protection\*
- Constant voltage/constant current operation
- Remote programming and sensing

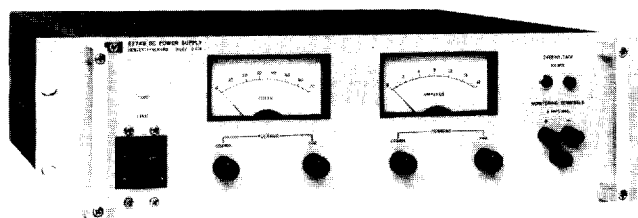
- Remote sensing
- Auto-series, -parallel, and -tracking operation
- $\leq 50 \mu\text{s}$  load transient recovery



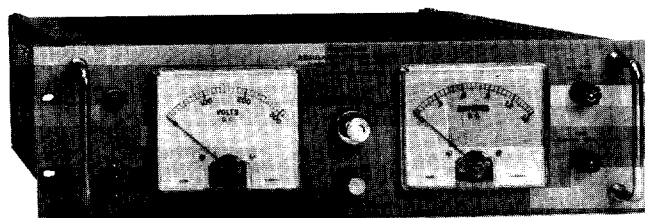
6263B, 6266B, 6271B



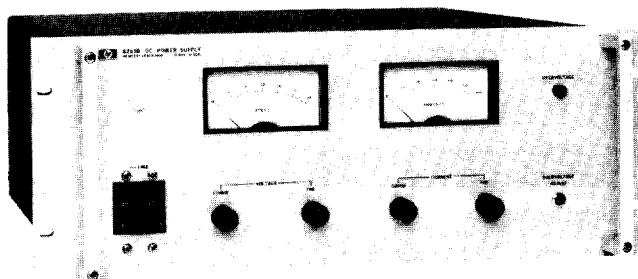
6264B, 6267B



6274B



895A



6259B, 6260B, 6261B, 6268B, 6269B

## Description

### Models 6259B-6274B

This series of high-performance constant voltage/constant current supplies includes twelve models with output rating from 10 to 60 V. All models employ a transistor series-regulator/triac-preregulator circuit to achieve high efficiency, excellent regulation, low ripple and noise, and moderate programming speeds in a compact full-rack width package.

Separate coarse and fine voltage and current controls allow the voltage and current outputs to be varied from zero to the maximum rated value, crossover from constant voltage to constant current operation occurs automatically when the load current exceeds the value established by the current control settings.

Additional features include built-in overvoltage crowbar protection; remote error sensing; and auto-series, auto-parallel, and auto-tracking operation. The crowbar trip point adjustment and associated overvoltage indicator are conveniently located on the front panel.

## Specifications†

RATINGS			PERFORMANCE							
DC Output		Model	Load Effect		Source Effect		PARD (rms/p-p)		Drift (stability)	
Volts	Amps		Voltage	Current	Voltage	Current	Voltage	Current	Voltage	Current
0-10	0-50	6259B	0.01% + 200 $\mu\text{V}$	0.02% + 1 mA	0.01% + 200 $\mu\text{V}$	0.02% + 1 mA	500 $\mu\text{V}/5 \text{ mV}$	25 mA rms	0.03% + 2 mV	0.03% + 10 mA
0-10	0-100	6260B	0.01% + 200 $\mu\text{V}$	0.02% + 2 mA	0.01% + 200 $\mu\text{V}$	0.02% + 2 mA	500 $\mu\text{V}/5 \text{ mV}$	50 mA rms	0.03% + 2 mV	0.03% + 20 mA
0-20	0-10	6263B	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	200 $\mu\text{V}/10 \text{ mV}$	3 mA rms	0.03% + 500 $\mu\text{V}$	0.03% + 6 mA
0-20	0-20	6264B	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	200 $\mu\text{V}/10 \text{ mV}$	5 mA rms	0.03% + 500 $\mu\text{V}$	0.03% + 6 mA
0-20	0-50	6261B	0.01% + 200 $\mu\text{V}$	0.02% + 1 mA	0.01% + 200 $\mu\text{V}$	0.02% + 1 mA	500 $\mu\text{V}/5 \text{ mV}$	25 mA rms	0.03% + 2 mV	0.03% + 10 mA
0-40	0-5	6266B	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	200 $\mu\text{V}/10 \text{ mV}$	3 mA rms	0.03% + 500 $\mu\text{V}$	0.03% + 3 mA
0-40	0-10	6267B	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	200 $\mu\text{V}/10 \text{ mV}$	3 mA rms	0.03% + 2 mV	0.03% + 3 mA
0-40	0-30	6268B	0.01% + 200 $\mu\text{V}$	0.02% + 2 mA	0.01% + 200 $\mu\text{V}$	0.02% + 2 mA	1 mV/5 mV	20 mA rms	0.03% + 2 mV	0.03% + 5 mA
0-40	0-50	6269B	0.01% + 200 $\mu\text{V}$	0.02% + 2 mA	0.01% + 200 $\mu\text{V}$	0.02% + 2 mA	1 mV/5 mV	25 mA rms	0.03% + 2 mV	0.03% + 10 mA
0-60	0-3	6271B	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	200 $\mu\text{V}/10 \text{ mV}$	3 mA rms	0.03% + 500 $\mu\text{V}$	0.03% + 3 mA
0-60	0-15	6274B	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	0.01% + 200 $\mu\text{V}$	0.02% + 500 $\mu\text{A}$	200 $\mu\text{V}/20 \text{ mV}$	5 mA rms	0.03% + 2 mV	0.03% + 5 mA
0-320	0-1.5	895A	0.007% or 20 mV	—	0.007% or 20 mV	—	1 mV rms	—	0.1% + 5 mV	—

\*These six features apply to models 6259B-6274B, but not to model 895A.

†Refer to page 232 for complete specification definitions.

Auto-series, auto-parallel, and auto-tracking connections should ordinarily include no more than three supplies. If a specific application requires the use of more than three supplies in any of the three connections, consult your local HP Field Engineer for additional information.

All dc output, ac input, sensing, control, and programming connections are made to rear-panel terminals. Either the positive or negative output terminal may be grounded or the supplies may be operated floating at up to 300 volts above ground. Models 6263B, 6264B, 6266B, 6267B, and 6271B are convection cooled. All other models in this series employ cooling fans. Models which output more than 200 watts are equipped with terminal blocks for ac input and are not shipped with line cords.

**Model 895A**

Model 895A is a general purpose constant/voltage/current/limit supply. Output voltage is adjustable from 0-320 V via a front panel 10-turn potentiometer with concentric lock and a single-turn fine control. Separate voltage and current meters provide continuous indication of power supply outputs. High performance specifications include 0.007% line and load regulation and 1 mV rms ripple and noise. Remote sensing and programming are standard features. The 895A is equipped with a terminal block for ac input and is not shipped with a line cord.

**Specification—General**

**Load effect transient recovery:** time—50  $\mu$ s. Level—10 mV (895A—time—100  $\mu$ s. Level—20 mV)

**Resolution:** voltage control—less than 0.02%. Current control—less than 0.15%.

**Temperature coefficient per °C:** 0.01% of output plus 200  $\mu$ V (895A—0.03% + 1.5 mV).

**Temperature ratings:** operating, 0 to 55°C; Storage, -40 to 75°C.

**Remote control programming:** these power supplies are capable of being programmed in constant voltage and constant current operation by using an external resistance or dc voltage with coefficients as shown in the table below.

Rear terminal wiring configurations for remote control operation are specified in the operating and service manual supplied with the power supply. For remote control programming procedures and timing considerations, contact your local HP field engineer.

**Power:** input voltage is 115 V ac or 230 V ac  $\pm$  10%, 57-63 Hz. For other input voltage and frequency options available, see option listing below. Standard input voltage, maximum input current, and maximum power are:

- 6259B, 230 V ac, 6 A, 850 W;
- 6260B, 230 V ac, 12 A, 1600 W;
- 6261B, 230 V ac, 12 A, 1500 W;
- 6263B, 115 V ac, 4.5 A, 350 W;
- 6264B, 115 V ac, 8 A, 600 W;
- 6266B, 115 V ac, 4 A, 325 W;
- 6267B, 115 V ac, 8 A, 550 W;
- 6268B, 230 V ac, 12 A, 1600 W;
- 6269B, 230 V ac, 18 A, 2500 W;
- 6271B, 115 V ac, 4 A, 300 W;
- 6274B, 115 V ac, 15 A, 1200 W;
- 895A, 115 V ac, 8.7 A, 585 W.

**AC line connections:** three wire, five foot ac power cord included—6263B, 6266B and 6271B.

Three terminal barrier strip provided on power supply for ac power connections—6259B, 6260B, 6261B, 6264B, 6267B, 6268B, 6269B, 2674B and 895A.

**Size:**

- 6263B, 6266B, 6271B: 83.7 H x 483 W x 479.4 mm D (3.296" x 19" x 18.875").
- 6264B, 6267B, 6274B: 127 H x 483 W x 479.4 mm D (5.00" x 19" x 18.875").
- 6259B, 6260B, 6261B, 6268B, 6269B: 173 H x 483 W x 479.4 mm D; (6.812" x 19" x 18.875").
- 895A: 128.6 H x 483 W x 463.6 mm D (5.062" x 19" x 18.25").

**Option Descriptions**

- 005:** 50 Hz ac input; optimizes power supplies that require adjustment/modification for 50 Hz operation. N/C
- 010:** chassis slides. For access to rack mounted power supplies. 6263B, 6264B, 6266B, 6267B, 6271B, 6274B add \$85  
6259B, 6260B, 6261B, 6268B, 6269B add \$160
- 016:** 115 V ac  $\pm$  10% single phase input. Consists of replacing power transformer and circuit breaker, and reconnecting bias transformer, RFI choke and fans. add \$120
- 022:** voltage and current programming adjust. Allows the V and I programming coefficients and zero output to be conveniently adjusted to 0.1% accuracy via access holes in the rear panel. Consists of four potentiometers and resistors located inside the rear panel. add \$60
- 026:** 115 V ac  $\pm$  10%, single phase input. Consists of replacing the input circuit breaker and reconnecting the power transformer, bias transformer, RFI choke, and fans. N/C
- 027:** 208 V ac,  $\pm$  10%, single phase input. Consists of reconnecting power transformer taps, and other components where necessary. N/C
- 028:** 230 V ac  $\pm$  10%, single phase input. Consists of reconnecting power transformer taps, and other components where necessary. N/C
- 040:** Multiprogrammer interface. Prepares standard HP power supplies for resistance programming by the 6942A or 6940B Multiprogrammers. This option includes Option 022, special calibration, and protection check-out procedures (where required). add \$75
- 910:** one additional operating and service manual shipped with each power supply. 6259B-6274B add \$7.50  
895A add \$5
- J10:** special option for 220 V 50 Hz operation for the 895A.

**Specifications, continued**

REMOTE CONTROL FEATURES								GENERAL					
Resistance Coeff.		Voltage Coeff.		Speed Up*		Speed Down*		Overvoltage		Weight		Options	Price
Voltage	Current	Voltage	Current	NL	FL	NL	FL	Range	Margin	Net	Shipping		
200 $\Omega$ /V $\pm$ 1%	4 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	10 mV/A $\pm$ 10%	70 ms	70 ms	200 ms	100 ms	2-12 V	5% + 2V	31.3 kg/69 lb	35.3 kg/78 lb	5, 9, 10, 15, 22, 26, 27, 40	\$1650
200 $\Omega$ /V $\pm$ 1%	2 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	5 mV/A $\pm$ 10%	70 ms	70 ms	200 ms	75 ms	2-12 V	5% + 2 V	43.9 kg/97 lb	48 kg/106 lb	5, 9, 10, 15, 16, 22, 27, 40	\$1900
200 $\Omega$ /V $\pm$ 1%	100 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	50 mV/A $\pm$ 10%	150 ms	150 ms	7 s	350 ms	2-23 V	5% + 1 V	15.4 kg/34 lb	18.6 kg/41 lb	5, 9, 10, 15, 22, 27, 28, 40	\$1150
200 $\Omega$ /V $\pm$ 1%	10 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	25 mV/A $\pm$ 10%	140 ms	140 ms	10 s	150 ms	2.5-23V	5% + 1 V	21.3 kg/47 lb	24.5 kg/54 lb	5, 9, 10, 15, 22, 27, 28, 40	\$1200
200 $\Omega$ /V $\pm$ 1%	4 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	10 mV/A $\pm$ 10%	150 ms	150 ms	250 ms	250 ms	2-23 V	5% + 2 V	35.3 kg/78 lb	39.4 kg/87 lb	5, 9, 10, 15, 22, 26, 27, 40	\$1700
200 $\Omega$ /V $\pm$ 1%	200 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	100 mV/A $\pm$ 10%	275 ms	275 ms	13 s	1.5 s	2.5-45 V	5% + 1 V	15.4 kg/34 lb	18.6 kg/41 lb	5, 9, 10, 15, 22, 27, 28, 40	\$1150
200 $\Omega$ /V $\pm$ 1%	100 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	50 mV/A $\pm$ 10%	275 ms	275 ms	13 s	750 ms	2.5-45 V	5% + 1 V	17.7 kg/39 lb	20.8 kg/46 lb	5, 9, 10, 15, 22, 27, 28, 40	\$1200
200 $\Omega$ /V $\pm$ 1%	6 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	16.7 mV/A $\pm$ 10%	300 ms	300 ms	1 s	650 ms	4-45 V	5% + 1 V	34.4 kg/76 lb	38.1 kg/84 lb	5, 9, 10, 15, 22, 26, 27, 40	\$1650
200 $\Omega$ /V $\pm$ 1%	4 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	10 mV/A $\pm$ 10%	350 ms	350 ms	1 s	600 ms	4-45 V	5% + 1 V	40.3 kg/89 lb	44 kg/98 lb	5, 9, 10, 15, 22, 27, 40	\$1750
300 $\Omega$ /V $\pm$ 1%	300 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	167 mV/A $\pm$ 10%	600 ms	600 ms	7 s	2 s	6-66 V	5% + 1 V	15.4 kg/34 lb	18.6 kg/41 lb	5, 9, 10, 15, 22, 27, 28, 40	\$1150
300 $\Omega$ /V $\pm$ 1%	67 $\Omega$ /A $\pm$ 10%	1 V/V $\pm$ 1%	33.3 mV/A $\pm$ 10%	600 ms	600 ms	40 s	800 ms	6-66 V	5% + 1 V	21.7 kg/48 lb	24.5 kg/54 lb	5, 9, 10, 15, 22, 27, 28, 40	\$1350
300 $\Omega$ /V	—	—	—	—	—	—	—	NA	NA	22.6 kg/50 lb	29.4 kg/65 lb	J10	\$1850

\*Up = increasing output voltage. NL = No output load current. FL = Full rated output load current