

**Agilent**  
U8000 Series  
Single Output DC Power Supplies

Data Sheet



[www.DataSheet4U.com](http://www.DataSheet4U.com)



[www.DataSheet4U.com](http://www.DataSheet4U.com)

## Key Features

- ✓ **Excellent load and line regulation:**  
(CV: <math><0.01\% + 2\text{ mV}</math>;  
CC: <math><0.02\% + 2\text{ mA}</math>)
- ✓ **Low output noise: 1 mVrms**  
(20 Hz to 20 MHz)
- ✓ **Over Voltage and Over Current Protection**
- ✓ **LCD display with backlight capability**
- ✓ **Standby output for safety purposes**
- ✓ **Save-and-recall function up to three memory states**
- ✓ **Security features: keypad lock and physical lock mechanism**



Figure 1. The U8001A 90 W and U8002A 150 W single output DC power supplies

## More Protection, More Convenience — For Less

It's often difficult to find a power supply that is just right for your test requirements and your budget. Whether you're manufacturing consumer products, testing electronic components, or simply looking for reliable, affordable power, Agilent's family of basic power supplies now includes single output, non-programmable models in the 90 W to 150 W power range. With capabilities typically found only in programmable supplies, you get excellent value along with great efficiency in your work. As a result, you can minimize setup time and measurement errors and maximize device reliability. You'll get the right power with a difference — backed by stringent safety certifications and Agilent quality standards — at an affordable price.

The Agilent U8000 Series offers 90 W to 150 W single output, non-programmable DC power supplies that include features typically found only in costly programmable supplies. The U8000 Series delivers excellent value by providing reliable DC power, efficient setup capabilities, and important security features that let you address a variety of applications in electronics manufacturing and educational settings.

## Power That's Suitable for Your Application Requirements

The U8000 Series with power ranging from 90 W to 150 W provides performance that is suitable for electronics manufacturing for computers and peripherals, communication systems and peripherals, aircraft/avionics systems, electronic components, and more. The U8000 Series complements the Agilent E3600 DC power supplies family to provide a wider range of power source alternatives.

## Work Efficiently with Great Features and Solid Performance — Within Budget

### Differentiated features typically found only in programmable power supplies

The U8000 Series offers fully integrated over voltage protection (OVP) and over current protection (OCP) to prevent damage to the device-under-test (DUT). Using the capability to save and recall three memory states, you can minimize errors and reduce set-up time. The U8000 Series also provides security features such as keypad lock to prevent measurement errors due to accidental front panel usage. When the keypad lock is activated, the knob and all the buttons on the front panel are disabled except the keypad lock button. The physical lock mechanism found at the rear panel of the power supply provides secure instrument storage. The LCD display with backlight on/off options enables brighter display for data viewing (see Figure 2).

### Solid, reliable performance in its class

The U8000 Series provides excellent load and line regulation (Constant Voltage, CV: <math>< 0.01\% + 2 \text{ mV}</math>; Constant Current, CC: <math>< 0.02\% + 2 \text{ mA}</math>) to ensure stable output even when the load changes. With the fast 50  $\mu\text{sec}$  transient response, test times and manufacturing cost are significantly reduced. The U8000 Series comes with low output noise of 1 mVrms, 3 mArms from 20 Hz to 20 MHz, providing clean output and minimizing the interference in the DUT.

www.DataSheet4U.com

## Get That Something Extra: Safety and Security

The U8000 Series has been stringently tested according to various industrial safety standards: CSA (for US and CA regulatory requirements), C-tick (Australia), and CE (Europe). The U8000 Series is fully integrated with OVP and OCP in order to prevent damage to the DUT. The security features offered in the U8000 Series prevent measurement errors and also ensure safety storage of the power supply. Security features such as keypad locking capability preclude accidental front panel usage while the physical lock mechanism provides secure instrument storage.

## Front Panel Operation

An easy-to-use rotary knob and self-guiding keypads allow you to set the output at your desired resolution without any effort. Also, both voltage and current levels can be set to a maximum resolution of 10 mV/10 mA from the front panel. In addition, you can save and recall for up to three operating states that are stored in the internal non-volatile memory.

Easy-to-use control functions:

- Enabling or disabling OVP and OCP
- Setting the OVP and OCP trip levels
- Clearing OVP and OCP conditions
- Setting and displaying the voltage and current limit values
- Operating state storage/recall
- Resetting the power supply to power-on state
- Calibrating the power supply
- Enabling or disabling the output

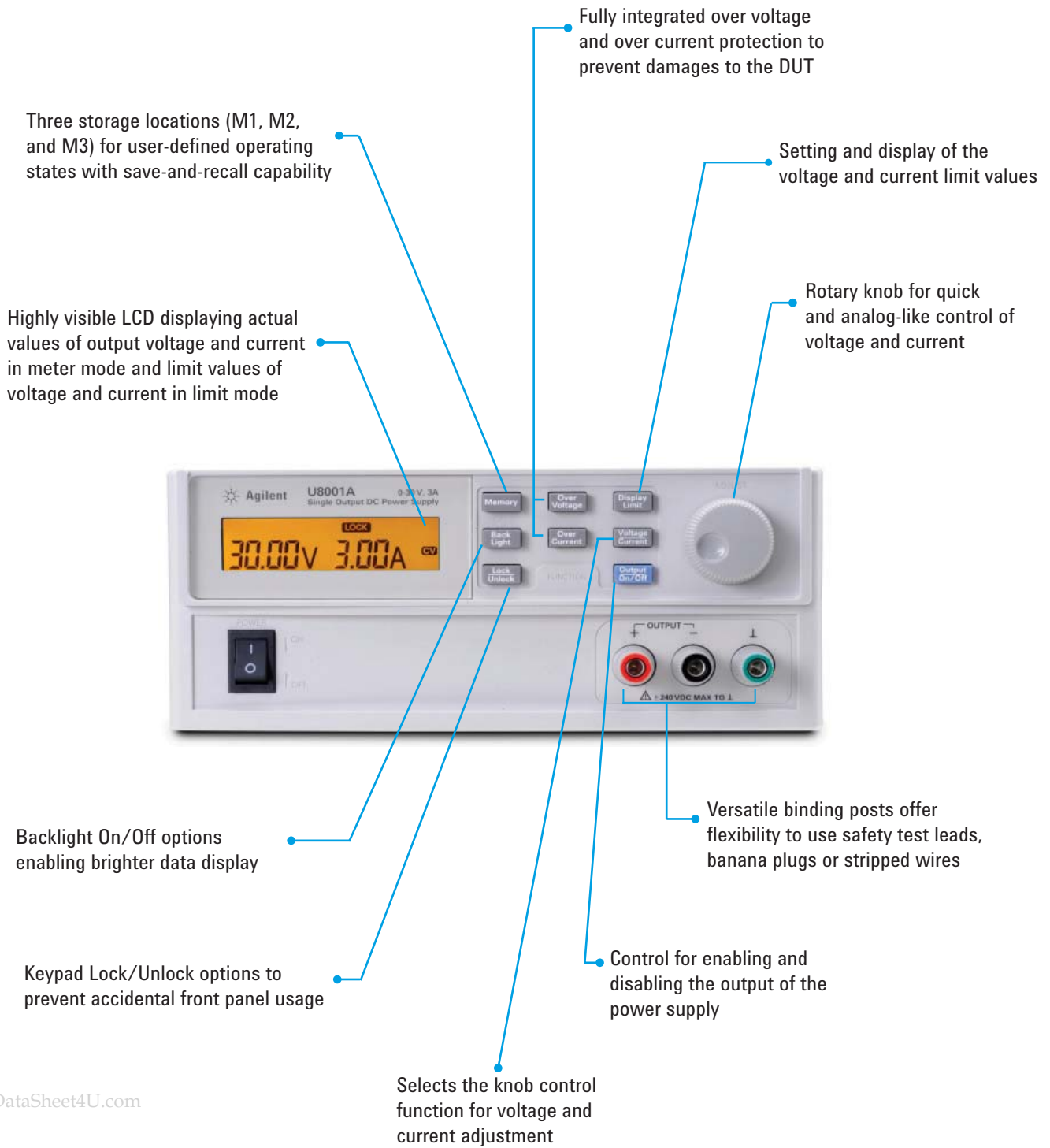


Figure 2. Backlight on/off options for LCD display



Figure 3. Safety and security features of the U8000 Series single output DC power supplies

# Features of the U8000 Series



# Performance Specifications

## Electrical Specifications

Parameter	U8001A	U8002A
Output Ratings (at 0 °C to 40 °C)	0 to +30 V 0 to 3 A	0 to +30 V 0 to 5 A
Line and Load Regulation	CV: <0.01% +2 mV CC: <0.02% +2 mA	
Ripple and Noise (25 °C ±5 °C)	CV: 12 mVp-p, <1 mVrms; CC: 3 mArms	
Load Transient Response Time (within 15 mV from full load to half load and from half load to full load)	<50 μs	
Programming Accuracy <sup>1</sup> (25 °C ±5 °C)	<0.35% +20 mV <0.35% +20 mA	
Readback Accuracy <sup>1</sup> (25 °C ±5 °C)	<0.35% +20 mV <0.35% +20 mA	
Meter Resolution	Voltage: 10 mV Current: 10 mA	
Maximum Output Float Voltage	±240 Vdc	

<sup>1</sup> Specifications are based on one hour warm-up period.

## Supplemental Characteristics

### Supplemental Characteristics

Parameter	U8001A	U8002A
Temperature Coefficient (for 12 months)	CV: <100 ppm/ °C	
	CC: <380 ppm/ °C	CC: <300 ppm/ °C
Output Voltage Overshoot (during turn-on or turn-off of AC power state with the output control set to less than 1 V)	<1 V	
Voltage Programming Speed, to within 1% of total excursion		
Up	Full Load	150 ms
	No Load	100 ms
Down	Full Load	30 ms
	No Load	450 ms
Last Memory Setting Enabled	Yes	
Over Voltage Protection Response Time	<1.5 ms when the trip voltage is equal to or greater than 3 V and <10 ms when the trip voltage is less than 3 V (average time for output to drop from 90% of output voltage to 1 V after OVP condition occurred)	

### Protection Features

Parameter	U8001A	U8002A
Over Voltage Protection Accuracy ± (% of output + offset)	<0.5% +0.5 V	
Over Voltage Protection Programmable Range	1 V to 33 V	
Over Current Protection Accuracy ± (% of output + offset)	<0.5% +0.5 A	
Over Current Protection Programmable Range	1 A to 3.3 A	1 A to 5.5 A

### AC Power Input Specifications

Parameter	U8001A	U8002A
Input Power Option (selectable)	100 Vac ± 10%, 47 to 63 Hz 115 Vac ± 10%, 47 to 63 Hz 230 Vac ± 10%, 47 to 63 Hz	
Fuse	External, customer assessable	

### Physical Specifications

Parameter	U8001A	U8002A
Dimensions (H x W x L)	88.1 mm x 212.3 mm x 394.3 mm	
Weight	7.3 kg	8.3 kg

# General Characteristics

## Display

Liquid Crystal Display (LCD)

## Operating Environment

- Operating temperature from 0 °C to 40 °C (for full rated output) and 40 °C to 55 °C (for derated output)
- Relative humidity up to 95%
- Altitude up to 2000 meters

## Storage Compliance

-20 °C to 70 °C

## Safety and EMC Compliance

Certified with:

- IEC 61326:2002/EN61326:1997+A1:1998+A3:2003
- CISPR 11:1990/EN55011:1990
- Canada: ICES-001:2004
- Australia/New Zealand: AS/NZS CISPR11:2004
- IEC 61010-1:2001/EN61010-1:2001 (2<sup>nd</sup> Edition)
- Canada: CAN/CSA-C22.2 No. 61010-1-04
- USA: ANSI/UL 61010-1:2004

## Memory Operations

Up to three operating states

## Programming Language

- Standard Commands for Programmable Instruments (SCPI)

## Warranty

- One year for U8000 series power supplies
- Three months for standard shipped accessories

## Calibration Cycle

One year

## Warm-up time

60 minutes

## Ordering Information

U8001A DC Power Supply, 30 V, 3 A  
U8002A DC Power Supply, 30 V, 5 A

## Included Documentation:

U8001A-0B0 No documentation package

## Additional Documentation:

- U8001A-AB0 Traditional Chinese User's and Service Guide
- U8001A-AB2 China – Simplified Chinese printed User's and Service Guide
- U8001A-ABA English User's and Service Guide
- U8001A-ACF Japanese User's and Service Guide

## Calibration Document:

U8001A-UK6 Commercial calibration with test result data

## Power Options

Opt 0E9 90 to 110 Vac, 47 to 63 Hz  
Opt 0EM 104 to 126 Vac, 47 to 63 Hz  
Opt 0E3 207 to 253 Vac, 47 to 63 Hz

## Other Options

- Option U800xA-AUT Custom Power On
- E3600A-100 Test lead kit
- Option 1CM Rack-mount kit

## Rack-mount Kits

To rack-mount a single instrument:  
Adapter kit (P/N 5063-9240)

To rack-mount two instruments side-by-side:

Lock-link kit (P/N 5061-9694)  
Flange kit (P/N 5063-9212)

To rack-mount two instruments in a sliding support shelf:

Support shelf (P/N 5063-9255)  
Slide kit (P/N 1494-0015)



### Agilent Email Updates

[www.agilent.com/find/emailupdates](http://www.agilent.com/find/emailupdates)

Get the latest information on the products and applications you select.



### Agilent Direct

[www.agilent.com/find/agilentdirect](http://www.agilent.com/find/agilentdirect)

Quickly choose and use your test equipment solutions with confidence.



[www.agilent.com/find/open](http://www.agilent.com/find/open)

Agilent Open simplifies the process of connecting and programming test systems to help engineers design, validate and manufacture electronic products. Agilent offers open connectivity for a broad range of system-ready instruments, open industry software, PC-standard I/O and global support, which are combined to more easily integrate test system development.

### Remove all doubt

Our repair and calibration services will get your equipment back to you, performing like new, when promised. You will get full value out of your Agilent equipment throughout its lifetime. Your equipment will be serviced by Agilent-trained technicians using the latest factory calibration procedures, automated repair diagnostics and genuine parts. You will always have the utmost confidence in your measurements.

Agilent offers a wide range of additional expert test and measurement services for your equipment, including initial start-up assistance onsite education and training, as well as design, system integration, and project management.

For more information on repair and calibration services, go to

[www.agilent.com/find/removealldoubt](http://www.agilent.com/find/removealldoubt)

Product specifications and descriptions in this document subject to change without notice.

[www.agilent.com](http://www.agilent.com)

For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office. The complete list is available at:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

#### Phone or Fax Americas

Canada	(877) 894-4414
Latin America	305 269 7500
United States	(800) 829-4444

#### Asia Pacific

Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 112 929
Japan	0120 (421) 345
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Thailand	1 800 226 008

#### Europe & Middle East

Austria	01 36027 71571
Belgium	32 (0) 2 404 93 40
Denmark	45 70 13 15 15
Finland	358 (0) 10 855 2100
France	0825 010 700* *0.125€/minute
Germany	07031 464 6333
Ireland	1890 924 204
Israel	972-3-9288-504/544
Italy	39 02 92 60 8484
Netherlands	31 (0) 20 547 2111
Spain	34 (91) 631 3300
Sweden	0200-88 22 55
Switzerland	0800 80 53 53
United Kingdom	44 (0) 118 9276201

Other European Countries:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

Revised: October 6, 2008

© Agilent Technologies, Inc. 2009  
Printed in USA, June 16, 2009  
5989-7182EN

