

Power Supplies

170

Precision Measurement Single-Output System: 100 W

HP 6631B
HP 6632B
HP 6633B
HP 6634B

- Precision low current measurement
- Low-output noise
- High-speed programming
- GPIB and RS-232 interface
- SCPI (Standard Commands for Programmable Instruments)
- HP VXI *plug&play* drivers



Abbreviated Specifications and Characteristics

		HP 6631B	HP 6632B	HP 6633B	HP 6634B
Output ratings	Voltage/Current	0 to 8 V/0 to 10 A	0 to 20 V/0 to 5 A	0 to 50 V/0 to 2 A	0 to 100 V/0 to 1 A
Programming accuracy at 25° C ±5° C	Voltage/+ Current	0.05% +	5 mV/4 mA	10 mV/2 mA	20 mV/1 mA
Ripple and noise (20 Hz to 20 MHz, with outputs ungrounded or with either terminal grounded)	Voltage Normal mode (rms/p-p)	0.3 mV/3 mV	0.3 mV/3 mV	0.5 mV/3 mV	0.5 mV/3 mV
	Voltage Fast mode (rms/p-p)	1 mV/10 mV	1 mV/10 mV	1 mV/15 mV	2 mV/25 mV
	Current (rms)	3 mA	2 mA	2 mA	2 mA
DC measurement accuracy: via GPIB or front-panel meters with respect to actual output at 25° C ±5° C	Voltage	0.03% +	2 mV	3 mV	6 mV
	Low current range –20 mA to +20 mA	0.1% +	2.5 μA	2.5 μA	2.5 μA
	High current range +20 mA to + rated I	0.2% +	1 mA	0.5 mA	0.25 mA
	–20 mA to –rated I	0.2% +	1.6 mA	1.1 mA	0.85 mA
Load regulation	Voltage/Current	2 mV/2 mA	2 mV/1 mA	4 mV/1 mA	5 mV/1 mA
Line regulation	Voltage/Current	0.5 mV/1 mA	0.5 mV/0.5 mA	1 mV/0.25 mA	1 mV/0.25 mA
Transient Response Time: Less than 100 μs (50 μs in the fast mode) for the output voltage to recover to its previous level (within 0.1% of the voltage rating of the supply) following any step change in load current of up to 50% of the output current rating of the supply					
Average programming resolution	Voltage/Current	2 mV/2.5 mA	5 mV/1.25 mA	12.5 mV/0.5 mA	25 mV/0.25 mA
Sink current*		10 A	5 A	2 A	1 A
Minimum current in constant current mode**		40 mA	20 mA	8 mA	4 mA

* For the HP 6631B–6634B, the sink current tracks the programmed current to within 2 mA for programmed currents greater than 10 mA, 5 mA, 2.5 mA, 1.25 mA respectively. Below these values, they remain at the respective values of 10 mA, 5 mA, 2.5 mA, and 1.25 mA. When programming in the HP 6630A Series language compatibility mode, the sink current for the HP 6631B–6634B tracks the programmed current with a negative 500 mA, 250 mA, 100mA and 50 mA respectively.
**When programming in the HP 6630A Series language compatibility mode.

dc Floating Voltage: Output terminals can be floated up to ±240 Vdc maximum from chassis ground
Remote Sensing: Up to two volts dropped in each load lead. Add 2 mV to the voltage load regulation specification for each one volt change in the positive output lead due to load current change.
Command-Processing Time: Average time required for the output voltage to begin to change following receipt of digital data is 4 ms for the power supplies connected directly to the GPIB.
Output-Programming Response Time: The rise and fall time (10/90% and 90/10%) of the output voltage is less than 2 μs (400 ms in fast mode). The output voltage change settles within 1 LSB (0.025% x rated voltage) of final value in less than 6 ms (2 ms in the fast mode).
HP-IB Interface Capabilities: IEEE-488.2, SCPI command set, and 6630A Series programming compatibility
Instrument Time: Average time to make a voltage or current measurement is 50 ms.
Input Power 350 VA, 250 W
Regulatory Compliance: Listed to UL-3111-1; certified to CSA 22.2 No. 1010.1; complies with EN 61010-1; complies with EMC directive 89/336/EEC (ISM Group 1, Class B)
Warranty Period: Three years
Size: 425.5 mm W x 88.1 mm H x 364.4 mm D (16.8 in x 3.5 in x 14.3 in)
Weight: 12.7 kg (28 lb) net; 15.0 kg (33 lb) shipping

Key Literature

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

For more information, visit our web site:
<http://www.hp.com/go/singlePS>

Ordering Information

Standard: 104 to 127 Vac, 47 to 63 Hz
Opt 100 87 to 106 Vac, 47 to 63 Hz
Opt 220 191 to 233 Vac, 47 to 63 Hz
Opt 230 207 to 253 Vac, 47 to 63 Hz
Opt 020 Front-panel Binding Posts
Opt 760 Isolation and Reversal Relays (HP 6632B-6634B only)
Opt 8ZJ Delete instrument feet
Opt ICM Rackmount Kit, HP p/n 5062-3974
Opt 1CP Rackmount Kit with Handles, HP p/n 5062-3975
Opt 0BN Service Manual and extra Operating Guide (Standard unit is shipped with operating guide and programming guide only.)

Accessories

HP p/n 1494-0060 Rack Slide Kit