

Keysight Technologies

6620A Series Precision Multiple-Output,  
25-50 W DC Power Supplies, GPIB

Data Sheet





## Introduction

- Up to four fully isolated power supplies in a 3U package
- Fast, low noise outputs
- Dual range, precision low current measurement
- Built-in measurements and advanced programmable features
- Protection features to ensure DUT safety

Two or four isolated outputs are integrated into one package, conserving rack space and GPIB addresses. Dual ranges allow for more current at lower voltage levels. The outputs can be connected in parallel or series to further increase the flexibility that these products offer the system designer. Programming is done using industry standard SCPI commands and test system integration can be further simplified by using the *VXIplug&play* drivers. These power supplies help reduce test time with fast up and down programming, enhanced by the active down-programmer which can sink the full rated current.

These power supplies are very useful on the R&D bench. The accuracy of both the programming and the measurement systems allow precise control and monitoring of prototype bias power. The extensive protection features protect valuable prototypes, including very fast CV/CC crossover. The power supply can be controlled from either the front panel keypad or, for automated testing, from the GPIB.

## Specifications

<b>Specifications</b> (at 0 ° to 55 °C unless otherwise specified)		<b>25 W output</b>	<b>50 W output</b>
<b>Output power</b>			
Low-range voltage, current		0 to 7 V, 0 to 15 mA	0 to 16 V, 0 to 200 mA
High range voltage, current		0 to 50 V, 0 to 500 mA	0 to 50 V, 0 to 1 A or 0 to 16 V, 0 to 2 A
<b>Output combinations</b> for each model (total number of outputs)			
<b>6625A</b> (2) precision		1	1
<b>6626A</b> (4) precision		2	2
<b>6628A</b> (2) precision		–	2
<b>6629A</b> (4) precision		–	4
<b>Programming accuracy at 25 °C ± 5 °C</b>			
Voltage	(low) 0.016% +	1.5 mV	3 mV
	(high) 0.016% +	10 mV	10 mV
Current	(low) 0.04% +	15 µA	185 µA
	(high) 0.04% +	100 µA	500 µA
<b>Readback accuracy at 25 °C ± 5 °C</b>			
Voltage	(low) 0.016% +	2 mV	3.5 mV
	(high) 0.016% +	10 mV	10 mV
± Current	(low) 0.03% +	15 µA	250 µA
	(high) 0.03% +	130 µA	550 µA
<b>Ripple and noise</b> (peak-to-peak, 20 Hz to 20 MHz; rms, 20 Hz to 10 MHz)			
Constant voltage rms		500 µV	500 µV
peak-to-peak		3 mV	3 mV
Constant current rms		0.1 mA	0.1 mA
<b>Load regulation</b>			
Voltage		0.5 mV	0.5 mV
Current		0.005 mA	0.01 mA
<b>Load cross regulation</b>			
Voltage		0.25 mV	0.25 mV
Current		0.005 mA	0.01 mA
<b>Line regulation</b>			
Voltage		0.5 mV	0.5 mV
Current		0.005 mA	0.01 mA
<b>Transient response time</b> Less than 75 µs for the output voltage to recover to within 75 mV of nominal value following a load change within specifications			

<b>Supplemental characteristics</b> (Non-warranted characteristics determined by design and useful in applying the product)		<b>25 W output</b>	<b>50 W output</b>
<b>Average programming resolution</b>			
Voltage	(low)	460 µV	1 mV
	(high)	3.2 mV	3.2 mV
Current	(low)	1 µA	13 µA
	(high)	33 µA	131 µA
OVP		230 mV	230 mV
<b>Output programming response time</b> (time to settle within 0.1% of full scale output, after Vset command has been processed)		6 ms	6 ms

## Supplemental characteristics for all model numbers

**DC floating voltage:** Output terminals can be floated up to  $\pm 240$  VDC from chassis ground

**Remote sensing:** Up to 10 V drop per load lead. The drop in the load leads is subtracted from the voltage available for the load.

**Command processing time:**

7 ms typical with front-panel display disabled

**Input power:** 550 W max., 720 VA max.

**GPIB interface capabilities:**

SH1, AH1, T6, L4, SR1, RL1, PP1, DC1, DT0, C0, E1.

**Software driver:** *VXIplug&play*

**Regulatory compliance:** Listed to UL 1244; conforms to IEC 61010-1

**Size:**

425.5 mm W x 132.6 mm H x 497.8 mm D (16.75 in x 5.22 in x 19.6 in)

**Weight:**

6626A, 6629A: Net, 17.4 kg (38 lb); shipping, 22.7 kg (50 lb)

6625A, 6628A: Net, 15.5 kg (34 lb); shipping, 20.8 kg (46 lb)

**Keysight Technologies, Inc. models:** 6625A, 6626A, 6628A, 6629A

**Terminal strip detail**

**Output 2 & 3**

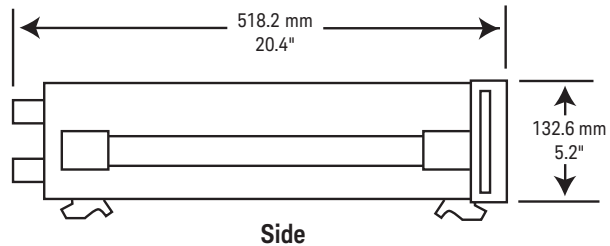
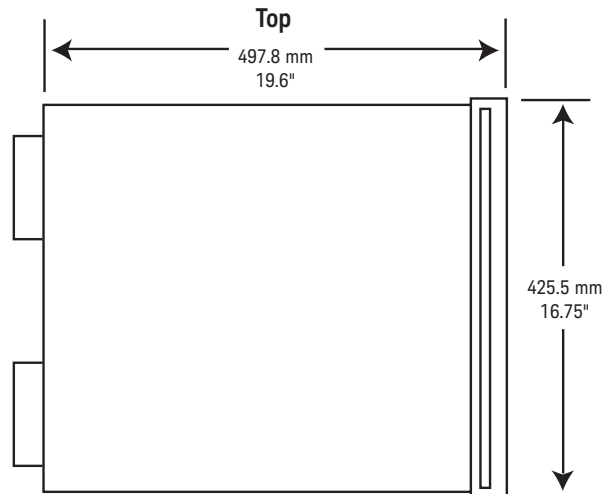
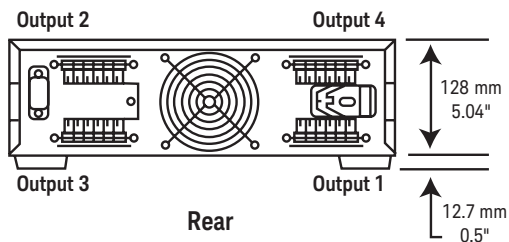
-0V +0V -S -V +V +S



Screw Size:  
M3.5 x 0.6

**Output 1 & 4**

+S +V -V -S +0V -0V



## Ordering information

The 6620A precision power supplies come with full documentation on CD-ROM. The CD-ROM includes operating manual, service manual, and application notes.

<b>Opt 100</b>	87 to 106 VAC, 47 to 66 Hz, 6.3 A (Japan only)
<b>Opt 120</b>	104 to 127 VAC, 47 to 63 Hz
<b>Opt 220</b>	191 to 233 VAC, 47 to 66 Hz, 3.0 A
<b>Opt 240</b>	209 to 250 VAC, 47 to 66 Hz, 3.0 A
<b>Opt 750</b>	Relay control and DFI/RI
<b>Opt S50</b>	Similar to Option 750, however the remote inhibit does not latch

<b>Opt 0L1</b>	Printed operating manual
<b>Opt 0B3</b>	Printed service manual

### Accessories

<b>1CM003A*</b>	Rack mount flange kit 132.6 mm H (3U) – two flange brackets
<b>1CP002A*</b>	Rack mount flange and handle kit 132.6 mm H (3U) – two brackets and front handles
<b>E3663AC</b>	Support rails for Keysight rack cabinets
<b>1494-0059</b>	Rack slide kit

\* *Support rails required*

## Application notes

<i>10 Practical Tips You Need to Know About Your Power Products - AN</i>	5965-8239E
<i>10 Hints for Using Your Power Supply to Decrease Test Time - AN</i>	5968-6359E
<i>Understanding Linear Power Supply Operation - AN</i>	5989-2291EN
<i>Modern Connectivity—Using USB and LAN I/O Converters - AN</i>	5989-0123EN

## Evolving Since 1939

Our unique combination of hardware, software, services, and people can help you reach your next breakthrough. We are unlocking the future of technology.

From Hewlett-Packard to Agilent to Keysight.



### myKeysight

#### myKeysight

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

A personalized view into the information most relevant to you.

[http://www.keysight.com/find/emt\\_product\\_registration](http://www.keysight.com/find/emt_product_registration)

Register your products to get up-to-date product information and find warranty information.

### KEYSIGHT SERVICES

Accelerate Technology Adoption.  
Lower costs.

#### Keysight Services

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

Keysight Services can help from acquisition to renewal across your instrument's lifecycle. Our comprehensive service offerings—one-stop calibration, repair, asset management, technology refresh, consulting, training and more—helps you improve product quality and lower costs.



#### 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 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/6620](http://www.keysight.com/find/6620)

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-9-7-17)

DEKRA Certified  
ISO 9001 Quality Management System

[www.keysight.com/go/quality](http://www.keysight.com/go/quality)

Keysight Technologies, Inc.  
DEKRA Certified ISO 9001:2015  
Quality Management System



This information is subject to change without notice.  
© Keysight Technologies, 2017  
Published in USA, December 2, 2017  
5991-0033EN  
[www.keysight.com](http://www.keysight.com)