



Agilent
U8000A Series
Single Output DC Power Supplies

Data Sheet



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 U8000A 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 U8000A 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 can be minimized 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: < 0.01% +2 mV; Constant Current, CC: < 0.02% +2 mA) to ensure stable output even when the load changes. With the fast 50 μ sec transient response, test times and manufacturing cost are significantly reduced. The U8000 Series comes with low output noise of 1 mVrms, 3 mVrms from 20 Hz to 20 MHz, providing clean output and minimizing the interference in the DUT.

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

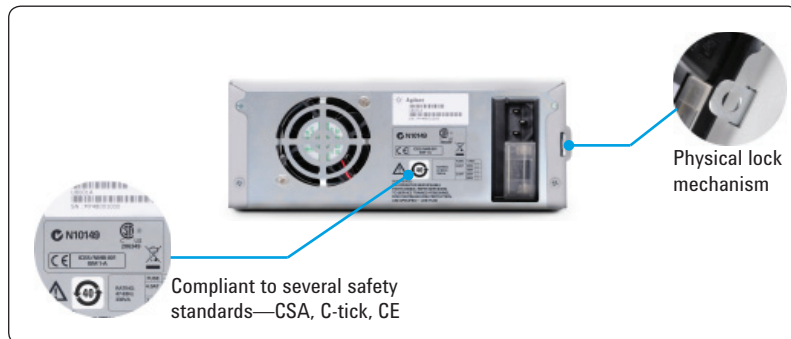
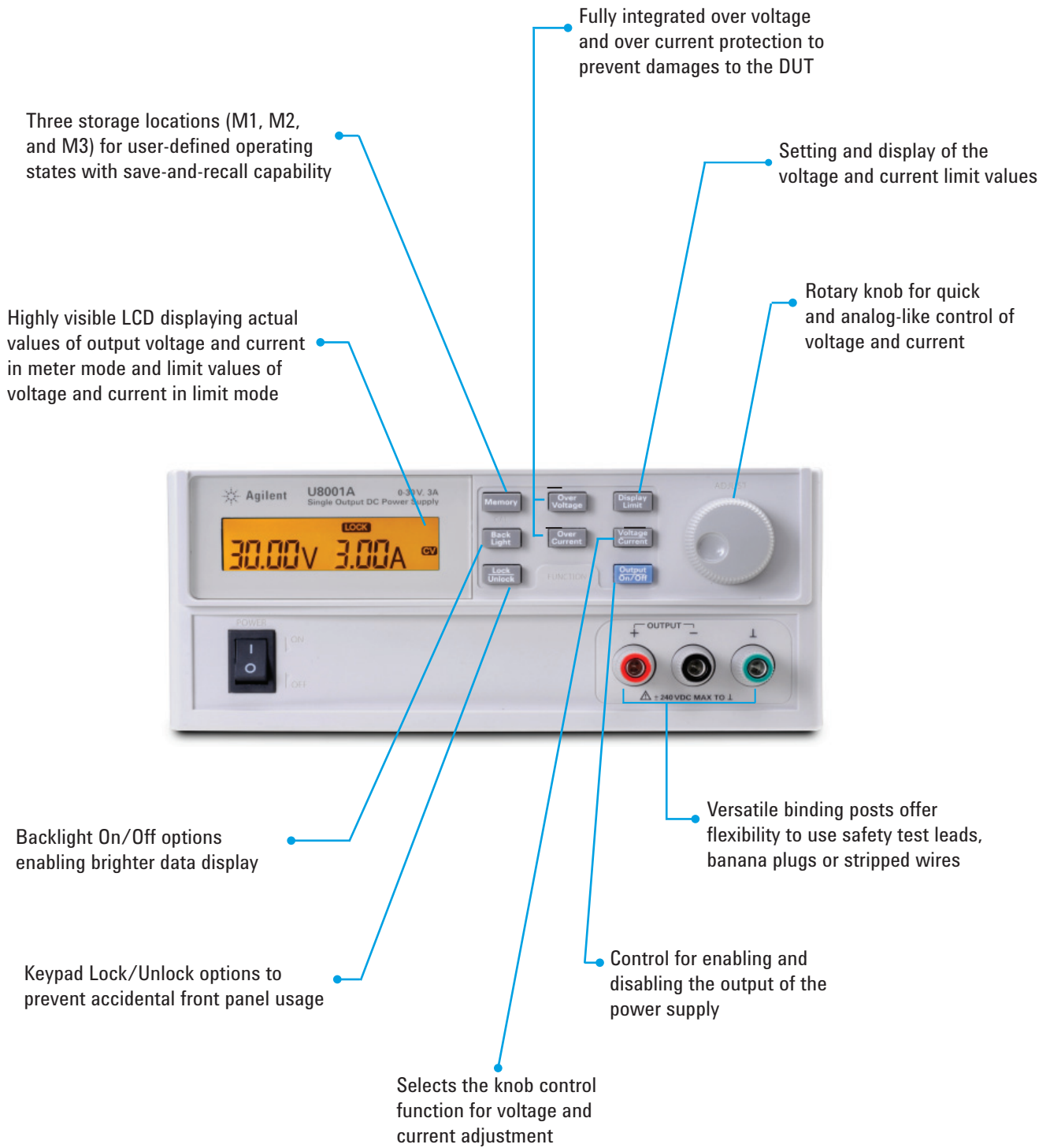


Figure 3. Safety and security features of the U8000A Series single output DC power supplies

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 ¹ (25 °C ±5 °C)	<0.35% +20 mV <0.35% +20 mA	
Readback Accuracy ¹ (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	

¹ Specifications are based on one hour warm-up period.

Supplementals 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)	Opt 100: 90 to 110 Vac, 47 to 63 Hz Opt 120: 104 to 127 Vac, 47 to 63 Hz Opt 220: 194 to 237 Vac, 47 to 63 Hz Opt 240: 207 to 253 Vac, 47 to 63 Hz	
Fuse	External, customer assessable	

Physical Specifications

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



Agilent Email Updates

www.agilent.com/find/emailupdates
Get the latest information on the products and applications you select.



Agilent Direct

www.agilent.com/find/agilentdirect
Quickly choose and use your test equipment solutions with confidence.



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

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

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	0820 87 44 11
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	01805 24 6333**
	**0.14 €/minute
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

Revised: March 27, 2008

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

© Agilent Technologies, Inc. 2008
Printed in USA, May 22, 2008
5989-7182EN



Agilent Technologies