Keysight Technologies
6630B Series Single-Output, 80-100 W GPIB Power Supplies

Data Sheet



KEYSIGHT TECHNOLOGIES

Unlocking Measurement Insights

Speed and accuracy for test optimization

- Fast, low-noise outputs
- Programmable active down-programmer sinks the full rated current
- Dual-range, precision low current measurement
- Optional isolation and polarity reversal relays
- Built-in measurements and advanced programmable features
- Protection features to ensure DUT safety

The Keysight Technologies, Inc. series of linear-regulated 80-100 W DC power supplies is designed to maximize the throughput of DUTs through the manufacturing test process. Both programming and measurement are optimized for speed. The active downprogrammer can sink up to the full rated current of the power supply, which quickly brings the power supply output to zero volts. The 6630B series offers many advanced programmable features including stored states and status reporting. Programming is done using industry standard SCPI commands via the GPIB or RS-232. Test system integration is further simplified by using the VXIplug&play drivers. The optional relays simplify system design and troubleshooting.

The optional front panel binding posts make the 6630B series convenient on the R&D lab bench. The built-in microamp measurement system helps the engineer to easily and accurately monitor the output voltage and current without a complicated test setup.

Specifications

Specifications (at 0 ° to 55 ° unless otherwise specified)	**6631B**	**6632B**	**6633B**	**6634B**
Number of outputs	1	1	1	1
GPIB	Yes	Yes	Yes	Yes
Output ratings				
Voltage	0 to 8 V	0 to 20 V	0 to 50 V	0 to 100 V
Current	0 to 10 A	0 to 5 A	0 to 2 A	0 to 1 A
Programming accuracy (at 25 °C ± 5 °C)				
Voltage	5 mV	10 mV	20 mV	50 mV
+Current	4 mA	2 mA	1 mA	0.5 mA
0.05% +				
Ripple and noise from 20 Hz to 20 MHz with outputs ungrounded or with either terminal grounded				
Voltage normal mode	0.3 mV	0.3 mV	0.5 mV	0.5 mV
rms	3 mV	3 mV	3 mV	3 mV
peak-to-peak				
Fast mode	1 mV	1 mV	1 mV	2 mV
rms	10 mV	10 mV	15 mV	25 mV
peak-to-peak				
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	12 mV
Low current range –20 mA to +20 mA 0.1% +	2.5 µA	2.5 µA	2.5 µA	2.5 µA
High current range +20 mA to + rated I 0.2% +	1 mA 1.6 mA	0.5 mA 1.1 mA	0.25 mA 0.85 mA	0.25 mA 0.85 mA
–20 mA to –rated I 0.2% +				
Load regulation				
Voltage	2 mV	2 mV	4 mV	5 mV
Current	2 mA	1 mA	1 mA	1 mA
Line regulation				
Voltage	0.5 mV	0.5 mV	1 mV	1 mV
Current	1 mA	0.5 mA	0.25 mA	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 or 20 mV) following any step change in load current of up to 50% of the output current rating of the supply.

Supplemental Characteristics (Non-warranted characteristics determined by design and useful in applying the product)	**6631B**	**6632B**	**6634A**	**6635A**
Average programming resolution				
Voltage	2 mV	5 mV	12.5 mV	25 mV
Current	2.5 mA	1.25 mA	0.5 mA	0.25 mA
Sink current	10 A	5 A	2 A	1 A
Sink current tracking				
SCPI mode	0.4% + 4 mA	0.4% + 2 mA	0.4% +1 mA	0.4% + 5 mA
Compatibility mode	–500 mA	–250 mA	–100 mA	–50 mA
Minimum current in constant current mode*	40 mA	20 mA	8 mA	4 mA

* When programming in the 6630A Series language compatibility mode

Supplemental characteristics for all model numbers

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. (Display disabled).

Output programming response time: The rise and fall time (10/90% and 90/10%) of the output voltage is less than 2 ms (400 µs 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).

GPIB interface capabilities: IEEE-488.2, SCPI command set, and 6630A Series programming compatibility

Software driver: VXIplug&play

Measurement time: Average time to make a voltage or current
measurement is 50 ms.

Input power (full load): 3.5 A, 250 W

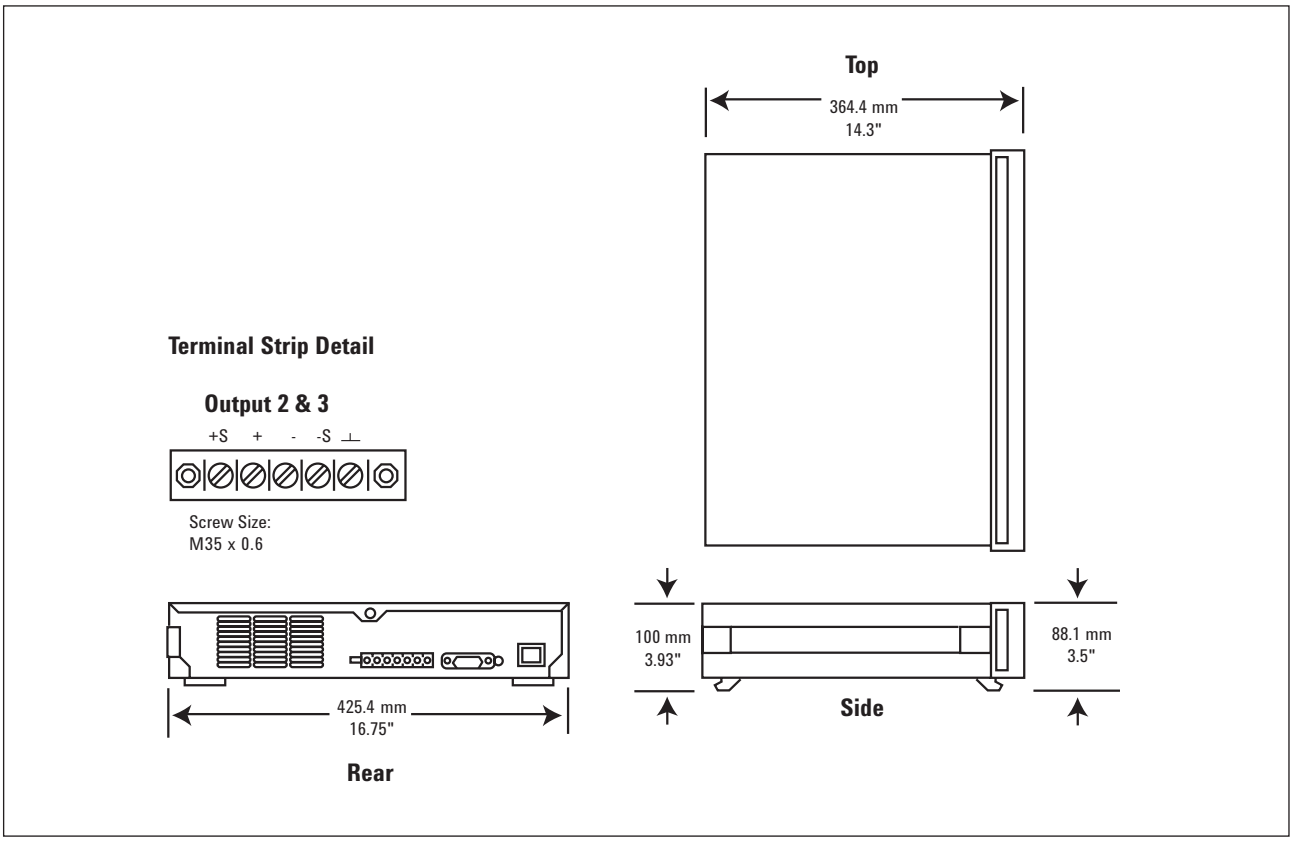
Regulatory compliance: Complies with EMC directive 89/336/EEC (ISM 1B).

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: Net, 12.7 kg (28 lb) net; 15.0 kg (33 lb) shipping

Warranty: One year

Keysight Models: 6631B, 6632B 6633B, 6634B



Ordering information

Opt 100 87 to 106 VAC, 47 to 63 Hz

Opt 120 104 to 127 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 (N/A on 6631B)

Opt 760 Isolation and reversal relays, only available at time of order (not available on the 6631B)

Opt 8ZJ Removes feet for use in a racked system

Opt 0L1 Full documentation on CD-ROM, and printed standard documentation package. CD-ROM includes User's Guide, Programming Guide, Service Manual and Quick Start Guide

Opt 0B3 Service manual

Accessories

p/n 1494-0060 Rack slide kit

E3663AC Support rails for Keysight rack cabinets

1CM002A* Rack mount flange kit 88.1mm H (2U), two flange brackets: 1.75 inch hole spacing

1CP001A* Rack mount flange and handle kit 88.1 mm H (2U), two brackets and front handles

Application notes

10 Practical Tips You Need to Know About Your Power Products, 5965-8239E

10 Hints for Using Your Power Supply to Decrease Test Time, 5968-6359E

Understanding Linear Power Supply Operation (AN1554), 5989-2291EN

*Support rails required

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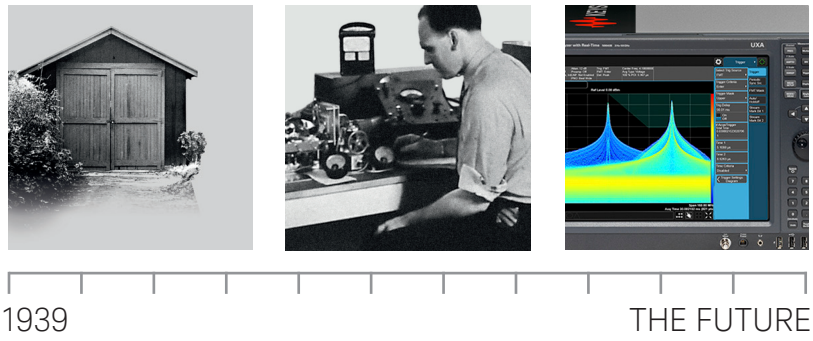

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