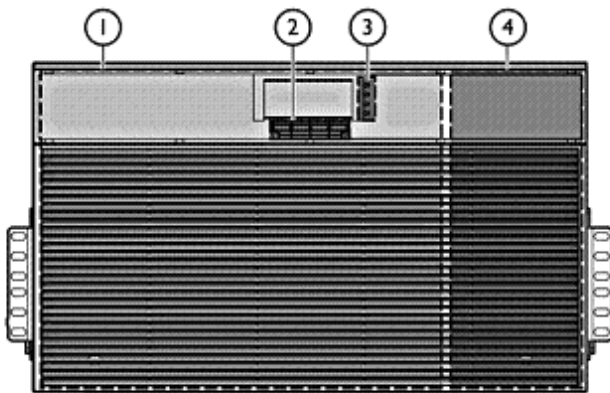


Overview

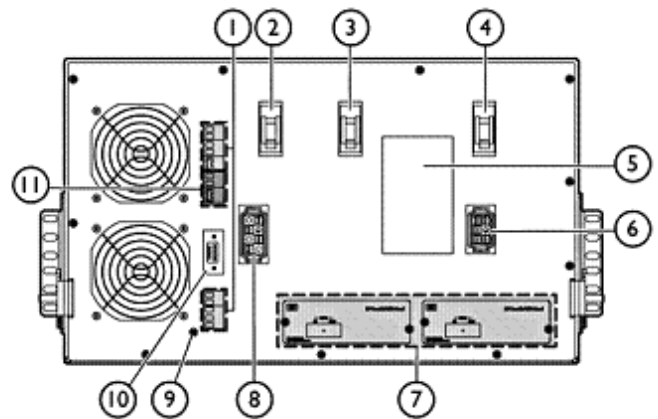
Crowded data centers and racks filled to capacity with storage devices, monitors, servers communications devices, and other equipment are driving the need for uninterruptible power with increased power density and power efficiency. The HP 3 Phase Uninterruptible Power Systems provide just that. These rack-mountable Uninterruptible Power Systems provide up to 12,000 watts (W) of power in a 6-U rack form factor. This equates to 2 KW per U space, which leads the industry in power density. The UPS R8000/3 and the R12000/3 use digital signal processing and a new On-line On Demand hybrid technology to answer the demands for increased power density and power efficiency.

On-line On Demand combines the efficiency of a line interactive UPS, up to 97%, with the stability of a double conversion on-line UPS when power fluctuates beyond acceptable limits. Hot swappable batteries and electronics modules and an automatic bypass reduce MTTR (mean time to repair) – down time in the event service is needed.



UPS R8000/3 and R12000/3 front view

1. Battery compartment (behind bezel)
2. Menu navigation buttons
3. Status and alarm LED display
4. Electronics module compartment (behind bezel)



UPS R8000/3 and R12000/3 rear view

1. Communications terminal block
2. Output circuit breaker
3. Input circuit breaker
4. Battery circuit breaker
5. Input/output location R8000/3, input location R12000/3
6. ERM connector
7. Option card slots
8. Output connector R12000/3
9. Ground bonding screw
10. DB9 Service port
11. REPO port

Overview

Models

HP R8000/3	HP R8000/3 Uninterruptible Power System 6U NA	AF431A
	HP R8000/3 Uninterruptible Power System 6U INTL	AF432A
HP R12000/3	HP R12000/3 Uninterruptible Power System 6U NA	AF429A
	HP R12000/3, Uninterruptible Power System 6U INTL	AF430A

Key Features

- Unity Rated, volt amperage out equals wattage out
- Highest wattage per U space. Up to 12000 VA/12KW in only 6U!
- Industry leading efficiency with On-line On Demand hybrid technology
- Attached line cords for easier and faster connection to your facility power
- Hot-swappable battery and electronics modules provide ease of maintenance and faster time to repair (MTTR)
- Industry leading efficiency with On-line On Demand hybrid technology
- Attached line cords for easier and faster connection to your facility power
- Extra long battery life with Enhanced Battery Management (EBM)
- Extended battery run time with optional Extended Runtime Modules (ERMs)
- Easy configuration through enhanced front panel display or HP UPS Management Module (included)
- Backed by a limited three-year warranty, HP's pre-failure warranty and a load protection guarantee in North America

Product Highlights

NOTE: For a brief, printer friendly data sheet that describes this product and informs you of the essential capabilities and specifications, please visit: <http://h71028.www7.hp.com/ERC/downloads/4AA1-5502ENW.pdf>.

Superior Battery Management

HP UPS HP 3 PHASE UPS incorporates Enhanced Battery Management: an exclusive, patented technology that doubles battery service life, optimizes battery recharge time, and provides advance notice of pending battery failure. With Enhanced Battery Management, you have a lower total cost of ownership and receive the best in the industry protection for your critical equipment.

Ease of serviceability through hot-swappable batteries and electronics modules.

The HP 3 PHASE UPSs have a modular design architecture, consisting of separate, hot swappable battery and electronics modules. Further, a built-in intelligent automatic bypass feature ensures continuous power to your connected load even while the modules are being replaced. Ease of maintenance and serviceability

- Faster time to repair (MTTR)
- Automatic and manual bypass
- Increased flexibility through modular design

Increase battery back-up time with up to four Extended Runtime Modules

HP 3 PHASE UPS supports a maximum of four Extended Runtime Modules (ERM), to further increase your battery back-up time, should you have a sudden brief power outage. Each ERM is 3U high and can be automatically detected and configure when attached to the UPS. For more information on battery back up times, please refer to the Back-up Times Chart.

Multiple management options increase flexibility

The HP 3 Phase UPS systems can be fully configured and monitored from the front management LCD. For remote management the HP UPS Management Module is included at no charge and provides additional features such as out of band communications with up to 5 servers and UPS clustering for redundancy.

Remote Emergency Power Off Feature

The HP 3 Phase UPS includes an isolated REPO (Remote Emergency Power Off) port. The REPO feature allows the power to the UPS outlets to be switched off from a remote location. For more information, refer the HP 3 Phase UPS users manual.

UPS Management Module

The HP UPS Management Module enables you to monitor and manage power environments through comprehensive control of HP UPSs. The HP UPS Management Module can support either a single UPS configuration or provides additional power protection with support for dual redundant UPS configuration for no-single-point-of-failure. The additional serial ports will provide greater power management control and flexible monitoring.

The management module can be configured to send alert traps to HP Systems Insight Manager and other SNMP management programs or used as a standalone management system. This flexibility enables you to monitor and manage UPSs through the network. To facilitate day-to-day maintenance tasks, the embedded management software provides detailed system logs.

The HP UPS Management Module provides remote management of a UPS by connecting the UPS directly to the network. Configuration & Management of the UPS from anywhere and at anytime via a standard web browser.

NOTE: For more information on the UPS Management Module please see: <http://h18004.www1.hp.com/products/servers/proliantstorage/power-protection/software/module/ups/index.html>

Service and Support, HP Care Pack, and Warranty Information

Warranty

- Standard three year warranty with first year including parts and labor. HP UPSs are backed by a standard three year limited warranty; 3 year parts, 1 year Labor, 1 year onsite. Optional UPS HP Care Pack and packaged services are also available for purchase. You can choose the precise level of support based on your needs, from basic to business critical.
- Pre-Failure Battery Warning and its associated Warranty.
The Pre-Failure Battery Warning is proactively detected and notified by a LED indicator light, showing that the battery needs to be replaced. This notice is given 30 days prior to the battery failure. This indicator provides ample time to order a spare battery (1-800-HP-INVENT). Avoid storing battery spares as a back up because of short shelf life of the battery. The battery warranty coverage is 3 years for parts. The warranty for the first year of ownership includes parts and labor.

Warranty, standard on all HP Uninterruptible Power System (UPS) units, extends the advantage of a HP three-year limited warranty by applying it to the battery before it actually fails. Specifically, the Pre-Failure Battery Warranty ensures that when customers receive the notification from their HP UPS that the battery may fail, the battery is replaced free of charge under the warranty. HP maintains the highest standards in the industry, as evidenced by the HP Pre-Failure Battery Warranty.

- In addition, HP UPSs are covered by a \$250,000 equipment protection guarantee. Should your connected equipment get damaged due to a UPS failure, then your damaged equipment is covered to up to \$250,000.

NOTE: The \$250,000 Equipment Protection Guarantee is offered only in North America.

HP Care Pack Services

HP Care Pack Services include HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the enclosure, as well as 22" and smaller external monitors and rack mounted UPS options. HP Uninterruptible Power Systems will be covered at the same service level and coverage period as the server. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

NOTE: For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

NOTE: For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

NOTE: Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

NOTE: The information contained herein is subject to change without notice and is provided "as is" without warranty of any kind.

NOTE: The warranties for HP products and services are set forth in the express limited warranty statements accompanying such products and services.

Related Options

Extended Runtime Module	<p>Extended Runtime Module (WW)</p> <p>NOTE: HP 3 PHASE UPS supports a maximum of four Extended Runtime Modules (ERM), to further increase your battery back-up time. Each ERM is 3U high and can be automatically detected and configure when attached to the UPS. For more information on battery back up times, please refer to the Back-up Times Chart.</p>	AF434A
Serial Adapters for UPS Management Module	<p>HP Serial Adapter RJ45-DB89 DCE Female 5pk</p> <p>NOTE: The serial adapters allow direct (serial) connections to up to 5 servers with the UPS Management Module for out of band communications in the event of a power failure.</p>	AF402A
Rackmount Power Distribution Units (PDUs) and PDU options	<p>North America/Japan</p> <p>8.6 kVA 3F Modular PDU (core only) with L15-30 inlet cord and 6 x IEC C19 outlets AF512A</p> <p>8.6 kVA 3F Monitored PDU model S1324 with one L15-30 inlet cord, and 36 IEC C-13 plus 3 IEC C19 outlets AF504A</p> <p>17.3 kVA 3F Monitored PDU model S2324 with two L15-30 inlet cords, and 72 IEC C-13 plus 6 IEC C19 outlets AF503A</p> <p>NOTE: The HP R8000/3 UPS can support one AF512A or AF504A. The HP R12000/3 UPS can support two AF512A or AF504A or one AF503A.</p> <p>International</p> <p>11 kVA 3F Modular PDU (core only) with IEC309 416P6 (16A) inlet cord and 6 x IEC C19 outlets AF513A</p> <p>11 kVA 3F Monitored PDU model S1316 with one IEC309 416P6 (16A) inlet cord and 36 IEC C-13 plus 3 IEC C19 outlets AF508A</p> <p>22.1 kVA 3F Monitored PDU model S2316 with two IEC309 416P6 (16A) inlet cords and 72 IEC C-13 plus 6 IEC C19 outlets AF507A</p> <p>NOTE: The HP R8000/3 UPS can support one AF513A or AF508A. The HP R12000/3 UPS can support two AF513A or AF508A or one AF507A.</p> <p>PDU Management Module AF400A</p> <p>NOTE: For more information on the PDU Management Module please see http://h18004.www1.hp.com/products/servers/proliantstorage/powerprotection/pdu.html</p>	
PDU Extension Bars (PDU options)	<p>HP C-13 PDU Extension Bar Kit, pair AF500A</p> <p>NOTE: Each extension bar has a C-20 input cord and 7 x C-13 receptacles.</p> <p>HP Fixed Cord Extension Bar Kit, pair 351655-B21</p> <p>NOTE: Each extension bar has a C-20 input cord and 7 attached 13 inch C-13 power cords for use with 1U servers</p> <p>NOTE: Extension bars may be used with any HP PDU that has C-19 outlets</p>	

Related Options

HP Power Cables	10A, IEC320 C-14 to IEC320 C-13 Cables, 4.5ft (1.37m), 15 pack	142257-007
	10A, IEC320 C-14 to IEC320 C-13 Cables, 4.5ft (1.37m), single 15 pack	142257-006
	10A, IEC320 C-14 to IEC320 C-13 Cables, 1.6ft (0.5m), single pack	142257-B28
	16A, IEC320 C-19 to IEC320 C-20 Cables, 8ft (2.5m), single pack	295633-B22
	16A, IEC320 C-19 to IEC320 C-20 Cables, 6.5ft (2m), single pack	AF574A
	16A, IEC320 C-19 to IEC320 C-20 Cables, 4ft (1.2m), single pack	AF575A
	16A, IEC320 C-19 to IEC320 C-20 Cables, 3ft (1m), single pack	E7798A

NOTE: For more information on HP power cords please go to:

<ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/power-cord-option-kits.pdf>

Service and Support Offerings (HP Care Pack Services)	Hardware Installation (Electronic)	U4696E
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Technical Specifications

		R8000/3 NA	R8000/3 INTL	R12000/3 NA	R12000/3 INTL	
Electrical Output	Power Output	8kVA/8KW @ 208v 3F Delta	8kVA/8KW @ 400v 3F Wye	12kVA/12KW @ 208v 3F Delta	12kVA/12KW @ 400v 3F Wye	
	Nominal output frequency	50-60 Hz auto-detection (Normal mode) 50 or 60 Hz (Battery mode)				
	Output Frequency Variation	Synchronized (Normal mode) ±0.1 when not synchronized with source (Battery mode)				
	Output overload	100–110%: load transfers to Bypass mode after 10 minutes 110–125%: load transfers to Bypass mode after 1 minute 125–150%: load transfers to Bypass mode after 5 seconds >150%: load transfers to Bypass mode after 300 ms				
	Voltage wave form	Sine wave; 2% THD with typical PFC load				
	Surge suppression	High-energy 6500 A peak				
	Noise filtering	MOVs and line filter				
	Output Connections	One NEMA L15-30R	One IEC309 516C6 (16A)	Two NEMA L15-30R	Two IEC309 516C6 (16A)	
	Electrical Input	Voltage Range	200-240 v 3F Wye	380-415v 3F Wye	208v 3F Wye	380-415v 3F Wye
		Nominal voltage	208v 3F Wye	400v 3F Wye	208v 3F Wye	400v 3F Wye
Nominal frequency		50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
Frequency range		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	
Efficiency		97% @ 40-100% load	97% @ 40-100% load	97% @ 40-100% load	97% @ 40-100% load	
Input connector		NEMA L21-30 (30A)	IEC309 516P6 (16A)	IEC309 560P9 (60A)	IEC309 532P6 (32A)	
Operating Temperature		Operating Temperature	50°F to 104°F (10°C to 40°C)			
	Optimal battery performance	41°F to 77°F (5°C to 25°C)				
Non-operating Temperature	-13°F to 131°F (-25°C to 55°C)					
Relative Humidity	Operating	5% to 95% non-condensing				
Operating Altitude	Up to 3300 ft (1,000 meters) above sea level; up to 6600 ft (2,000 meters) with 1% derating per +330 ft (100 meters)					
Transit Altitude	Up to 49,212 ft (15,000 meters) above sea level					
Heat Dissipation	1266 BTU/hr maximum at 100% rated load (High Efficiency mode)					
Audible Noise	Less than 50 dBA at 1 meter (Normal mode)					
	Less than 55 dBA at 1 meter (Battery mode)					
Leakage Current	< 3.5 mA					
Surge suppression	ANSI C62.41 Category B3					
Safety Conformance	UL 1778 4th edition; CSA C22.2, No. 107.3	EN and IEC 62040-1-1	UL 1778 4th edition; CSA C22.2, No. 107.3	EN and IEC 62040-1-1		

Technical Specifications

EMC (Class A)	FCC Part 15	EN 62040-2	FCC Part	EN 62040-2
Unit Dimensions (WxDxH)	14.4 x 26 x 10.3 in (441 x 660 x 261 mm) 6U			
Shipping Dimensions (WxDxH)	25 x 38 x 46 in (635 x 965 x 1169 mm)			
Unit Weight	Without batteries	135 lb (61 kg)		
	With batteries installed	307 lb (140 kg)		
Shipping Weight	400 lbs (182 kg)			
Extended Runtime Module (ERM)	Unit Dimensions (WxDxH)	17.2 x 26 x 5.2 in (438 x 660 x 131 mm) 3U		
	Shipping Dimensions (WxDxH)	47.25 x 31.5 x 37 in (1207 x 800 x 940 mm)		
	Unit Weight	170 lbs (77 kg)		
	Shipping Weight	185 lb (84 kg)		

Estimated Backup Times Chart (Minutes) R8000/3

Load %	With Internal Battery	With 1 ERM	With 2 ERMs	With 3 ERMs	With 4 ERMs
20%	55	118	183	253	329
50%	23	46	69	94	120
80%	12	27	41	55	70
100%	9	21	32	43	54

Estimated Backup Times Chart (Minutes) R12000/3

20%	37	78	119	163	211
50%	13	30	44	59	76
80%	6	17	26	34	44
100%	5	12	20	27	34

NOTE: Backup times are estimated for typical applications. Actual performance will depend on load and battery conditions.

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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