

# Keysight Technologies

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

Data Sheet



## 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

<b>Specifications</b> (at 0 ° to 55 ° unless otherwise specified)	<b>6631B</b>	<b>6632B</b>	<b>6633B</b>	<b>6634B</b>
<b>Number of outputs</b>	1	1	1	1
<b>GPIB</b>	Yes	Yes	Yes	Yes
<b>Output ratings</b>				
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
<b>Programming accuracy</b> (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% +				
<b>Ripple and noise</b> from 20 Hz to 20 MHz with outputs ungrounded or with either terminal grounded				
Voltage normal mode rms	0.3 mV	0.3 mV	0.5 mV	0.5 mV
peak-to-peak	3 mV	3 mV	3 mV	3 mV
Fast mode rms	1 mV	1 mV	1 mV	2 mV
peak-to-peak	10 mV	10 mV	15 mV	25 mV
Current rms	3 mA	2 mA	2 mA	2 mA
<b>DC measurement accuracy</b> via GPIB or front-panel meters with respect to actual output at 25 °C ± 5 °C				
<b>Voltage</b> 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% + -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
<b>Load regulation</b>				
Voltage	2 mV	2 mV	4 mV	5 mV
Current	2 mA	1 mA	1 mA	1 mA
<b>Line regulation</b>				
Voltage	0.5 mV	0.5 mV	1 mV	1 mV
Current	1 mA	0.5 mA	0.25 mA	0.25 mA
<b>Transient response time</b>				

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.

<b>Supplemental Characteristics</b> (Non-warranted characteristics determined by design and useful in applying the product)	<b>6631B</b>	<b>6632B</b>	<b>6634A</b>	<b>6635A</b>
<b>Average programming resolution</b>				
Voltage	2 mV	5 mV	12.5 mV	25 mV
Current	2.5 mA	1.25 mA	0.5 mA	0.25 mA
<b>Sink current</b>	10 A	5 A	2 A	1 A
<b>Sink current tracking</b>				
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
<b>Minimum current in constant current mode*</b>	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  $\pm 240$  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  $\mu$ s 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

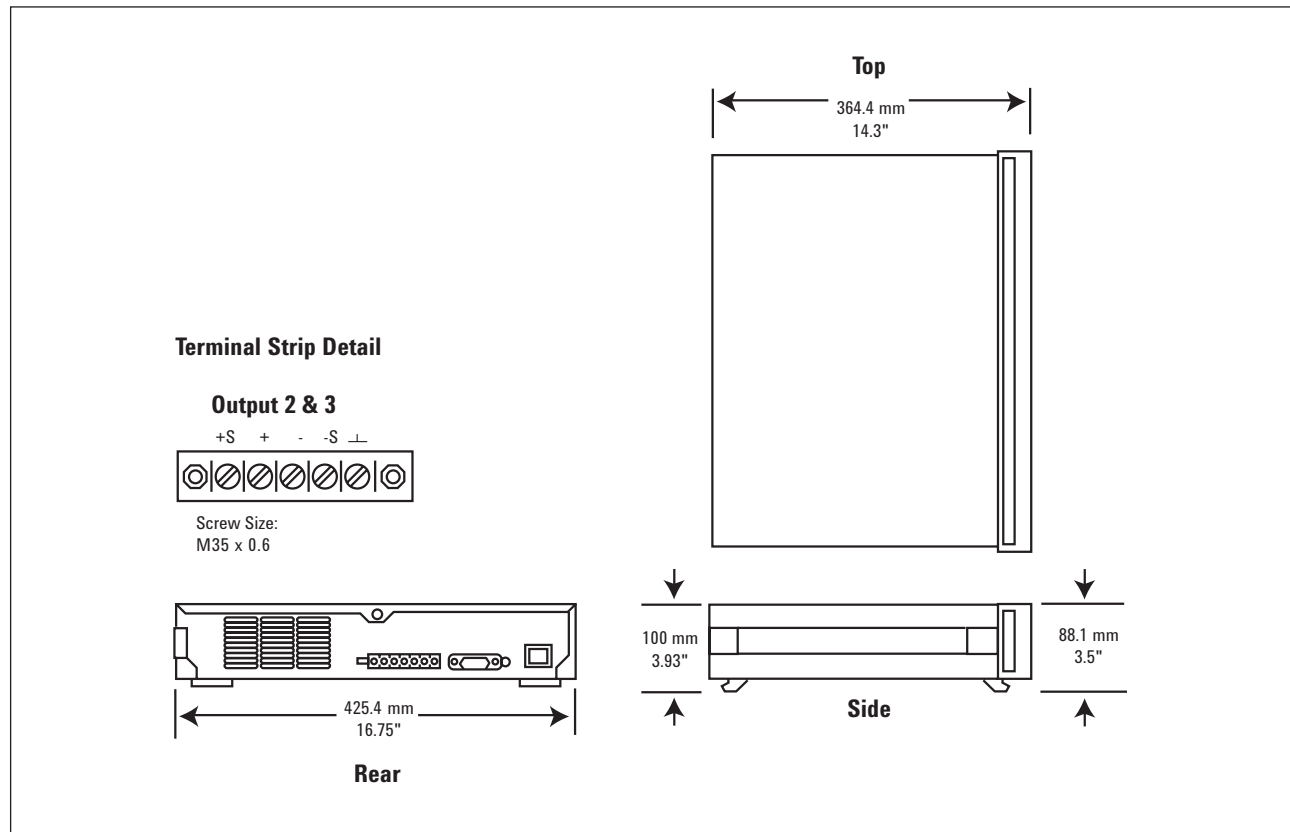
**Regulatory compliance:** Complies with EMC directive 89/336/EEC (ISM 1B).

**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 stan-  
dard 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

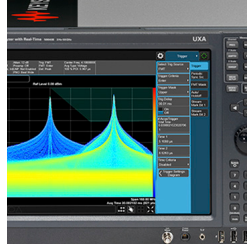
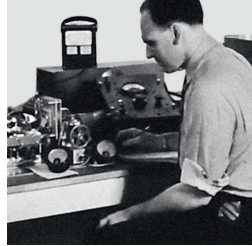
\*Support rails required

## From Hewlett-Packard through Agilent to Keysight

For more than 75 years, we've been helping you unlock measurement insights. Our unique combination of hardware, software and people can help you reach your next breakthrough. **Unlocking measurement insights since 1939.**



1939



THE FUTURE

[www.keysight.com/find/6630](http://www.keysight.com/find/6630)  
myKeysight

### myKeysight

[www.keysight.com/find/mykeysight](http://www.keysight.com/find/mykeysight)  
A personalized view into the information most relevant to you.



#### Three-Year Warranty

[www.keysight.com/find/ThreeYearWarranty](http://www.keysight.com/find/ThreeYearWarranty)  
Keysight's committed to superior product quality and lower total cost of ownership. Keysight is the only test and measurement company with three-year warranty standard on all instruments, worldwide. And, we provide a one-year warranty on many accessories, calibration devices, systems and custom products.



#### Keysight Assurance Plans

[www.keysight.com/find/AssurancePlans](http://www.keysight.com/find/AssurancePlans)  
Up to ten years of protection and no budgetary surprises to ensure your instruments are operating to specification, so you can rely on accurate measurements.

#### Keysight Infoline

### Keysight Infoline

[www.keysight.com/find/service](http://www.keysight.com/find/service)  
Keysight's insight to best in class information management. Free access to your Keysight equipment company reports and e-library.

#### Keysight Channel Partners

[www.keysight.com/find/channelpartners](http://www.keysight.com/find/channelpartners)  
Get the best of both worlds: Keysight's measurement expertise and product breadth, combined with channel partner convenience.

[www.keysight.com/find/6630](http://www.keysight.com/find/6630)

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: [www.keysight.com/find/contactus](http://www.keysight.com/find/contactus)

#### Americas

Canada	(877) 894 4414
Brazil	55 11 3351 7010
Mexico	001 800 254 2440
United States	(800) 829 4444

#### Asia Pacific

Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 11 2626
Japan	0120 (421) 345
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Other AP Countries	(65) 6375 8100

#### Europe & Middle East

Austria	0800 001122
Belgium	0800 58580
Finland	0800 523252
France	0805 980333
Germany	0800 6270999
Ireland	1800 832700
Israel	1 809 343051
Italy	800 599100
Luxembourg	+32 800 58580
Netherlands	0800 0233200
Russia	8800 5009286
Spain	800 000154
Sweden	0200 882255
Switzerland	0800 805353
	Opt. 1 (DE)
	Opt. 2 (FR)
	Opt. 3 (IT)
United Kingdom	0800 0260637

For other unlisted countries:  
[www.keysight.com/find/contactus](http://www.keysight.com/find/contactus)  
(BP-02-10-16)



[www.keysight.com/go/quality](http://www.keysight.com/go/quality)  
Keysight Technologies, Inc.  
DEKRA Certified ISO 9001:2015  
Quality Management System