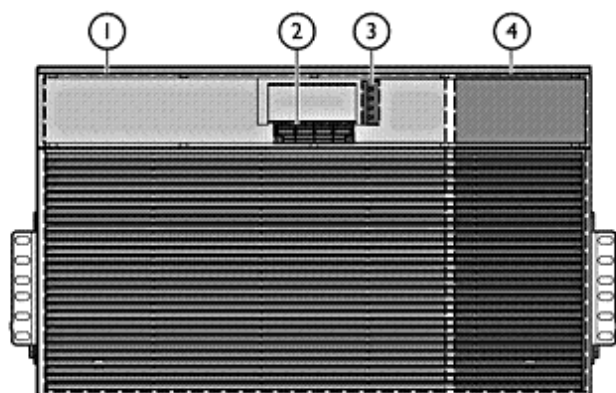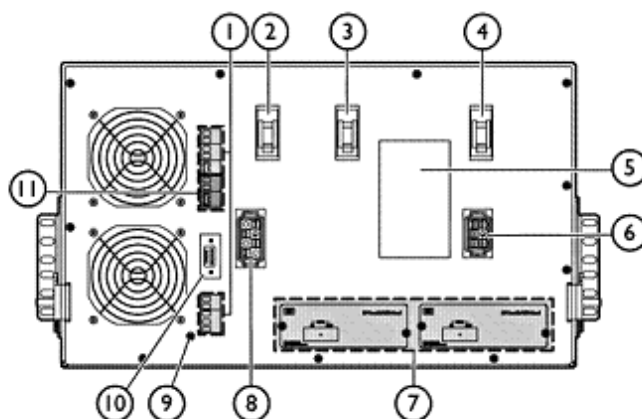*Overview*

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	UPS R8000/3 and R12000/3 rear view
1. Battery compartment (behind bezel)	1. Communications terminal block
2. Menu navigation buttons	2. Output circuit breaker
3. Status and alarm LED display	3. Input circuit breaker
4. Electronics module compartment (behind bezel)	4. Battery circuit breaker
	5. Input/output location R8000/3, input location R12000/3 1
	6. ERM connector
	7. Option card slots
	8. Output connector R12000/3
	9. Ground bonding screw
	10. DB9 Service port
	11. REPO port

Models

HP R8000/3	HP R8000/3 8000kVA Three Phase 6U Rackmount Uninterruptible Power System	AF431A
HP R12000/3	HP R12000/3 12000VA Three Phase 6U Rackmount Uninterruptible Power System	AF429A

Standard Features

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

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 bee 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.

Standard Features

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

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.

Service and Support

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	HP UPS R8000/3 R12000/3 Extended Runtime Module	AF434A
	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.	
Serial Adapters for UPS Management Module	HP RJ45-DB89 DCE Female 5 Pack Serial Adapter	AF402A
	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.	
Rackmount Power Distribution Units (PDUs) and PDU options	HP 24A 3PH Modular Power Distribution Unit	AF512A
	HP Single Input 3 Phase 24A Monitored Power Distribution Unit	AF504A
	HP Dual Input 3 Phase 24A Monitored Power Distribution Unit	AF503A
	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.	
	HP PDU Management Module	AF400A
	NOTE: For more information on the PDU Management Module please see http://h18004.www1.hp.com/products/servers/proliantstorage/powerprotection/pdu.html	
PDU Extension Bars (PDU options)	HP Two C13 PDU Extension Bars	AF500A
	NOTE: Each extension bar has a C-20 input cord and 7 x C-13 receptacles.	
	HP Fixed Cord Extension Bars	351655-B21
	NOTE: Each extension bar has a C-20 input cord and 7 attached 13 inch C-13 power cords for use with 1U servers	
	NOTE: Extension bars may be used with any HP PDU that has C-19 outlets	
HP Power Cables	HP IEC320-C14 to C13 10A/4.5ft/1.37m/ 15 PDU Cable	142257-007
	HP IEC320-C14 to C13 (10A/4.5ft/1.37m) PDU Cable	142257-006
	HP IEC C13-C14 Cable Option Kit	142257-B28
	HP 1xC19-C120 16A 2.5m Cable	295633-B22
	HP 2m 16A C19-C20 Redundant Jumper Cord	AF574A
	HP 1.2m 16A C19-C20 Redundant Jumper Cord	AF575A
	HP IEC320-C20 Power Cord	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	
HP Care Pack Services	HP Install Universal Power Supply 6KVA or Greater Service	U4696E

Technical Specifications

		R8000/3	R12000/3
Electrical Output	Power Output	8kVA/8KW @ 208v 3F Delta	12kVA/12KW @ 208v 3F Delta
	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	Two NEMA L15-30R
Electrical Input	Voltage Range	200-240 v 3F Wye	208v 3F Wye
	Nominal voltage	208v 3F Wye	208v 3F Wye
	Nominal frequency	50/60 Hz	50/60 Hz
	Frequency range	45-65 Hz	45-65 Hz
	Rated input current		
	Maximum input current at nominal voltage		
	Efficiency	97% @ 40-100% load	97% @ 40-100% load
	Input connector	NEMA L21-30 (30A)	IEC309 560P9 (60A)
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	UL 1778 4th edition; CSA C22.2, No. 107.3
EMC (Class A)		FCC Part 15	FCC Part
Unit Dimensions (WxDxH)		14.4 x 26 x 10.3 in (441 x 660 x 261 mm) 6U	

Technical Specifications

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.