

Overview

NOTE: Additional information on these and additional HP UPS products at:
<http://h18004.www1.hp.com/products/servers/proliantstorage/power-protection/index.html>

Description

HP rack mountable UPSs, designed for dense data center environments, offer industry-leading power density (watts/U space). More true power (measured in watts) in smaller form factors (measured in rack U space) provide more performance while saving valuable rack space for server and storage equipment. HP UPSs are bundled with HP Power Manager software and are supported by management modules and Extended Runtime Modules (ERMs) that add networking capabilities and extended runtimes.

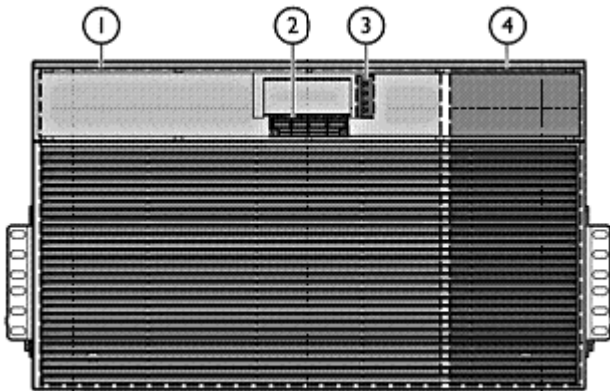
HP UPS Solutions (Single Phase Models)

	HP R/T 2200 UPS	HP R3000 UPS	HP R5500 UPS
Product Number	AF411A-INTL High Voltage	AF414A-INTL High Voltage AF423A-NA High Voltage AF424A-JPN High Voltage	AF416A-INTL AF426A-NA/JPN
VA	2200	3000	AF416A-200V/208V = 5000; 220V 240V = 6000 AF426A-5000
Watts	1600	2700	AF416A-200V/208V = 4500; 220V 240V = 5400 AF426A-4500
Operating Voltage	230V	200-240V	200-240V
Output Voltage	User selectable for 220V, 230V, or 240V via dip switch setting on the back of the unit.	AF414A-User selectable for 208, 220, 230, 240V via front panel AF423A-User selectable for 200, 208, 220, 230, 240V via front panel AF424A-User selectable for 200, 208, 220, 230, 240V via front panel	User selectable for 200, 208, 220, 230, 240 via front panel.
Branch Circuit rating	15 A	Dedicated branch circuit, 20 A for NA/Japan, 16 A for International	Dedicated branch circuit, 30 A for NA/Japan, 32 A for International
Output Receptacles	Eight IEC320 C 13	AF414A-One IEC320 C 19; nine IEC 320 C 13 AF423A-One L6 20R; nine IEC 320 C 13 AF424A-One L6 20R; nine IEC 320 C 13	AF416A-Load Segment 1: Two IEC320 C 19; two IEC320 C 13 Load Segment 2: Two IEC320 C 19; two IEC320 C 13 plus one pigtailed receptacle (Load Segment 1); One IEC 309 32 Amp AF426A-Load Segment 1: Two IEC320 C 19; two IEC320 C 13 Load Segment 2: Two IEC320 C 19; two IEC320 C 13 plus one pigtailed receptacle (Load Segment); one L6 30R

Overview

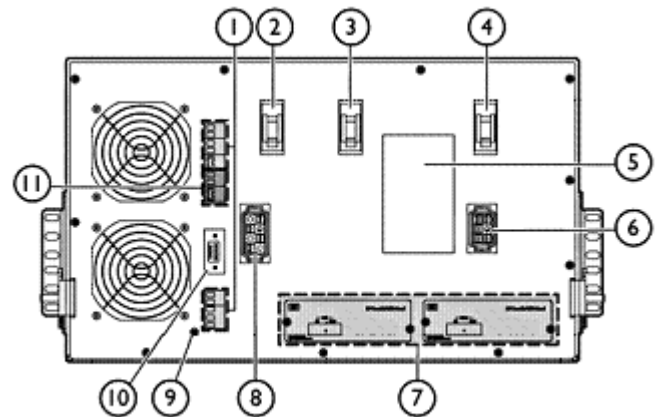
Input Connection	IEC 320 - C20 input connector	AF414A-Detachable cord with country specific plug AF423A-NEMA L6 20P AF424A-NEMA L6 20P	AF416A-IEC 309 32 amp, 3 meter cord AF426A-L6 30P, 3 meter cord
Recharge Time	<4 hours to 90% usable capacity <24 hours for complete recharge	<3 hours to 80% usable capacity <24 hours for complete recharge	<3 hours to 80% usable capacity <24 hours for complete recharge
ERMS supported	AF412A (maximum 1)	AF415A (maximum 2)	AF417A (maximum 2)
UPS Net Dimensions (H×W×D, Weight)	3.5×17.5×19 inches/ 88.9×444.5×482.6 mm 62 lbs/21.12 kg	3.50×19.0×24.5 inches/ 89×483×622 mm 82 lbs/37 kg	5.13×17.53×26 inches/ 130.3×445.3×660.4 mm 160 lbs/73 kg
UPS Shipping Dimensions (H×W×D, Weight)	23.50×19.63×13.13 inches/ 596.9×498.60×333.50 mm 77 lbs/33.92 kg	3.50×19.0×24.5 inches/ 89×483×622 mm 105 lbs/48 kg	14×32×38.5 inches/ 355.6×812.8×977.9 mm 200 lbs/91 kg
ERM Net Dimensions (H×W×D, Weight)	3.5×17.5×13.5 inches/ 88.9×444.5×342.9 mm 62 lbs/21.12 kg	3.50×19.0×23.75 inches/ 89×483×603.25 mm 137 lbs/51 kg	5.13×17.5×25.13 inches/ 130.3×444.5×638.3 mm 167 lbs/75 kg

UPS R8000/3 and R12000/3



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 1
6. ERM connector
7. Option card slots
8. Output connector R12000/3
9. Ground bonding screw
10. DB9 Service port
11. Fan

Overview

HP 3 Phase Uninterruptible Power Systems provide up to 12,000 watts (W) of power in a 6-U rack form factor.

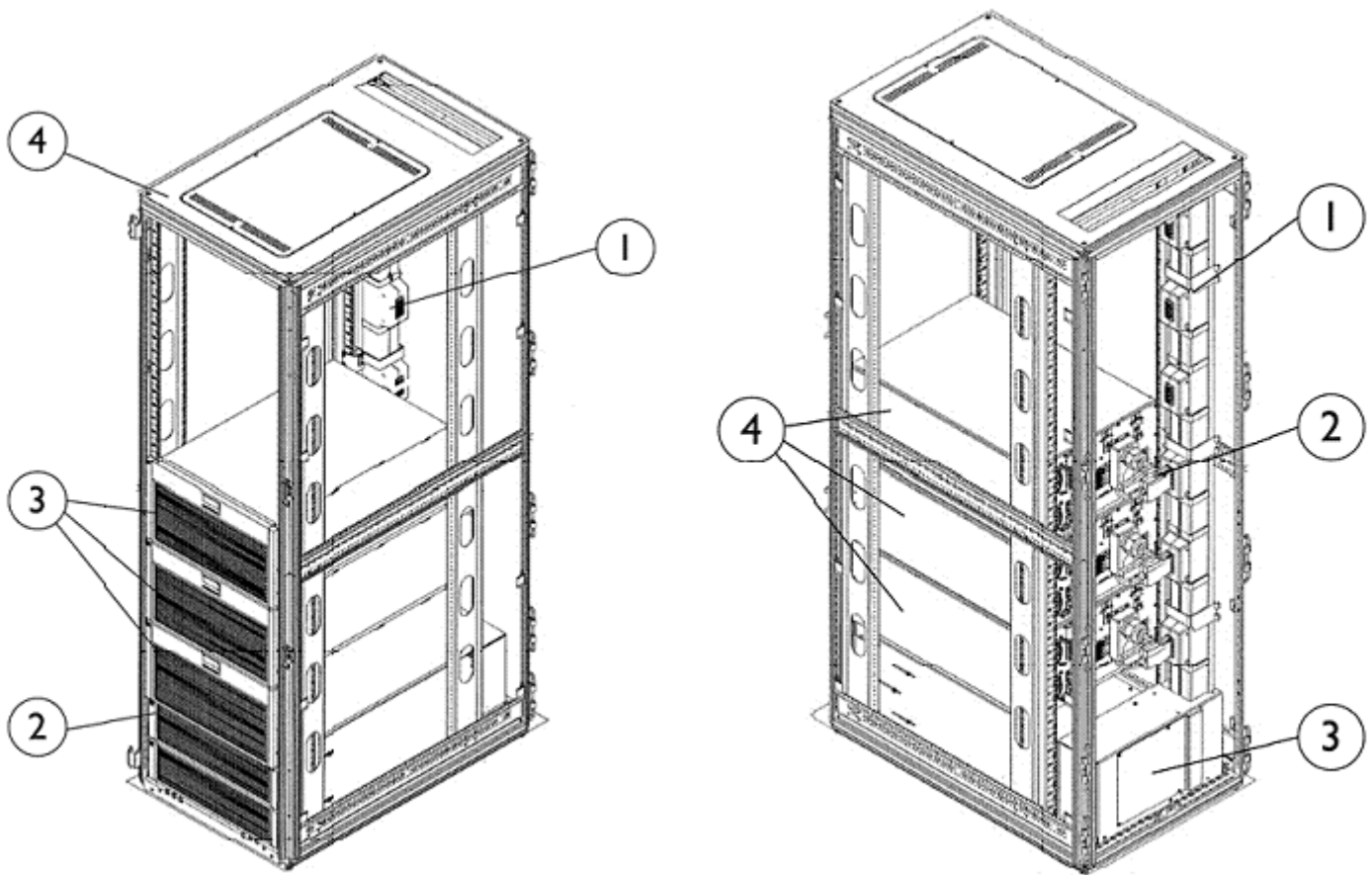
UPS R8000/3 and R12000/3 Key Features

- 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

HP UPS Solutions (Three Phase Models - Standalone) Available Mid November 2007

	HP R8000/3 UPS NA	HP R8000/3 UPS INTL	HP R12000/3 UPS	HP R12000/3 UPS
Product Number	AF431A	AF432A	AF429A	AF430A
VA	8000	8000	12000	12000
Watts	8000	8000	12000	12000
Operating Voltage	208V	400V	208V	400V
Output Voltage	200-240 v 3F Wye	380-415v 3F Wye	208v 3F Wye	380-415v 3F Wye
Branch Circuit rating	Minimum 150A Maximum 225A (N+1)	Minimum 75A Maximum 160A (N+1)	Minimum 150A Maximum 225A (N+1)	Minimum 75A Maximum 160A (N+1)
Output Receptacles	One NEMA L15-30R	One IEC309 516C6	Two NEMA L15-30R	Two IEC309 516C6
Input Connection	NEMA L15-30	IEC309 516P6	IEC309 560P9	IEC309 563P6
Recharge Time	<3 hours to 80% usable capacity <48 hours for complete recharge			
ERMs supported	AF434A (maximum 4)			
UPS Net Dimensions (H×W×D, Weight)	10.3×26×14.4 inches/261×660×441 mm Without batteries 135 lbs/61 kg With batteries installed 307 lbs/140 kg			
UPS Shipping Dimensions (H×W×D, Weight)	46×38×25 inches/ 1169×965×635 mm 400 lbs/182 kg			
ERM Net Dimensions (H×W×D, Weight)	5.2×26×17.2 inches/131×660×438 mm 170 lbs/77 kg			
ERM Shipping Dimensions (H×W×D, Weight)	37×31.5×47.25 inches/940×800×1207 mm 185 lbs/84 kg			

Overview



RP36000/3 Front

1. 10000G2 Series 42U rack
2. Power bus bar
3. Cabling wire tray (6U)
4. RP12000/3 UPS Modules (qty3)

RP36000/3 Rear

1. Power bus bar
2. Input and output connections for RP12000/3 UPS Modules
3. Cabling wire tray (6U)
4. RP12000/3 UPS Modules (qty3)

RP36000/3 Key Features

- State-of-the-art UPS paralleling technology provides no single point of failure
- Modular design
- Unity Rated, volt amperage out equals wattage out
- Industry leading efficiency with On-line On Demand hybrid technology
- Hot-swappable battery and electronics modules provide ease of maintenance and faster time to repair
- 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 included management software
- Backed by a limited three-year warranty, HP's pre-failure warranty for batteries

HP UPS Solutions (Three Phase Models - Parallel) Available Mid November 2007

Overview

	HP R36000/3	HP R36000/3	Expansion Module	Expansion Module
Product Number	AF438A-NA	AF439A-INTL	AF436A - NA	AF437A - INTL
VA	36000 (24000 in N+1 configuration)	36000 (24000 in N+1 configuration)	12000	12000
Watts	36000 (24000 in N+1 configuration)	36000 (24000 in N+1 configuration)	12000	12000
Operating Voltage	100-120VAC Phase to Neutral 180-255VAC Phase to Phase 208VAC 3F Delta or Wye	180-240VAC Phase to Neutral 400v 3F Wye	100-120VAC Phase to Neutral 180-255VAC Phase to Phase 208VAC 3F Delta or Wye	180-240VAC Phase to Neutral 400v 3F Wye
Branch Circuit rating	Minimum 150A Maximum 225A (N+1)	Minimum 75A Maximum 160A (N+1)	Minimum 150A Maximum 225A (N+1)	Minimum 75A Maximum 160A (N+1)
Output Receptacles	Hardwired to power bus bar or uses optional output modules		Connects to power bus bar or uses optional output modules	
Input Connection	Hardwired from facility power.			
Recharge Time	<3 hours to 80% usable capacity <48 hours for complete recharge			
ERMs supported	(maximum 4)			
UPS Net Dimensions (H×W×D, Weight)	78.7 x 39.7 x 24 inches/2000 x 1015 x 597 mm Without batteries 653 lbs/396 kg With batteries installed 1274 lbs/475 kg		10.3 x 17.4 x 24 inches/267 x 442 x 660 mm Without batteries 100 lbs/46 kg With batteries installed 307 lbs/140 kg	
UPS Shipping Dimensions (H×W×D, Weight)	NA			
ERM Net Dimensions (H×W×D, Weight)	NA, 170 lbs/77 kg			
ERM Shipping Dimensions (H×W×D, Weight)	NA			

Power Protection

Battery Run Time

The UPS will provide battery backup to allow for a graceful shutdown in the event of a power failure. Typical runtime on HP UPSs vary with the kVA rating, the load, and the number of battery modules or ERMs. The capability of adding additional battery modules or ERMS can maximize value and rack space.

Runtimes, based on average load levels are available on the HP UPS Quickspecs data sheets. See the HP UPS Solutions table for links.

HP UPS Configuration Guidelines

Each HP UPS is capable of supplying power to one or more systems or peripheral devices as long as the total watts capacity of the UPS is not exceeded. If the total watt requirement exceeds the capacity of a single UPS, upgrade to a larger UPS or spread the load across more than one UPS. Perform the following steps to determine the total watt capacity.

Step 1.

Calculate the watt demand of each component.

- If the watt rating for a device connecting to the UPS is specifically stated, use this value. The power consumption values provided for most HP 9000 Servers fall into this category. These values are already adjusted for power factor correction.
- If the power rating for a device is specified in "Power Factor Corrected" (PFC) Watts, use this value. These values are already adjusted for power factor correction.
Watt rating for UPS loading = PFC Watts
- If the power rating for a device is not available, multiply the current requirement for the device by the voltage used (e.g., 120V or 240V) to obtain the watt rating. For HP devices, use the current rating supplied in the racking section of this Configuration Guide. For other devices, use the maximum current rating listed on the back label of the device.
Watt rating for UPS loading = Current Rating × Voltage

Step 2.

Add the watts requirements for all the systems and devices to determine the total watts figure needed.

Step 3.

Verify that the total watts requirement does not exceed the capacity of the HP UPS.

Factory Integration

Most HP UPS products can be ordered with factory or field integration options for the 10K G2 racks. The HP UPS products can only be field integrated in the HP Rack System/E racks.

NOTE: Batteries will **not** be installed in the HP R5500 or larger UPSs when factory integrated.

RS-232 Connections

An RS 232 cable is provided with HP UPSs to provide communication between the UPS and server. The UPS products will automatically support baud rates between 1200 and 19200.

HP Power Manager

Details and download information are available at:

[http://h18004.www1.hp.com/products/servers/proliantstorage/power protection/software/power manager/index.html](http://h18004.www1.hp.com/products/servers/proliantstorage/power%20protection/software/power%20manager/index.html)

NOTE: HP Power Manager is not supported in EMS and ISEE environments

Power Protection

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