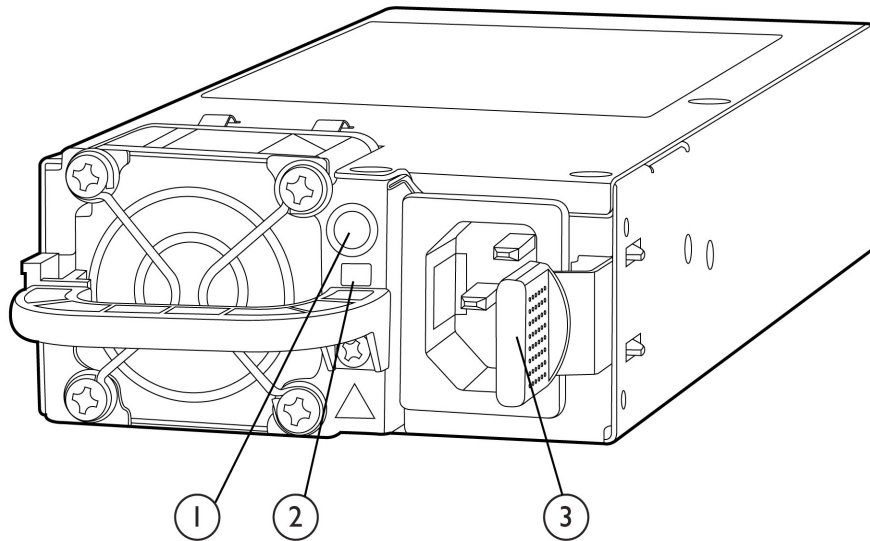


Overview

HP Multi-Output Power Supplies provide lower-cost options for customers trying to balance their need for enterprise class efficiency and reliability while maintaining lowest possible hardware costs. Some Multi-Output options are designed specifically for an HP server, while some options are compatible with multiple HP servers.

The new HP 500W Platinum FIO Power Supply, designed for the HP ProLiant DL160 Gen8 server, provides the highest level of power efficiency (92%) recognized in the IT industry. Certified Platinum by 80Plus and EPRI, the 500W Power Supply was also designed using the same specification levels for Power Factor (PF) and Total Harmonic Distortion (THD) as HP Common Slot Power Supplies. With tool-less accessibility that makes serviceability fast and easy, the 500W Platinum FIO Power Supply combines best-in-class features for efficiency, reliability, and serviceability with an entry-level price.



HP 500W Platinum FIO Power Supply with Backplane

- 1. Power LED
- 2. Front-Side Revision Control Label
- 3. Quick-Release Lever

Models

HP Multi-Output Power Supplies

HP Multi-Output Platinum Power Supplies

HP 500W Platinum Factory Integrated Power Supply Kit with Backplane

NOTE: For use with the HP ProLiant DL160 Gen8.

656365-B21

Standard Features

500W Platinum FIO Power Supply	High Efficiency	Platinum certified 80 Plus power efficiency rating, up to 92% efficiency, reduces operating expenses and trapped power in the data center.
	Enterprise Reliability	Designed, tested, and certified to the same operating specifications as HP Common Slot power supplies.
	Improved Serviceability	Tool-less insertion/removal of power supply for fast and easy access.

80Plus Certification

The 80PLUS test protocol was developed jointly by Ecos Plug Load Solutions and the Electric Power Research Institute (EPRI) in 2003, with the program being formally launched in 2004.

The 80 PLUS performance specification requires power supplies in servers to be 80% or greater energy efficient at 20%, 50% and 100% of rated load with a true power factor of 0.9 or greater. This makes an 80 PLUS certified power supply substantially more efficient than typical power supplies found in many other electrical devices.

Who benefits from the 80PLUS power supply program?

- Commercial/Residential Consumers - empowered with information regarding energy efficient IT options that help them cut energy costs and reduce their environmental impact
- Utility/Power Providers - participation in a program that focuses on reducing power demands on overburdened grids as well as reducing power waste and its associated environmental impact

What are the efficiency requirements for each certification level?

80 PLUS Certification	115V Internal		
	20%	50%	100%
80 PLUS	80%	80%	80%
80 PLUS Bronze	82%	85%	82%
80 PLUS Silver	85%	88%	85%
80 PLUS Gold	87%	90%	87%
80 PLUS Platinum	90%	92%	89%

What level of certification do HP Multi-Output Power Supplies meet?

HP offers multiple Multi-Output Power Supplies that meet various 80PLUS levels of certification, from Gold to Platinum. HP's new 500W Platinum FIO Power Supply meets 80PLUS requirements for Platinum certification. To review 80Plus certification reports for each HP Power Supply, please refer to the 80Plus website at: www.80plus.com.

NOTE: Only AC Power Supplies are tested/certified by the 80PLUS program; DC power supplies are tested by HP for efficiency ratings.

Compatibility

To check for power supply compatibility with specific HP ProLiant servers, use the HP ProLiant Options Compatibility Guide located at: www.hpproliantoptions.com. For compatibility with specific HP Integrity servers and HP Storage solutions, please review the appropriate QuickSpecs for those products.

Service and Support

Service and Support

HP Technology Services

HP Technology Services offers you consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, boost availability, and avoid downtime.

Protect your business beyond warranty with HP Care Pack Services

When you buy HP Options, it's also a good time to think about what level of service you may need. HP Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business need.

HP Foundation Care services deliver scalable support-packages for HP industry-standard servers and software. You can choose the type and level of service that is most suitable for your business needs. New to this portfolio is HP Collaborative Support. If you are running business critical environments, HP offers Proactive Care or Critical Advantage. These services help you deliver high levels of application availability through proactive service management and advanced technical response.

Here is the support service recommendation from the Foundation Care and Proactive Care portfolio. For customized support service solution, HP can work with you to tailor a service solution for your unique support requirements using broader services portfolio of Foundation Care and Proactive Care.

Recommended HP Care Pack Services for optimal satisfaction with your HP product

Recommended Services

3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service

Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE.pdf>

OR

3-Year HP 24x7 4 hour Response, HP Collaborative Support

Offers customers a single point of contact for server problem diagnosis, hardware problem resolution, and basic software problem diagnosis, fault isolation, and resolution if available to HP. If the problem is with HP HW, the representative will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged. In case, the issue is with HP or supported third-party software product and cannot be resolved by applying known fixes, HP will contact the third-party vendor and create a problem incident on your behalf.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-8232ENW.pdf>

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

Service and Support

Related HP Care Pack Services to enhance your HP product experience

Related Services

3-Year HP 24x7 4 hour Response, Proactive Care

Helps optimize your systems and delivers high levels of application availability through proactive service management and advanced technical response. A skilled Technical Manager will own your query or issue end to end until resolved, delivering a single point of contact for you

OR

3-Year HP 6-hour Onsite Call-to-Repair, HP Collaborative Support

Offers customers a single point of contact for server problem diagnosis, hardware problem resolution to return the hardware in operating condition within 6 hours of the initial service request to the HP Global Solution Center, and basic software problem diagnosis, fault isolation, and resolution if available to HP. <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-8232ENW.pdf>

HP Proactive Select Service

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf>

Insight Remote Support

Provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. Learn more <http://www.hp.com/go/insightremotesupport>

HP Support Center

Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

*HP' Support Center Mobile App is subject to local availability

Parts and materials

HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Supplies and consumable parts will not be provided as part of this service; standard warranty terms and conditions apply. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual or the technical product data sheet will not be provided, repaired or replaced as part of this service.

Service and Support

Warranty / Service Coverage

For ProLiant servers and storage systems, this service covers HP-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by HP as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.

For more information

To learn more on services for HP ESSN Options, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: <http://www.hp.com/services/proliant> or www.hp.com/services/bladesystem

Related Options

Related Options

Other HP Multi-Output Power Supplies

HP 365W Redundant Power Supply Kit w/ Backplane

532092-B21

VAC C13 to C14 Power Cables

HP C13 - C14 WW 250V 10A Gray 0.7m Jumper Cord

A0K03A

HP C13 - C14 WW 250V 10A Gray 1.37m Jumper Cord

A0K04A

HP C13 - C14 WW 250V 10Amp Flint Gray 2.0m Jumper Cord

AF073A

HP C13 - C14 WW 250V 10A Gray 3.0m Jumper Cord

A0K06A

HP IEC C13-C14 Cable Option Kit

142257-B28

HP IEC320-C14 to C13 (10A/4.5ft/1.37m) PDU Cable

142257-006

HP IEC320-C14 to C13 10A/4.5ft/1.37m/ 15 PDU Cable

142257-007

HP C13 - C14 WW 250V 10Amp 2.0m Jumper Cord

A0K02A

HP IEC320-C14 to C13 (10A/8ft/2.5m) PDU Cable

142257-002

HP C13 Straight - C14 Straight WW 250V 10AMP 3.0m Jumper Cord

142257-003

NOTE: Standard power cables and jumpers do not support Power Line Communications or Intelligent Power Discovery.

Power Specifications

HP 500W Factory Integrated Power Supply Kit with Backplane							
Part Number	656365-B21 671797-001						
Input Voltage Range (V rms)	100-120/200-240						
Frequency Range (Nominal) (Hz)	50 / 60						
Nominal Input Voltage (Vrms)	100	115	120	200	208	230	240
Maximum Rated Output Wattage Rating	500	500	500	500	500	500	500
Nominal Input Current (A rms)	5.7	4.9	4.7	2.8	2.6	2.4	2.3
Maximum Rated Input Wattage Rating (Watts)	562	557	555	544	544	543	542
Maximum Rated VA (Volt-Amp)	569	563	561	551	550	549	549
Efficiency (%)	88.94	89.84	90.07	91.90	91.99	92.16	92.24
Power Factor	1.000	1.000	1.000	0.999	0.999	0.999	0.999
Leakage Current (mA)	0.43	0.50	0.50	0.83	0.87	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	1918	1899	1894	1856	1855	1851	1849

HP 365W Hot Plug Redundant Power Supply Kit with Backplane							
Part Number	532092-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	320	320	360	360	360	360	360
Nominal Input Current (A rms)	4.15	3.41	2.23	2.16	2.03	1.94	1.86
Maximum Rated Input Wattage Rating (Watts)	412	406	445	445	444	443	443
Maximum Rated VA (Volt-Amp)	413	407	447	447	446	446	445
Efficiency (%)	77.4	78.5	80.5	80.6	80.7	80.8	81.0
Power Factor	0.99						
Leakage Current (mA)	0.75	0.75	0.85	0.90	0.95	0.95	1.00
Maximum Inrush Current (A peak)	35						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	1354	1334	1462	1462	1459	1456	1456

Technical Specifications

HP 500W Platinum FIO Power Supply:

Operating Temperature	41° to 122°F (5° to 50°C)
Operating Relative Humidity (%)	5% to 95%, non condensing
Operating Elevation	0 to 5,000ft (1,524m) with no derating; Maximum inlet air temperature linearly de-rated from 50C at 5,000 feet (1,524m) above sea level to 40C at 10,000 feet (3,048m) above sea level
Storage Temperature	41° to 122°F (5 to 50°C)
Storage Relative Humidity (%)	5% to 95%, non condensing
Storage Elevation	0 to 50,000ft (0 to 15,240m)
Input Voltage	
Low Line	Rated: 100V - 120V; Min 90V to Max 132V
High Line	Rated: 200 - 240V; Min 180V to Max 264V
Input Frequency	Rated: 50 to 60Hz; Min 47Hz to Max 63Hz
Conformance Standards	CE Mark, UL, CSA, IEC, EN, CNS, KCC, BSMI, CCC, C-tick, TUV, FCC Class A
Mechanical Dimensions (WxHxD)	3.39 x 1.57 x 9.69 in (8.6 x 4 x 24.6 cm)
Unit Weight	3 lbs (1.36 kg)
Kit Contents	Factory integrated 500W power supply including power backplane and single IEC C13-C14 jumper cable

HP 500W (Gold) FIO Power Supply:

Operating Temperature	41° to 122°F (5° to 50°C)
Operating Relative Humidity (%)	5% to 95%, non condensing
Operating Elevation	0 to 5,000ft (1,524m) with no de-rating; Maximum inlet air temperature linearly de-rated from 50°C at 5,000 feet above sea level to 40°C at 10,000 feet above sea level
Storage Temperature	-40° to 185°F (-40° to 85°C)
Storage Relative Humidity (%)	5% to 95%, non condensing
Storage Elevation	0 to 50,000ft (0 to 15,240m)
Input Voltage	
Low Line	Rated: 100 - 120V; Min 90V to Max 132V
High Line	Rated: 220 - 240V; Min 180V to Max 264V
Input Frequency	Rated: 50 to 60Hz; Min 47Hz to Max 63Hz
Conformance Standards	CE Mark, UL, CSA, IEC, EN, CNS, BSMI, CCC, C-tick, TUV, FCC Class A
Mechanical Dimensions (WxHxD)	3.4 x 1.57 x 11 in (8.6 x 4 x 28 cm)
Unit Weight	3 lb (1.36 kg)
Kit Contents	Factory integrated 500W AC power supply including power backplane (DL320 G6 only) and single IEC C13-C14 jumper cable

HP 365W Redundant Power Supply Kit:

Operating Temperature	41° to 104°F (5° to 40°C)
Operating Relative Humidity (%)	Up to 85% (non-condensing)
Operating Elevation	0 to 5,000ft (1,524m) with no de-rating
Storage Temperature	-40° to 158°F (-40° to 70°C)
Storage Relative Humidity (%)	Up to 95% (non-condensing)
Storage Elevation	0 to 50,000ft (0 to 15,240m)
Input Voltage	

Technical Specifications

Low Line	100 - 127 VAC
High Line	200 - 240 VAC
Input Frequency	Rated: 50 to 60Hz
Conformance Standards	CE Mark, UL, CSA, IEC, EN, CNS, BSMI, CCC, C-tick, TUV, FCC Class A
Mechanical Dimensions (WxHxD)	3.75 x 1.6 x 14 in (9.5 x 4.1 x 35.6 cm)
Unit Weight	4.7 lb (2.13 kg)
Kit Contents	Factory integrated power supply unit including (2) 365W AC power supplies, (1) power backplane, and (2) IEC C13-C14 jumper cable

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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