

POWER SUPPLIES

General Purpose, 37- to 200-W Output

HP 6227B-6255A, 6281A-6299A

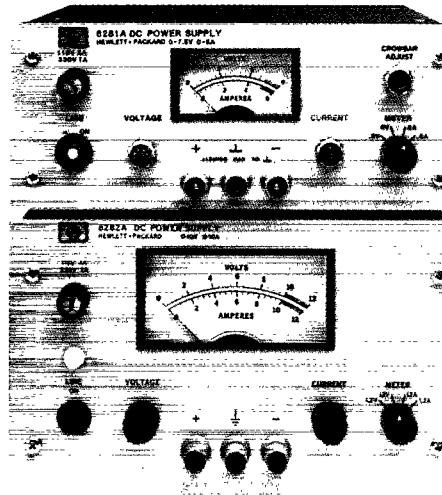
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- Constant voltage, constant current
- Remote sensing and programming
- Auto-series, auto-parallel, and auto-tracking
- Front and rear output terminals
- Floating output to serve as positive or negative source
- Dual-output models with auto-tracking

Single-Output Power Supplies

This series of constant-voltage, constant-current power supplies is available in two power ranges: 37 to 75 W (in 3½-in-high, half-rack cases) and 100 to 200 W (in 5¼-in-high, half-rack cases). All models have 10-turn voltage and current controls that vary the voltage and current outputs from zero to the maximum rated values. Crossover from constant voltage to constant current operation occurs automatically when the load current exceeds the control settings. A four-position meter-function switch selects either of two output voltage ranges or output current ranges (X1, X0.1) for display.

The 37- to 75-W models are series-regulated designs featuring an output-capacitor discharge circuit that improves programming speed. The 100- to 200-W models employ a series-regulator, SCR-preregulator configuration to achieve the high efficiency necessary for a convection-cooled package of this size.



HP 6281A, 6284A, 6289A, 6294A, 6299A

HP 6282A, 6286A, 6291A, 6296A

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

| | | HP 6281A | HP 6282A | HP 6284A | HP 6286A | HP 6289A | HP 6291A | HP 6294A | |
|-------------------------|---------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------|
| Output ratings | Voltage | 0 to 7.5 V | 0 to 10 V | 0 to 20 V | 0 to 20 V | 0 to 40 V | 0 to 40 V | 0 to 60 V | |
| | Current | 0 to 5 A | 0 to 10 A | 0 to 3 A | 0 to 10 A | 0 to 1.5 A | 0 to 5 A | 0 to 1 A | |
| Load regulation | Voltage | 5 mV | 0.01% + 1 mV | 0.01% + 4 mV | 0.01% + 1 mV | 0.01% + 2 mV | 0.01% + 1 mV | 0.01% + 2 mV | |
| | Current | 0.01% + 250 μA | 0.05% + 1 mA | 0.01% + 250 μA | 0.05% + 1 mA | 0.01% + 250 μA | 0.05% + 1 mA | 0.01% + 250 μA | |
| Line regulation | Voltage | 0.01% + 2 mV | 0.01% + 1 mV | 0.01% + 2 mV | 0.01% + 1 mV | 0.01% + 2 mV | 0.01% + 1 mV | 0.01% + 2 mV | |
| | Current | 0.01% + 250 μA | 0.05% + 1 mA | 0.01% + 250 μA | 0.05% + 1 mA | 0.01% + 250 μA | 0.05% + 1 mA | 0.01% + 250 μA | |
| Ripple and noise | Voltage | rms | 200 μV | 500 μV | 200 μV | 500 μV | 200 μV | 500 μV | 200 μV |
| | | peak-to-peak | 1 mV | 25 mV | 1 mV | 25 mV | 1 mV | 25 mV | 1 mV |
| | Current | rms | 4 mA | 5 mA | 2 mA | 5 mA | 500 μA | 3 mA | 500 μA |
| Load transient recovery | | 50 μs, 15 mV | 50 μs, 15 mV | 50 μs, 15 mV | 50 μs, 15 mV | 50 μs, 15 mV | 50 μs, 15 mV | 50 μs, 15 mV | |

Supplemental Characteristics (nonwarranted characteristics determined by design that are useful in applying the product)

| | | | | | | | | |
|--|-----------------|----------------|-------------------|----------------|-----------------|----------------|-----------------|----------------|
| Resistance programming coefficient | Voltage | 200 Ω/V ± 1% | 200 Ω/V ± 1% | 200 Ω/V ± 1% | 200 Ω/V ± 1% | 200 Ω/V ± 1% | 200 Ω/V ± 1% | 300 Ω/V ± 1% |
| | Current | 200 Ω/A ± 10% | 100 Ω/A ± 10% | 500 Ω/A ± 10% | 100 Ω/A ± 10% | 500 Ω/A ± 10% | 200 Ω/A ± 10% | 1 kΩ/A ± 10% |
| Voltage programming coefficient | Voltage | 1 V/V ± 1% | 1 V/V ± 1% | 1 V/V ± 1% | 1 V/V ± 1% | 1 V/V ± 1% | 1 V/V ± 1% | 1 V/V ± 1% |
| | Current | 200 mV/A ± 10% | 100 mV/A ± 10% | 333 mV/A ± 10% | 100 mV/A ± 10% | 666 mV/A ± 10% | 200 V/A ± 10% | 1 V/A ± 10% |
| Programming response time (at full load) | Up ¹ | 2 ms | 200 ms | 80 ms | 150 ms | 45 ms | 275 ms | 80 ms |
| | Down | 6 ms | 40 ms | 100 ms | 70 ms | 40 ms | 275 ms | 175 ms |
| Overvoltage | Range | 2.5 to 10 V | 1 to 13 V | 2.5 to 23 V | 2 to 22 V | 2.5 to 44 V | 6 to 43 V | 5 to 65 V |
| | Margin | 4% ± 2 V | 7% ± 1 V | 4% ± 2 V | 7% ± 1 V | 4% ± 2 V | 7% ± 1 V | 4% ± 2 V |
| Input power | Frequency range | 48 to 440 Hz | 57 to 63 Hz | 48 to 440 Hz | 57 to 63 Hz | 48 to 440 Hz | 57 to 63 Hz | 48 to 440 Hz |
| | Max current | 1.3 A | 3.5 A | 1.5 A | 5.5 A | 1.3 A | 5.5 A | 1.3 A |
| | Max power | 118 W | 200 W | 128 W | 320 W | 110 W | 280 W | 114 W |
| Weight | Net | 6.4 kg (14 lb) | 11.3 kg (25 lb) | 6.4 kg (14 lb) | 10.8 kg (26 lb) | 6.4 kg (14 lb) | 11.3 kg (25 lb) | 5.9 kg (13 lb) |
| | Shipping | 7.2 kg (16 lb) | 13.6 kg (30 lb) | 7.2 kg (16 lb) | 13.1 kg (29 lb) | 7.2 kg (16 lb) | 12.7 kg (28 lb) | 6.8 kg (15 lb) |
| Options | | 011, 028, 040 | 05, 011, 028, 040 | 011, 028, 040 | 05, 011, 028 | 011, 028, 040 | 05, 011, 028 | 011, 028, 040 |
| Price | | \$1,450 | \$1,900 | \$1,325 | \$1,900 | \$1,325 | \$1,900 | \$1,400 |

¹Up = increasing output voltage

Meter Accuracy: 3% of full scale

Power: Standard input voltage, 115 Vac (±10%) (Order Opt 028 for 230-Vac ±10% operation.)

dc Floating Voltage: Output terminals floatable up to 120 V from ground and from each other

Regulatory Compliance: Conform to IEC 348

Size:

HP 6227B, 6228B: 197 mm W × 155 mm H × 309.55 mm D (7²⁵/₃₂ in × 6¹/₂ in × 12¹/₁₆ in)

HP 6253A, 6255A: 483 mm W × 87 mm H × 403 mm D (19 in × 3³/₁₆ in × 15¹/₁₆ in)

HP 6281A, 6284A, 6289A, 6294A, 6299A: 209 mm W × 87 mm H × 398 mm D (8³/₃₂ in × 3³/₁₆ in × 15¹/₁₆ in)

HP 6282A, 6286A, 6291A, 6296A: 210 mm W × 131 mm H × 435 mm D (8¹/₄ in × 5¹/₂ in × 17¹/₁₆ in)