



## **Environmental Products Part 2 of 2**

**V1.4—14 May 1999**

Systems and Options Catalog

Prestige Series 3000/6000 Office/Data Center Models

Powerware Profile Office/Data Center Models

Powerware Plus Office/Data Center Models

One UPS Plus Desktop Models

UPS Options

Modular Power Distribution/Conditioning Systems

Transient Voltage Surge Suppressers (TVSS)

---

Compaq and the names of Compaq products referenced herein are either trademarks and/or service marks or registered trademarks and/or service marks of Compaq.

DIGITAL is a Trademark of Compaq Computer Corporation.

Microsoft, Windows, Windows NT, SQL Server, Office and BackOffice are either trademarks or registered trademarks of Microsoft Corporation.

Intel and Pentium are registered trademarks of Intel Corporation.

Other product and company names mentioned herein may be trademarks and/or service marks of their respective owners.

**Prestige Series 3000/6000 Office/Data Center Models**

The Powerware Prestige 3000 (2.5 kVA and 3 kVA ) and 6000 (4.5 kVA and 6 kVA) UPS are the first on-line UPS that offer a hot-swappable modular design. The Prestige 6000 is easily upgradable from 4.5 kVA to 6 kVA.

The standard North American unit consists of three plug and play modules which can be easily diagnosed and swapped out or upgraded by the user.

- The electronics module contains automatic bypass and communications port.
- The battery module can be monitored through the software for the Prestige 3000 and Prestige 6000.
- The PowerPass maintenance bypass module allows the electronics to be safely disconnected without interrupting the critical load.

The standard international version comes with or without the PowerPass module.

The Prestige North American unit is available in 208 V or 240 V input and 120, 120/208, 120/240 VAC output models. A 120VAC input/output 3 kVA model is also available. The International unit is switch selectable for 200/208/220/230/240 volts in and out.

Double-conversion on-line technology provides regenerated, clean power at all times for consistent performance.

The user-friendly front panel features visual and audible alarms for battery, overload and change of state, LED bar graph display of percent load, battery time remaining and operational status. The unit also provides an automatic battery self-test feature. Optional network power management and UPS monitoring/shutdown software and network adapters allow safe shutdown, remote status display and control of UPS parameters in an NMS or SNMP environment.

**Step 1—Packaged Systems**

- Packaged systems include PowerPass output module unless otherwise noted.
- Rackmount kit (part number 4N-AEAE0-RC) is available for any Prestige 3000.

**Prestige 3000 Series Models**

	Input	Output	Input Plug	Voltage selections	
				Output Rating	Output Receptacles
4N-AEAAH-EA <sup>1</sup>	120V	120V	L5-30P	3 kVA/2 kW, 60Hz	(1)L5-30R, (1)5-15R
4N-AEAAH-AL	208V	120/208V	L6-30P	3 kVA/2 kW, 60Hz	(1)L6-30R, (4)5-15R
4N-AEAAH-AM	208V	120V	L6-30P	3 kVA/2 kW, 60Hz	(1)L5-30R, (4)5-15R
4N-AEAAH-AN	240V	120/240V	L6-30P	3 kVA/2 kW, 60Hz	(1)L14-30R, (4)5-15R
4N-AEAAH-AP	240V	120V	L6-30P	3 kVA/2 kW, 60Hz	(1)L5-30R, (4)5-15R
4N-AEAAH-AR <sup>1</sup>	200/240V	200/240V	VDE pigtail	3 kVA/2 kW, 50/60Hz	(1)IEC 320 16A
4N-AEAAH-AS	200/240V	200/240V	VDE pigtail	3 kVA/2 kW, 50Hz	(3)IEC320, 10A, (1)IEC320 16A
4N-AEAAH-AT	240V	120/240V	L6-30P	3 kVA/2 kW, 60Hz	(1)L6-30R, (4)5-15R
4N-AEABG-BG <sup>1</sup>	200/240V	120/240V	VDE pigtail	2.5 kVA/1.6 kW, 50Hz	(3)IEC320, 10A, (1)IEC320 16A

The on-line design extends battery life and the cell saver utility interface gives the Powerware Prestige the ability to accept lower input voltages when the UPS load is at less than 100% capacity. The battery is used only during the most severe brownouts and blackouts, running cooler and increasing battery life.

The modular battery packs of the Prestige models can be changed, added or removed without turning off the UPS. This provides regulated on-line power while the battery is being serviced or upgraded.

The PowerPass Distribution Module houses an isolation transformer to provide galvanic isolation to the load during normal operation or while on auto or maintenance bypass. It also contains the output receptacles and ensures high availability by allowing the critical load to be manually transferred to the utility power source (bypass) without interruption. Extra output receptacles are provided by extendible plug-in distribution modules. Each receptacle on the extendible module has individual circuit breaker protection for maximum flexibility. For added flexibility, optional mobile module stackers are available to consolidate and mobilize Prestige Series 3000 and 6000 modules. Stacker units include seismic mounting provisions.

The Prestige is manufactured by Exide Electronics in accordance with ISO9001 standards for quality throughout the design, documentation, and manufacturing processes. All models are compatible with Power Management software that ships with AlphaServers and includes a 3 year next day advance exchange warranty. Cable kit or Network adapter is required to communicate with software. Consult software section for detail.

<b>Prestige Series 3000/6000 Office/Data Center Models (continued)</b>
--

**Prestige 6000 Series Models (4.5 kVA)**

	Input	Output	Input Plug	Voltage selections	
				Output Rating	Output Receptacles
4N-AEAAJ-AL	208V	120/208V	L6-30P	4.5 kVA/3 kW, 60Hz	(2)L6-30R, (8)5-15R
4N-AEAAJ-AM	208V	120V	L6-30P	4.5 kVA/3 kW, 60Hz	(2)L5-30R, (8)5-15R
4N-AEAAJ-AN	240V	120/240V	L6-30P	4.5 kVA/3 kW, 60Hz	(2)L14-30R, (8)5-15R
4N-AEAAJ-AP	240V	120V	L6-30P	4.5 kVA/3 kW, 60Hz	(2)L5-30R, (8)5-15R
4N-AEAAJ-AK <sup>1</sup>	200/240V	200/240V	Hardwired	4.5 kVA/3 kW, 50/60Hz	Hardwired

**Prestige 6000 Series Models (6 kVA Models)**

4N-AEAAJ-CK <sup>1</sup>	208/240V	208/240V	Hardwired	6 kVA/4 kW, 50/60Hz	Hardwired
4N-AEAAJ-CL	208V	120/208V	L6-30P	6 kVA/4 kW, 60HZ	(2)L6-30R, (8)5-15R
4N-AEAAJ-CM	208V	120V	L6-30P	6 kVA/4 kW, 60HZ	(2)L5-30R, (8)5-15R
4N-AEAAJ-CN	240V	120/240V	L6-30P	6 kVA/4 kW, 60HZ	(2)L14-30R, (8)5-15R
4N-AEAAJ-CP	240V	120V	L6-30P	6 kVA/4 kW, 60HZ	(2)L5-30R, (8)5-15R
4N-AEAAJ-CR	240V	120/240V	L6-30P	6 kVA/4 kW, 60HZ	(2)L6-20R, (8)5-15R
4N-AEAAJ-CS	208V	120/208V	L6-30P	6 kVA/4 kW, 60HZ	(2)L6-20R, (8)5-15R
4N-AEAAJ-CT	240V	120/240V	L6-30P	6 kVA/4 kW, 60HZ	(2)L6-30R, (8)5-15R
4N-AEAAJ-CU	200-240V	200-240V	Hardwired	6 kVA/4 kW, 50HZ	Hardwired with PowerPass

1. Packaged systems noted do not require, and do not include the PowerPass module.

**Step 1a—Custom Building Blocks**

Select UPS and add optional PowerPass module from step 1b as required. Custom building block models do not include PowerPass module.

**Prestige 6000 Series Models**

4N-AEAAJ-AJ	208V/240V	208V/240V	L6-30P	4.5 kVA/3 kW, 50/60 Hz	(1)L6-30R
4N-AEAAJ-CJ	208V/240V	208V/240V	L6-30P	6 kVA/4 kW, 50/60 Hz	(1)L6-30R

**Step 1b—PowerPass Modules (Optional)**

Plugs into L6-30R on UPS Electronics Cabinet; 60 Hz applications only (Optional)

**Note:** For hardwired I/O applications, use the hardwired I/O PowerPass module listed below to preserve hot-swap maintenance bypass capability.

**Prestige 6000 Series PowerPass Modules**

4N-AEAAJ-DA	PowerPass 208V Model	208V	120V	L6-30P	(2)L5-30R, (4)5-15R2
4N-AEAAJ-DB	PowerPass 208V Model	208V	120/208V	L6-30P	(2)L6-20R, (4) 5-15R2
4N-AEAAJ-DC	PowerPass 208V Model	208V	120/208V	L6-30P	(2)L6-30R, (4) 5-15R2
4N-AEAAJ-DD	PowerPass 208V Model	208V	120/240V	L6-30P	(2)L14-30R, (4) 5-15R2
4N-AEAAJ-DE	PowerPass 240V Model	240V	120V	L6-30P	(2)L5-30R, (4) 5-15R2
4N-AEAAJ-DF	PowerPass 240V Model	240V	200/240V	L6-30P	(2)L6-20R, (4) 5-15R2
4N-AEAAJ-DG	PowerPass 240V Model	240V	200/240V	L6-30P	(2)L6-30R, (4) 5-15R2
4N-AEAAJ-DH	PowerPass 240V Model	240V	120/240V	L6-30P	(2)L14-30R, (4) 5-15R2
4N-AEAAJ-DJ	PowerPass 208V Model	208V	120/208V	Hardwired	Hardwired I/O
4N-AEAAJ-DK	PowerPass 240V Model	240V	120/240V	Hardwired	Hardwired I/O
4N-AEAAJ-DL	PowerPass 240V Model	240V	240V	Hardwired	Hardwired I/O

## Prestige Series 3000/6000 Office/Data Center Models (continued)

### Step 2—Additional Power Distribution Units (Optional)

Plug-In Outlet Extensions plug into receptacle on PowerPass module. All extensions apply to any UPS listed in the applicable group.

Extension Models	Includes Output Receptacles	Used with UPS Model <sup>1</sup>	Extension plug type
4N-AEACH-AK 4N-AEACH-AL	Two L6-20R and two L6-30R Hardwired output module (3 kVA models only)	4N-AEAAH-AL 4N-AEAAH-AT 4N-AEAAJ-CL 4N-AEAAJ-AL	L6-30P (all)
4N-AEACH-AA 4N-AEACH-AB 4N-AEACH-AC 4N-AEACH-AD 4N-AEACH-AF 4N-AEACH-AE	Four 5-15R2 Four 5-20R2 Two L5-30R and Two 5-20R2 Two L5-20R, Two 5-20R2 One 5-15R2, Three L5-30R Hardwired output module (3 kVA models only)	4N-AEAAH-AM 4N-AEAAH-AP 4N-AEAAH-EA 4N-AEAAJ-AM 4N-AEAAJ-CM	L5-30P (all)
4N-AEACH-AG 4N-AEACH-AH 4N-AEACH-AJ 4N-AEACH-AM	One L14-30R and three 5-15R2 One L14-30R, Two L6-30R, and One 5-15R2 Hardwired output module (3 kVA models only) Four 5-15R2	4N-AEAAH-AN 4N-AEAAJ-AN 4N-AEAAJ-CN	L14-30P (all)
4N-AEACH-DA <sup>2</sup> 4N-AEACH-DB <sup>2</sup> 4N-AEACH-DC <sup>2</sup>	Schuko outlets six @ 16 Amps French outlets six @ 16 Amps British outlets six @ 13 Amps	4N-AEAAH-AR 4N-AEAAH-AS	IEC320 C19 16A(all)

- Extensions may also be used with any building block PowerPass module 4N-AEAAJ-D\* having the corresponding mating receptacle.
- For 3 kVA models only: call for the plug connections available for 4.5 or 6 kVA models.

### Step 3—Battery Cabinets for Additional Battery Packs (Optional)

- 4N-AEAAH-AB Battery Cabinet for 3 kVA Models (up to 3 total maximum recommended)<sup>3</sup>  
 4N-AEAAJ-CC Battery Cabinet for 4.5 and 6 kVA Models (up to 6 total maximum recommended)<sup>3</sup>

- Limitations are to minimize battery recharge time.

#### Battery Support Times (in Additional Cabinets)

STD equals one battery for 3 kVA; two batteries for 4.5, and two batteries for 6 kVA models.

Battery Times	STD	STD+1	STD+2	STD+3	STD+4
3 kVA @ full load	7 minutes	18 minutes	30 minutes	N/A	N/A
3 kVA @ half load	14 minutes	35 minutes	55 minutes		
4.5 kVA @ full load	12 minutes	20 minutes	28 minutes	36 minutes	44 minutes
4.5 kVA @ half load	30 minutes	50 minutes	68 minutes	90 minutes	116 minutes
6 kVA @ full load	8 minutes	12 minutes	18 minutes	24 minutes	30 minutes
6 kVA @ half load	20 minutes	33 minutes	44 minutes	56 minutes	74 minutes

### Step 4—UPS Monitoring/Shutdown Software and Network Connectivity Adapter Options

See UPS Software and Options section.

## Prestige Series 3000/6000 Office/Data Center Models (continued)

### Step 5—Mobile Module Stack-UPS to consolidate Series 3000/6000 Modules (Optional)

Stack-UPS provides the option of housing the UPS system and providing a method for seismic mounting. Determine unit requirement from following chart; each unit equals 5.6-inches.

**Note:** Batteries may be separated from other modules and housed in separate stacking unit.

	Package Contents			Total Units Required	
	Electronics Module	PowerPass Module	Battery Module	w/PowerPass	w/o PowerPass
Series 3000	1 unit	1 unit	1 unit	3 units	2 units
Series 6000	2 units	2 units	2 units	6 units	4 units
Add-on Battery	N/A	N/A	1 unit each	add as required	

### Step 5a—Select Stack-UPS to match total unit requirement

<b>4N-AEACH-HA</b>	Stack-UPS cabinet kit for Powerware Prestige Series UPS (Accommodates up to three units space)
<b>4N-AEACH-HB</b>	Stack-UPS cabinet kit for Powerware Prestige Series UPS (Accommodates up to three units space)
<b>4N-AEACH-HC</b>	Stack-UPS cabinet kit for Powerware Prestige Series UPS (Accommodates up to three units space)
<b>4N-AEACH-HD</b>	Stack-UPS cabinet kit for Powerware Prestige Series UPS (Accommodates up to three units space)

### Step 6—Warranty Upgrades<sup>1</sup> (Optional)

<b>4N-AEWAR-G2/G3</b>	Prestige 3000/6000 5-year on-site exchange warranty upgrade option upgrades 3-year hot-swap return product warranty for continental US only and is available at time of UPS sale.
<b>4N-AEWAR-G4</b>	Same as above for Prestige 6000 only, except for 5-year on-site and start-up package.

1. Service provided by UPS vendor.

### Prestige Series 3000 Models Specifications

Power Requirements	North American Models – 60Hz	International Models – 50Hz
Input Voltage	208V or 240 VAC	200V, 208V, 220V, 230V, 240 VAC
Allowable Input Range without using batteries	160-276 VAC @ full load 140-276 VAC @ half load	160-276 VAC @ full load 140-276 VAC @ half load
Input Frequency	45 Hz to 65 Hz	45 Hz to 65 Hz
Input Power Factor	0.90 typical @ full load and nominal line	0.90 typical @ full load and nominal line
Surge Protection	Per EN 50082-1, meets IEC 801-4, IEEE 587, ANSI C62.41 CAT A&B	Per EN 50082-1, meets IEC 801-4, IEEE 587, ANSI C62.41 CAT A&B
Input Connection (6' detachable line cord) (requires 30A-2P circuit)/30A-1P (120V)	With L6-30P (208, 240V) L5-30P (120V)	Stripped Pigtail
Output Receptacles (Model Dependent)	(1) L5-30R, (4) 5-15R;	(1) IEC320, 16A
Output Receptacles (Options Available)	(1) L6-30R, (4) 5-15R or (1) L14-30R (4) 5-15R, (1) L6-20R, (4) 5-15R	Ext. strip option or (3) IEC320 with PowerPass
Output Voltage (Options Available)	120V, 120/208V, 120/240V±3% (60Hz)	200V, 208V, 220V, 230V, 240 VAC ± 3%
<b>Output VA/Watts</b>	<b>3000VA/2000W @ 60Hz</b>	<b>3000VA/2100W @ 50Hz</b>
Output Current @ full load	25A/120V, 14.4A/208V, 12.5A/240V	14.4A/208V, 13.6A/220V, 13.0A/230V, 12.5A/240V
Output Voltage THD/Crest Factor	<5%, 100% non-linear load/3:1 CF	<5%, 100% non-linear load/3:1 CF
Normal/Common Mode Noise Rejection @ 100 KHZ	>80 dB/60 dB	>80 dB/60 dB
Output Frequency	Same as input, 50 or 60Hz ±0.1% free running ±5% synchronized (adjustable to ±1.5%)	Same as input, 50 or 60Hz ±0.1% free running ±5% synchronized (adjustable to ±1.5%)
Battery-sealed lead acid		
Support time full/half load	7 min/14 min	7 min/14 min
Recharge time to 90% capacity	6 hrs	6 hrs

**Prestige Series 3000/6000 Office/Data Center Models (continued)**

**Physical Characteristics**

Weight (Battery)	52 lbs/23.6 kg	52 lbs/23.6 kg
Weight (PowerPass)	47 lbs/21.4 kg	47 lbs/21.4 kg
Weight (Electronics Module)	16.5lbs/7.5kg	16.5lbs/7.5kg
Dimensions (Electronics OR Battery OR PowerPass module ) Hx Wx D	5.6 in x 9.9 in x 15.8 in 143 mm x 252 mm x 400 mm	5.6 in x 9.9 in x 15.8 in 143 mm x 252 mm x 400 mm
Dimensions (Electronics, std battery & PowerPass stacked Hx W x D	16.8 in x 9.9 in x 15.8 in 429 mm x 252 mm x 400 mm	16.8 in x 9.9 in x 15.8 in 429 mm x 252 mm x 400 mm

**Environmental**

Audible Noise @ 1 meter	50dBA	50dBA
Operating/Storage Ambient Temperature & Altitude	+10 C to +40 C/-20 C to +60 C; 0-4000 ft (1200 m) without derating	+10 C to +40 C/-20 C to +60 C; 0-4000 ft (1200 m) without derating
BTU/Hr (On Line) @ Full Load	1492 (with PowerPass)	978 (without PowerPass)
Relative Humidity	5-95% Non-condensing	5-95% Non-condensing
EMI Suppression	FCC Part 15, Subpart J, Class A also meet CISPR22B	FCC Part 15, Subpart J, Class A also meet CISPR22B
Safety	UL 1778, CSA	EN 50091-1

**Power Requirements**

**North American Models—60Hz**

**International Models—50Hz**

Input Voltage	208V or 240 VAC	200V, 208V, 220V, 230V, 240 VAC
Allowable Input Range without using batteries	160-276 VAC @ full load 140-276 VAC @ half load	160-276 VAC @ full load 140-276 VAC @ half load
Input Frequency	45 Hz to 65 Hz	45 Hz to 65 Hz
Input Power Factor	0.90 typical @ full load and nominal line	0.90 typical @ full load and nominal line
Surge Protection	Per EN 50082-1, meets IEC 801-4, IEEE 587, ANSI C62.41 CAT A&B	Per EN 50082-1, meets IEC 801-4, IEEE 587, ANSI C62.41 CAT A&B
Input Connection (6' detachable line cord) requires 30A-2P circuit	With L6-30P	Hardwired
Output Receptacles (Standard Package)	(2) L5-30R, (8) 5-15R (2) L6-30R, (8) 5-15R	Hardwired
Output Receptacles (Options Available)	(2) L6-20R, (8) 5-15R or (2) L14-30R, (8) 5-15R	Call for availability
Output Voltage (Options Available)	120V, 120V/240V, 120V/208 VAC ±3%	200V, 208V, 220V, 230V, 240 VAC ± 3%
Output VA/Watts	4500VA Model: 37.5/21.6/18.7A 6000VA Model: 50/28.8/25A @ 120V/208V/240V	4500VA Model: 37.5/21.6/18.7A 6000VA Model: 50/28.8/25A @ 120V/208V/240V
Output Current @ full load	4500VA Model: 37.5/21.6/18.7A 6000VA Model: 50/28.8/25A @ 120V/208V/240V	4500VA Model: 37.5/21.6/18.7A 6000VA Model: 50/28.8/25A @ 120V/208V/240V
Output Voltage THD/Crest Factor	<5%, 100% non-linear load/3:1 CF	<5%, 100% non-linear load/3:1 CF
Normal/Common Mode Noise Rejection	>80 dB/60 dB	>80 dB/60 dB
Output Frequency	Same as input, 50 or 60Hz ±0.1% free running ±5% synchronized (adjustable to ±1.5%) with PowerPass	Same as input, 50 or 60Hz ±0.1% free running ±5% synchronized (adjustable to ±1.5%) with PowerPass
Battery-sealed lead acid Support time full/half load	8 min/20 min (Model 6000VA); 12 min/30 min (Model 4500VA)	8 min/20 min (Model 6000VA); 12 min/30 min (Model 4500VA)
Recharge time to 90% capacity	6 hours	6 hours

**Physical Characteristics**

Weight (Battery)	52 lbs/23.6 kg	52 lbs/23.6 kg
Weight (PowerPass)	75 lbs/34.1 kg 60Hz	75 lbs/34.1 kg 50 Hz
Weight (Electronics Module)	39 lbs/7.82 kg	39 lbs/7.82 kg
Dimensions (each Battery –1 of 2 modules) H x D x W	5.6 in x 9.9 in x 15.8 in 143 mm x 252 mm x 400 mm each	5.6 in x 9.9 in x 15.8 in 143 mm x 252 mm x 400 mm each
Dimensions (Electronics OR PowerPass module)- PowerPass is model dependent	11.2 in x 9.9 in x 15.8 in 286 mm x 252 mm x 400 mm	11.2 in x 9.9 in x 15.8 in 286 mm x 252 mm x 400 mm
(Electronics, Powerpass & Batteries stacked)	33.6in x 9.9 in x 15.8 in	33.6in x 9.9 in x 15.8 in

## Prestige Series 3000/6000 Office/Data Center Models (*continued*)

### Environmental

Audible Noise @ 1 meter	50dBA	50dBA
Operating/Storage Ambient Temperature & Altitude	+10 C to +40 C/-20 C to +60 C; 0-4000 ft (1200 m) without derating	+10 C to +40 C/-20 C to +60 C; 0-4000 ft (1200 m) without derating
BTU/Hr (On Line) @ Full Load		
6000VA Model:	2400 (with PowePass)	1600 (without PowerPass)
4500VA Model:	2000 (with PowerPass)	1200 (without PowerPass)
Relative Humidity	5-95% Non-condensing	5-95% Non-condensing
EMI Suppression	FCC Part 15, Subpart J, Class A also meet CISPR22B	FCC Part 15, Subpart J, Class A also meet CISPR22B
Safety (includes remote emergency off)	UL 1778, CSA	EN 50091-1

## Powerware Profile Office/Data Center Models

The Profile UPS systems are available in three ratings: 8 kVA/10 kVA/12.5 kVA models to support single-phase loads. The Powerware Profile is a double conversion online UPS for the protection of commercial and technical computer systems and other intelligent devices such as measurement instruments and industrial automation applications. The standard model features advanced serviceability modular design with internal battery. The Powerware Profile offers you extended battery time with additional matching cabinets. A single matching battery cabinet will provide over 1 hour of run time. Up to 8 hours can be achieved using additional battery cabinets.

In addition to the traditional online operation mode, Powerware Profile features the efficiency optimizer function. It minimizes the power loss, reduces power consumption and cuts power bills. The UPS automatically switches between by-pass and online according to the utility power condition. The efficient optimizer function is standard in all Powerware profile UPS and can be easily be activated.

The Powerware Profile is suitable for both office and computer room environments. All models are voltage and frequency selectable for 200-240V, 50 Hz or 60 Hz outputs and feature a wide input tolerance of 170-292V without using battery. The Profile Series UPS is a highly reliable, fully automatic on-line system. All units feature full LED panel display with MTBF to over 250 khrs. In the event of a complete power blackout, the UPS inverter continues to feed the computer system via the battery without any interruption to critical load. This allows time to ride out the outage, switch to an auxiliary power source, or perform a controlled shutdown of the system without any danger to valuable data.

The use of Cell Saver Technology, an advanced battery management, charges the batteries only when necessary resulting in prolonged battery life, and up to 60 days advanced warning of pending battery service. The 8-kVA to 12.5-kVA models offer convenient plug-in connection to the critical load with a wide range of individually protected receptacles on the optional power distribution module (PDM), which mounts on the rear of the unit. The output may also be hardwired to a remote distribution panel.

In case of emergency, an Emergency Power Off (EPO) switch located on the unit which disconnects the critical load from both the UPS and the bypass. Remote Emergency Power-Off Stations (REPO) interface is also provided for remote power off. The front panel offers an LED display of UPS conditions and a communications interface that allows transmission of UPS alarm conditions to a remote terminal. Models feature two RS232 ports for independent local and Network or modem communication. This communications interface also allows unattended automatic “soft” shutdown or event monitoring through the use of UPS monitoring software (see software section).

Profile models have a 2 year on-site service warranty and include system start-up (provided by vendor). Electrical installation must be by licensed electrician and may be contracted through an Environmental Products representative. Models are compatible with Power management software that ships with the AlphaServers. A cable kit or Network Adapter is required. Consult software section Powerware Profile Ordering Information – 8kVA-12.5kVA Single Phase Models

### Step 1—UPS Systems with Internal Battery

Select UPS system with internal battery; all models are 200-240V selectable output, hardwired input/output with optional plug-in output Power Distribution Module (PDM).

<b>4N-AEAAK-DA</b>	8 kVA/5.6 kW, single-phase output (17 minutes at full load) – North American Model Only
<b>4N-AEAAL-DA</b>	10 kVA/7 kW, single-phase output (12 minutes at full load) – North American Model Only
<b>4N-AEAAM-DA</b>	12.5 kVA/8.75 kW, single-phase output (9 minutes at full load) – North American Model Only

## Powerware Profile Office/Data Center Models (*continued*)

### Step 2—Add-on Battery Cabinets

For support time beyond that included with above packaged systems.

**4N-AEACK-AA** External Battery Cab EBC48 (half Cab)

**4N-AEACK-AB** External Battery Cab EBC96 (full Cab)

### Battery Runtimes in minutes

Load	Load	UPS	½	1	1½	2	2½	3	4	5	6	7	8	9	10
(VA)	(W)	only	Cab	Cab	Cab	Cab	Cab	Cab	Cab	Cab	Cab	Cab	Cab	Cab	Cab
2000	1400	80	195	329	477	636	805								
3000	2100	52	127	215	311	415	525								
4000	2800	37	92	156	226	301	381	464	642						
5000	3500	29	71	120	175	233	295	359	497						
6000	4200	23	58	97	141	188	238	290	401	520	645	775	911	1051	1196
7000	4900	19	48	81	117	156	198	241	334	433	536	645	758	875	996
8000	5600	17	41	69	100	133	168	206	284	368	457	550	646	745	848
9000	6300	14	35	60	86	115	146	178	246	319	396	476	560	646	735
10000	7000	13	31	52	76	101	128	157	217	281	328	419	492	568	647
11000	7700	12	28	47	68	90	114	139	193	250	310	373	438	506	575
12000	8400	11	25	42	61	81	103	125	173	224	278	335	393	454	517
12500	8750	9	23	40	58	77	97	119	165	213	265	318	374	431	491

**Note:** Battery times are approximate and may vary with equipment, configuration, disk access, battery age, temperature, etc.

### Step 3—Optional Plug-in Output Power Distribution Module (PDM)

Select one for 10 kVA and 12 kVA models

<b>4N-AEACK-DA</b>	(8) 5-15R2PDM W/8 5-15R2
<b>4N-AEACK-DB</b>	(2) L5-30R, (6) 5-15R2
<b>4N-AEACK-DC</b>	(6) L5-30R, (2) 5-15R2
<b>4N-AEACK-DD</b>	(2)L6-30R, (2) L6-20R, (2) L5-30R, (2) 5-15R2
<b>4N-AEACK-DE</b>	(2)L6-30R, (2) L5-20R, (2) L5-30R, (2) 5-15R2
<b>4N-AEACK-DG</b>	(2) 5-20R2, (2) L5-30R, (4) 5-15R2
<b>4N-AEACK-DH</b>	(2) 5-20R2, (3) L5-30R, (3) 5-15R2
<b>4N-AEACK-DN</b>	(3) L6-30R, (3) 5-20R2, (2) L5-20R
<b>4N-AEACK-DS</b>	(1) L6-30R (2), L6-20R, (2) L5-20R, (3) 5-15R2
<b>4N-AEACK-DT</b>	(5) L6-30R, (1) L5-30R, (2) 5-15R2



## Powerware Profile Office/Data Center Models (*continued*)

### Powerware Profile Single Phase Models Technical Specification

#### Power Requirements

Input Voltage	200/100 V, 208/120 V, 220/110 V, 220/127 V, 240/120 V
Voltage Range	Single phase 85 V-146 V phase to Neutral; 170 V-292 V Line to Line
Input Frequency	45/65 Hz
Power Factor	0.95
Efficiency	89% (online)
Efficiency Optimizer	98%
Input Connection	Hardwired
Input Breakers	50A (8kVA model), 60A (10kVA model), 70A (12.5kVA model)
Output Voltage	200/100 V, 208/120 V, 220/110 V, 220/127 V, 240/120 V
Output VA/Watts	8000 VA/5600 W (8kVA model), 10000 VA/7000 W (10kVA model), 12500 VA/8750 W (12.5kVA model)
Output Frequency	50 Hz/60 Hz
Output Breaker	50A (8kVA model), 60A (10kVA model), 70A (12.5kVA model)
Voltage Distortion	< 2% THD (linear load), < 5% THD (nonlinear load)
Overload Capacity	150% 30sec (on inverter), 1000% 20ms (on by-pass)
Battery-sealed lead acid	
Back-up time	17 minutes (8kVA model), 12 minutes (10kVA model), 9 minutes (12.5kVA model)
Recharge time	< 5 hours up to 90% capacity

#### Physical Characteristics

Weight (with internal battery)	556 lbs/208 kg
Dimensions (electronics or add-on battery)	15.75 in x 29.5 in x 28 in (400mm x 750mm x 710mm)
Add-on battery weight	468 lbs (half full cab) 765 lbs (full cab)

#### Environmental

Audible Noise	< 50 dBA at 3 feet
Temperature	0 C to 40 C, recommended 15 C -25 C
Heat Dissipation	2728 BTU/hr (8kVA model), 2950 BTU/hr (10kVA model), 3690 BTU/hr (12.5kVA model)
Humidity	0 to 90% HR non-condensing
RFI Suppression	FCC Class A
Safety	UL 1778 ;CUL

## Powerware Plus Office/Data Center Models

The Powerware Plus UPS systems are available in four Ratings. Plus 15kVA, 18kVA, 24kVA and 36kVA models support both single-and three-phase applications. Units are upgradable: 15kVA to 18kVA and 24kVA to 36kVA.

The employment of insulated gate bipolar transistor (IGBT) technology makes these UPS products the smallest and lightest in their class. Combining the attributes of high switching speed and high current-carrying capability, IGBT technology provides the most efficient design and quietest operation available. Its quiet, compact design and portable operation make it suitable for both office and computer room environments. All models are voltage and frequency selectable for 200V-240 V, 50 Hz or 60 Hz outputs and feature a wide input tolerance of up to 176 V-276 V without using battery. This unique flexibility allows complete worldwide portability. Three-phase models are also available for 480 V/380 V/220 V or 415 V/230 V applications. It is the unit of choice for frequency conversion, phase shift applications or special seismic requirements and includes castors for ease of portability.

The Powerware PLUS UPS is a highly reliable, fully automatic on-line system. All units feature full LCD panel display with MTBF to over 250 khrs. In the event of a complete power blackout, the UPS inverter continues to feed the computer system via the battery without any interruption to critical load. This allows time to ride out the outage, switch to an auxiliary power source, or perform a controlled shutdown of the system without any danger to valuable data. A wide range of battery support times are available for all types of applications. In addition to battery backup protection, its double conversion design ensures maximum isolation from the utility source and provides precision control of voltage and frequency during normal operation, while supporting 100% non-linear load without derating.

### Powerware Plus Series 15kVA and 18kVA Models

For Ordering Information on Powerware Plus Series 15kVA and 18kVA Models see steps 1 through 4.

For Ordering Information on Powerware Plus Series 24kVA and 36VA Models see steps 1a through 5a.

The 15kVA to 18kVA models offer convenient plug-in connection to the critical load with a wide range of individually protected receptacles on the optional power distribution module (PDM), which mounts on the rear of the battery cabinet. The 15kVA and 18kVA models may have up to two PDMs. The output may also be hardwired.

The 24kVA and 36kVA models may be hardwired to a remote distribution panel or an optional auxiliary cabinet may be selected. The optional auxiliary cabinet contains such features as wrap-around maintenance bypass, 30 pole distribution panel with provision for Square D bolt-on or plug-in circuit breakers, input harmonic current reduction filter and a variety of input/output transformer options. Flexible cables with integrated circuit breaker and receptacle are also available for raised floor applications.

In case of emergency, an Emergency Power Off (EPO) switch located on the Personal Series-PLUS unit disconnects the critical load from both the UPS and the bypass. Remote Emergency Power-Off Stations (REPO) interface is also provided for remote power off.

The full featured front panel offers a programmable visual menu driven display of UPS conditions and a communications interface that allows transmission of UPS alarm conditions to a remote terminal. This communications interface also allows unattended automatic soft shutdown or event monitoring through the use of UPS monitoring software. (See software section).

Powerware Plus models include 2 year on-site service including system start-up provided by vendor. The Electrical installation must be by licensed electrician and may be contracted through an Environmental Products representative. Models are also compatible with power Management software that ships with AlphaServers. Consult Software section.

### Step 1—UPS Systems with packaged battery

Select UPS system with packaged battery; all models are 200 V –240 V selectable output, hardwired input/output with optional plug output Power Distribution Module (PDM).

<b>4N-AEAAN-BA</b>	15kVA/10kW, three-phase output, STD model (10 minutes at full load)
<b>4N-AEAAN-BC</b>	15kVA/10kW, three-phase output, EXT1 model (16 minutes at full load)
<b>4N-AEAAN-BD</b>	15kVA/10kW, three-phase output, EXT2 model (29 minutes at full load)
<b>4N-AEAAP-BA</b>	18kVA/12kW, three-phase output, STD models(7 minutes at full load)
<b>4N-AEAAP-BC</b>	18kVA/12kW, three-phase output, EXT1 models(12minutes at full load)
<b>4N-AEAAP-BD</b>	18kVA/12kW, three-phase output, EXT2 models(22 minutes at full load)
<b>4N-AEAAN-BE</b>	15kVA/10kW, three-phase output, International model with 380-415/220V output (10 minutes at full load)

## Powerware Plus Office/Data Center Models (*continued*)

### Step 2—Add-on Battery Cabinets

For support time beyond that included with above packaged systems.

**4N-AEACH-BB** External Battery Cab for 15kVA and 18kVA (EBC2)

### Battery Duration Table

Battery runtime chart full/half load support time in minutes.

Models	kW	Standard Package with (1) EBC1 & (1) EBC2	EXT 1 Package with (2) EBC2	EXT 2 Package with (3) EBC2	Add-on to EXT 2 Package with (1) EBC2	Add-on to EXT 2 Package with (2) EBC2
15kVA, three-phase	@ 10kW	10/28	16/40	29/65	41/89	53/113
18kVA, three-phase	@ 12kW	7/22	12/33	22/53	33/71	43/94

### Step 3—Power Distribution Module (PDM) (Optional)

- Select one or two for 15 kVA and 18 kVA models.
- Use of two modules requires a conduit mount kit on one of the Power Distribution Modules. Kit may also be used for combination hardware/plug-in
- Prestige extender PDM modules may be used for receptacle requirements beyond that shown. Consult Prestige Series 3000/6000 section. Select input plug to match twist loc receptacle on PDM. L6-30, L6-20, or L14-30 recommended to balance 120V loads.

<b>4N-AEACM-BA</b>	(6) 5-20R2
<b>4N-AEACM-BB</b>	(4) 5-15R, (1) L21-20R
<b>4N-AEACM-BC</b>	(4) 5-20R2, (2) L14-30R
<b>4N-AEACM-BD</b>	(2) 5-15R2, (1) L5-30R, (1) L21-30R, (1) L21-20R
<b>4N-AEACM-BE</b>	(1) 5-15R2, (3) L5-30R, (1) L21-20R
<b>4N-AEACM-BF</b>	(5) 5-15R2, (1) L5-30R
<b>4N-AEACM-BG</b>	(4) 5-15R2, (1) L21-30R
<b>4N-AEACM-BH</b>	(3) 5-20R2 with conduit mount kit to add second PDM
<b>4N-AEACM-BJ</b>	(1) 5-20R2, (1) L21-30R with conduit mount kit to add second PDM
<b>4N-AEACM-BK</b>	(3) 5-20R2, (2) L21-30R
<b>4N-AEACM-BL</b>	(1) 5-15R2, (3) 5-20R2, (1) L21-30R
<b>4N-AEACM-BM</b>	(2) L5-20R, (2) 5-20R2, (1) L21-30R
<b>4N-AEACM-BN</b>	(2) L21-30R, (1) 5-20R2, (2) L6-30R
<b>4N-AEACM-BP</b>	(4) L5-30R, (1) L21-30R
<b>4N-AEACM-BS</b>	(1) L6-30R, (2) L6-20R, (1) L21-30R, (1) 5-15R2
<b>4N-AEACM-BT</b>	(2) L21-30R with conduit mount kit to add second PDM
<b>4N-AEACM-PA</b>	Package of (2) PDMs; 4N-AEACM-BT/BK (4) L21-30R, (3) 5-20R2
<b>4N-AEACM-CA</b>	(1) 5-15R, (2) L6-30R, (3) L5-30R
<b>4N-AEACM-CB</b>	(2) 5-15R, (2) L6-20R, (3) L5-30R
<b>4N-AEACM-CC</b>	(6) L5-30R
<b>4N-AEACM-CD</b>	(1) 5-15R, (2) L5-30R, & Conduit mount kit to add second PDM

## Powerware Plus Office/Data Center Models (*continued*)

### Step 4—Software Communication, Network and Surge Protection Options

Power management & monitoring software included in AlphaServer shipments – Connect-UPS network adapter or multi interface kit required. Ala Carte packages also available. Consult Software section for detail. See Also UPS options and TVSS section. See also UPS Options and TVSS section.

### Powerware Plus Office/Data Center Models Technical Specification

Power Requirements	15.0 kVA	18.0 kVA
Input Voltage	176–253 V ac	176–253 V ac
Phases	3-phase	3-phase
Frequency Range	45–65 Hz	45–65 Hz
Power connection	95 typical	95 typical
Input plug	Hard-wired	Hard-wired
Input circuit breaker	60 amps, 3 pole only	60 amps, 3 pole only
Maximum input current	42 A	50 A
kVA/kW	15.0/10.0	18.0/12.0
Output Voltages (selectable)	100/200, 127/220, 120/208 (North America Models) 220/380, 230/400, 240/415 (International Models)	100/200, 127/220, 120/208 (North America Models) 220/380, 230/400, 240/415 (International Models)
Maximum current continuous	42 A	50 A
Sustained overload before bypass transfer	106 to 125% FLA @ 10 minutes; 126 to 149% @ 30 seconds; >150% @ 10 cycles	106 to 125% FLA @ 10 minutes; 126 to 149% @ 30 seconds; >150% @ 10 cycles
Fault clearing	150 A @ 10 cycles; >150 A @ 3 milliseconds	150 A @ 10 cycles; >150 A @ 3 milliseconds
Transient response	<5% for 100% load Step within 1 millisecond; full recovery within 1 cycle	<5% for 100% load Step within 1 millisecond; full recovery within 1 cycle
Voltage regulation	<+2%	<+2%
THD	<5% for full nonlinear loads and 3.0 crest factor	<5% for full nonlinear loads and 3.0 crest factor
Frequency regulation	50 or 60 Hz +-0.1% (free run)	50 or 60 Hz +-0.1% (free run)
Battery-sealed lead acid/5year design life		
DC voltage	240 V dc; 120 cells, 2.25 V/cell float	240 V dc; 120 cells, 2.25 V/cell float
Approvals	IATA Special Provision 67, U.S. DOT, and IMDG test standards	IATA Special Provision 67, U.S. DOT, and IMDG test standards
<b>Physical Characteristics</b>		
Weight <sup>2</sup>		
UPS & Packaged Battery Standard Models	655 lb (298 kg)/780 lb shipping	655 lb (298 kg)/780 lb shipping
UPS Cabinet Only	180 lb (82 kg)/235 lb shipping	180 lb (82 kg)/235 lb shipping
Each Battery	(EBC1) 171 lb (76 kg)/205 lb shipping (EBC2) 295lb (134kg)/340 lb shipping	(EBC1) 171 lb (76 kg)/205 lb shipping (EBC2) 295lb (134kg)/340 lb shipping
Dimensions <sup>1,2</sup>		
UPS & Packaged Battery Standard Models	28.1 x 25.5 x 28.6 in./(714 x 648 x 625 mm)	28.1 x 25.5 x 28.6 in./(714 x 648 x 625 mm)
UPS Cabinet Only	28.1 x 8.5 x 28.6 in	28.1 x 8.5 x 28.6 in
Each Battery	28.1 x 8.5 x 24.6 in (7.4 x 216 x 625 mm)	28.1 x 8.5 x 24.6 in (7.4 x 216 x 625 mm)

## Powerware Plus Office/Data Center Models (*continued*)

### Environmental

Audible Noise	Typically <50 dBA at 1 meter	<60 dBA at 1 meter
Audible Noise	Typically <50 dBA at 1 meter	<60 dBA at 1 meter
Ambient Temperature	0° C to +40° C	0° C to +40° C
Relative humidity	5%–95% noncondensing	5%–95% noncondensing
Surge/electrostatic (ESD)	Meets IEEE 587/ANSI C62.41 Class A, B; 25 kV withstand for ESD	Meets IEEE 587/ANSI C62.41 Class A, B; 25 kV withstand for ESD
EMI suppression	Meets FCC Part 15, Subpart J, Class A	Meets FCC Part 15, Subpart J, Class A
Safety	IEC 950, UL 1778, Canadian Standards Association listed	IEC 950, UL 1778, Canadian Standards Association listed

1. Service clearance required=4-in rear, 36-in left facing unit, PDM adds 4-in to depth of battery cabinets.
2. Add an additional 8.5-inches to width for international 15kVA or 18kVA model. Call for weight information on these models.

### Powerware PLUS Series—PUPS-Plus (24 and 36kVA Models)

#### Step 1a—UPS with packaged battery

4N-AEAAR-AA	24 kVA, one battery cabinet, 12 minutes
4N-AEAAR-AB	24 kVA, two battery cabinets, 30 minutes
4N-AEAAR-AC	24 kVA, three battery cabinets, 50 minutes
4N-AEAAS-AA	36 kVA, one battery cabinet, 12 minutes
4N-AEAAS-AB	36 kVA, two battery cabinets, 30 minutes
4N-AEAAS-AC	36 kVA, three battery cabinets, 50 minutes

#### Step 2a—Additional Auxiliary Options Cabinet with Input/Output Options (Optional)

All cabinets contain external wraparound bypass. Power Distribution Modules (PDMs) include space for 30 single pole circuit breakers and accepts Square D plug-in, or bolt-on circuit breakers.

**Note:** Option cabinets cannot be ordered as a field upgrade.

#### With Step Down Transformer

4N-AEACP-AC	Auxiliary cabinet, 480 input/200-220V output
4N-AEACP-AD	Auxiliary cabinet, 480 input/200-220V output with PDM (30-pole)
4N-AEACP-AE	Auxiliary cabinet, 480 input/480 output
4N-AEACP-BC	Auxiliary cabinet, 480 input/200-220V output with THD inputfilter
4N-AEACP-BD	Auxiliary cabinet, 480 input/200-220V output with PDM (30-pole) and THD input filter
4N-AEACP-BE	Auxiliary cabinet, 480 input/480 output with THD input filter

#### Without Step Down Transformer

4N-AEACP-AA	Auxiliary cabinet with ext bypass only
4N-AEACP-AB	Auxiliary cabinet with PDM (30-pole)
4N-AEACP-BA	Auxiliary cabinet with THD input filter
4N-AEACP-BB	Auxiliary cabinet with PDM (30-pole) and THD input filter

## Powerware Plus Office/Data Center Models (*continued*)

### Step 3a—Distribution Cables (Optional)

- Cable required if PDM is selected in Step 2.
- Cables can be ordered at 20 feet, 30 feet or 40 feet in length.
- Includes Square D plug-in circuit breaker and receptacles shown below (bolt-on breaker available, call for information).
- For hardwire output to remote distribution applications see optional Modular Power Distribution Units section.

4N-BC24K-xx	(2) 5-15R with 15A-1P circuit breaker
4N-BC24L-xx	(4) 5-15R with 15A-1P circuit breaker
4N-BC24N-xx	(2) 5-20R with 20A-1P circuit breaker
4N-BC24P-xx	(4) 5-20R with 20A-1P circuit breaker
4N-BC24S-xx	(1) L5-30R with 30A-1P circuit breaker
4N-BC24T-xx	(1) L6-20R with 20A-2P circuit breaker
4N-BC24U-xx	(1) L14-20R with 20A-2P circuit breaker
4N-BC24V-xx	(1) L21-20R with 20A-3P circuit breaker
4N-BC24W-xx	(1) L21-30R with 30A-3P circuit breaker
4N-BC26E-xx	(1) L6-30R with 30A-2P circuit breaker
4N-BC28Z-xx	(1) L14-30R with 30A-2P circuit breaker

### Step 4a—Software and Other Options

See software section and order chart for applicable operating system. See UPS Hardware options for network adapters. See TVSS section for surge protection.

### Step 5a—Add-on Battery Field Upgrades

- Add-on battery for increased support time.
- Maximum of three total including package battery recommended to limit recharge time.

4N-AEACN-AA Add-on matching battery cabinet

### Powerware PLUS Series—PUPS-Plus (24 and 36kVA Models) Technical Specification

**Note:** Service clearance required = 4 inches rear, 36 inches left side facing unit.

Models	24 kVA <sup>1</sup>		36 kVA	
<b>Input</b>				
Nominal voltage VAC	208 V	480 V	208 V	480 V
Input voltage range	176-253 V	410-580 V	176-253 V	410-580 V
Phases	3-phase			
Frequencies	45—65 Hz			
Power factor	95 typical			
Input connection	Hardwire at rear of unit			
Input circuit breaker 3-pole	125A-3P	75A-3P	125A-3P	75A-3P
Maximum input current	58A	28A	87A	42A
Input current THD	Less than 10% with optional THD reduction filter			

**Powerware Plus Office/Data Center Models (continued)**

<b>Output</b>				
kVA/kW	24/16		36/24	
Voltages (selectable)	115/200, 120/208, 127/220 VAC/480/277 VAC with options cabinet			
Phases	3-phase			
Continuous Amps	67A	29A	100A	44A
Sustained overload before bypass transfer	106% to 125% FLA @ 10 minutes, 126% to 149% @ 30 seconds, >150%, 10 cycles			
Fault clearing	300 A @ 12 cycles, >300 A, 3 ms			
Transient response	<5% for 100% load Step, recovery in ¼ cycle (4 ms)			
Voltage regulation	< ±2%			
THD	<5% maximum for full non-linear and 100% load			
Frequency regulation	50 or 60 Hz ±0.1% (free run)			
Noise attenuation to 100kHz	Common/Normal mode >100/60 dB			
<b>Agency Compliance</b>				
Surge/electrostatic (ESD)	Meets IEEE 587/ANSI C62.41 Class A, B; 25 kV withstand for ESD			
EMT suppression	Meets FCC Part 15, Subpart J, Class A			
Safety	IEC 950, UL 1778, Canadian Standards Association listed			
<b>Batteries Information</b>				
Manufacturer/type/life	YUASA, NP series/sealed, maintenance-free lead acid/5-year design life			
Approvals	Meets IATA Special Provision 67, U.S. DOT, and IMDG test standards			
DC voltage	240 Vdc; 120 cells, 2.25 V/cell float			
Recharge times to 90%	1 cabinet, 1 hour, 2 cabinets 2 hours, 3 cabinets 3 hours			
Battery Times Full/Half Loads in Minutes <sup>2</sup>	24kVA Models @ 16kW 36kVA Models @ 24 kW	With 1 cabinet 12/30 5/18	with 2 cabinets 30/80 15/30	with 3 cabinets 50/130 30/80
<b>Environmental and Physical</b>				
Size (same for electronics, or auxiliary or battery cabinet) <sup>4</sup>	39 in. H x 17 in. W x 31 in. D (each cabinet) <sup>5</sup>			
System weights				
Electronics module	UPS: 400 lb (180 kg)			
Auxiliary cabinet	1300 lb (590 kg) maximum with all options			
Battery weight	900 lb per cabinet			
Altitude	5000 ft (1500 m) above sea level			
Audible noise @ 1 meter	65 dBA			
<b>Ambient temperature</b>				
Operating	0° to +40° C			
Nonoperating	-20° to 60° C			
Relative humidity	5% to 95% noncondensing			
Btus/hour	10,402 (24 kVA), 15,602 (36 kVA)			

1. 24 kVA unit is field upgradable to 36 kVA
2. Additional support time available, call for information
3. Service clearance required is 4 inches rear, 36 inches left side facing unit
4. Add 6.2 inches to depth of electronics, and auxiliary cabinet for wiring trough

## Standby UPS Systems

Positioned for low end standalone and client PCs which require a minimum of power conditioning and basic blackout protection, Standby UPS systems offer a base level of filtering/surge protection during normal operation and battery back-up with safe shutdown provisions during a power failure. They generally engage in 4-8ms and operate on battery during power outage, or brownout/overvoltage conditions. They are the cost effective choice to ensure data integrity for clients in a PC client-server environment. Compaq offers solutions from Exide Electronics (One-UPS Plus).

### One-UPS (300-650VA)

Battery Start	Yes (420,650)
Adjustable Brownout Transfer Settings	Yes
Basic Monitoring Port	Yes
Site Wiring Fault Indicator	Yes
On Battery/On Utility LED	Yes (420, 650VA)
Audible Alarms	Yes
50/60Hz selectable	Yes
User replaceable battery	No
Warranty	3 year advance exchange

### One-UPS Plus Models Ordering Information

120V/230V Models	Capacity VA/Watts	Battery (min)	Receptacle No. 120V/230V <sup>2</sup>
4N-AEADA-AF/BF	One-UPS Plus 300VA 300VA/180W	9 minutes full load	(2) 5-15/2 IEC320
4N-AEADA-AG/BG	One-UPS Plus 420VA 420VA/250W	6 minutes full load	(2) 5-15/2 IEC320
4N-AEADA-AH/BH	One-UPS Plus 650VA 650VA/400W	5 minutes full load	(4) 5-15/4 IEC320

### One-UPS Plus Specifications

One-UPS Plus Models	Weight/Net Shipping	H x W x D (inches)
300VA	11 lbs	6.0 x 3.4 x 13.5
420VA	11 lbs	6.0 x 3.4 x 13.5
650VA	25 lbs	6.6 x 4.7 x 14.2

## UPS Options

### Options for Prestige Desktop/Office Models

Note: -PA models include (7) 5-15R outlets "on" UPS and (1) 5-15R "off" UPS for laser printer.

-PB models include (6) IEC 10A "on" UPS and (1) IEC 10A "off" UPS. All outlets have built-in surge protection.

4N-AEAE0-PA	Hot Swap PowerPass (120V)	Allows safe swap out of UPS without affecting load (up to 1800VA models)
4N-AEAE0-PB	Hot Swap PowerPass (230V)	Allows safe swap out of UPS without affecting load (up to 1800VA models)
4N-AEAE0-RA	Rackmount kit (22-27"D)	Includes single (9.25" high) and double (12.1" high) unit faceplate, 19" width up to 2000VA models. 22-27-inch adjustable depth
4N-AEAE0-RB	Rackmount kit (28-32"D)	Includes single (9.25" high) and double (12.1" high) unit faceplate, 19" width up to 2000VA models, 28-32 inches adjustable depth
4N-AEAE0-RC	Rackmount kit (25"D)	Includes 1-3 unit faceplate in 6U High (10.5") assembly, 19" width for Prestige 3000, may be used for multiple desktop units
4N-AEACH-Hx	Mobile Stacker Unit	Includes seismic mounting provisions for Prestige Models 3000 and 6000 x = A/B/C/D for 3, 4, 5, or 6 high module configuration (5.6" each) See Prestige 3000/6000 Section for configuration details.



## UPS Options (*continued*)

### Network Adapters for Prestige and Powerware Plus & Profile Models

Connect-UPS SL preferable for connection to Profile Models.

**Note:** PUPS Plus 24 and 36kVA models require 4 ft connector cable, call for information.

<b>4N-AEAE0-DA/DC</b>	Connect-UPS Ethernet (120V) Ethernet/SNMP Adapter: DA= twisted-pair 10BaseT/DC= ThinWire
<b>4N-AEAE0-DB/DD</b>	Connect-UPS Ethernet (240V- Ethernet/SNMP Adapter; DB= twisted-pair 10BaseT/DD= ThinWire IEC)
<b>4N-AEAE0-CJ/CK</b>	Connect-UPS Token Ring      SNMP Thinwire and twisted-pair CJ= 120V; CK= 240V
<b>4N-AEAE0-DE/DF</b>	Connect-UPS SL                      SNMP Adapter DE= Twisted pair 10BaseT; DF= Token Ring

### Upgrade Kits for PUPS Plus

Not customer installable, requires service engineer.

<b>4N-AEAAL-CA</b>	10 to 12kVA
<b>4N-AEAAN-CA</b>	15 to 18kVA

## Modular Power Distribution/Conditioning Systems

These power distribution modules and conditioning distribution modules are designed to be the central source of distribution and conditioning of electrical power to computer equipment. They replace the H7317 (PDS+) and H7318 (PCS+) product set. Combined with flexible output distribution cables, these systems offer maximum flexibility and portability to preserve capital investment and lower lifecycle costs.

### Features

- Microprocessor monitoring and isolation.
- Optional environmental monitoring package.
- LCD display of many different power parameters
- Audible/visual alarms.
- Emergency power-off circuit.
- Shielded isolation transformer for electrical noise reduction.
- Output distribution panels with 42 pole positions at 30 kVA and 84 poles at all other levels, up to 100 kVA.
- Completely compatible with the present "BC" series of flexible power distribution cables; offer a portable and reliable equipment connection and come pre-assembled with circuit breakers and receptacles.
- Conditioning distribution module provides electronic voltage regulation with auto-bypass control, in case of regulator failure; can accept input voltage range from -27% to +15% while maintaining an output voltage of  $\pm 3\%$  of nominal.
- Ideal for facilitating computer room consolidations.

### Configuration Information

- Determine NEMA plug type and select cables with breakers and receptacles.
- Note the number of poles required to select appropriate PDM or CDM. Specify Square D or Bryant type circuit breakers. See PDM/CDM distribution cable chart
- Models without monitoring are also available.
- All Power Distribution Models and Conditioning Distribution Modules are 3 phase, 208/120V output

### Power Distribution Modules (PDM) 208V Input Models

<b>4N-CUPDM-AB</b>	30-kVA PDM, 42 poles,
<b>4N-CUPDM-AJ</b>	50-kVA PDM, 84 poles
<b>4N-CUPDM-AD</b>	75-kVA PDM, 84 poles
<b>4N-CUPDM-AE</b>	100-kVA PDM, 84 poles

### Power Distribution Modules (PDM) 480V Input Models

<b>4N-CUPDM-HB</b>	30-kVA PDM, 42 poles
<b>4N-CUPDM-HJ</b>	50-kVA PDM, 84 poles
<b>4N-CUPDM-HD</b>	75-kVA PDM, 84 poles
<b>4N-CUPDM-HE</b>	100-kVA PDM, 84 poles

## Modular Power Distribution/Conditioning Systems (*continued*)

### Conditioning Distribution Modules (CDM) 208V Input Models

4N-CUCDM-AB	30-kVA CDM, 42 poles
4N-CUCDM-AJ	50-kVA CDM, 84 poles
4N-CUCDM-AD	75-kVA CDM, 84 poles
4N-CUCDM-AE	100-kVA CDM, 84 poles

### Conditioning Distribution Modules (CDM) 480V Input Models

4N-CUCDM-HB	30-kVA CDM, 42 poles
4N-CUCDM-HJ	50-kVA CDM, 84 poles
4N-CUCDM-HD	75-kVA CDM, 84 poles
4N-CUCDM-HE	100-kVA CDM, 84 poles

### PDM/CDM distribution cable chart

Includes square D plug-in circuit breaker and receptacles shown. Suffix denotes length in feet.

4N-BC24K-20/30/40	(2) 5-15R with 15A-1P circuit breaker
4N-BC24L-20/30/40	(4) 5-15R with 15A-1P circuit breaker
4N-BC24N-20/30/40	(2) 5-20R with 20A-1P circuit breaker
4N-BC24P-20/30/40	(4) 5-20R with 20A-1P circuit breaker
4N-BC24S-20/30/40	(1) L5-30R with 30A-1P circuit breaker
4N-BC24T-20/30/40	(1) L6-20R with 20A-2P circuit breaker
4N-BC24U-20/30/40	(1) L14-20R with 20A-2P circuit breaker
4N-BC24V-20/30/40	(1) L21-20R with 20A-3P circuit breaker
4N-BC24W-20/30/40	(1) L21-30R with 30A-3P circuit breaker
4N-BC26E-20/30/40	(1) L6-30R with 30A-2P circuit breaker
4N-BC28Z-20/30/40	(1) L14-30R with 30A-2P circuit breaker

### Specifications for PDM, CDM, and PDU (PDM and CDM with Monitoring)

kVA	H x W x D	Unit Weight (PDM)	Unit Weight (CDM)
30	62 x 27 x 27 inches (157 x 68 x 68 cm)	540 lb (245 kg)	1160 lb (527 kg)
50	69 x 34 x 34 inches (175 x 86 x 86 cm)	795 lb (361 kg)	1675 lb (761 kg)
75	69 x 34 x 34 inches (175 x 86 x 86 cm)	935 lb (426 kg)	1975 lb (898 kg)
100	69 x 34 x 34 inches (175 x 86 x 86 cm)	1055 lb (480 kg)	2360 lb (1073 kg)

## Transient Voltage Surge Suppressors

The 4N-GAXXX family of Transient Voltage Surge Suppressor (TVSS) products prevent high-energy impulses that can damage a computer system or corrupt data. ZoneGuardian, ZoneMaster, and ZoneSentinel devices include user-friendly LED diagnostics to indicate faulty wiring and operational readiness.

ZoneMaster power panel devices include redundant parallel modules and auxiliary contacts for remote annunciation. Flexible "plug and play" power strip and snap-in data communication modules ensure total desktop protection. All devices carry a full 5-year warranty.

Zone Guardian power/data system includes connected load hardware warranty. Zone Guardian Plus power/data system includes additional 1 year software and stored data operational warranty.

## Transient Voltage Surge Suppressors

### TVSS Quick Selection Chart

**Note:** All power protector models feature protection on all modes (L-N, L-G, and N-G) at 330V maximum let through voltage.

AC Power Surge Devices	Order Number	Application	Configuration	Maximum Surge	Peak clamp <sup>1</sup> (Voltage maximum)
ZoneGuardian	<b>4N-GA353-xx</b> <sup>2</sup>	Terminals, PCs, desktop UPS systems, fax machines, client workstations, printers	(7)5-15R	10 kA	400V (L-N) <sup>3</sup> 330V (L-N) <sup>4</sup>
ZoneGuardian Plus	<b>4N-GA420/430-xx</b>	High-end workstations, servers	3 and 7 5-15R	10 kA	270V (L-N) <sup>3</sup> 240 V (L-N) <sup>4</sup>
ZoneMaster 140	<b>4N-GA171-xx</b>	Primary power panel	1 per panel	300 kA	400–1500V <sup>3</sup>
ZoneMaster 75	<b>4N-GA112-xx</b>	Primary or secondary power panel	1 per panel	150 kA	400–800V <sup>3</sup>
ZoneSentinel <sup>7</sup>	<b>4N-GA121-xx</b>	Secondary power panel <sup>7</sup>	1 per panel	40 kA	400–1000V <sup>3,8</sup>
ZoneGuardian CPP	<b>4N-GA240-xx</b> <sup>5</sup>	Snap-in extender modules for Desktop data/tel	Up to 4 per Zone Guardian or SCP module	2 kA	10–27V (data) <sup>6</sup> 105–270 (tel)
SCP Series	<b>4N-GA249-xx</b>	Used with UPS system for total protection	Plugs into standard 15A receptacle, add up to 4 CPP modules per receptacle		10–27V (data) <sup>6</sup> 105–270 (tel)
Zone Barrier Series	<b>4N-GA245-xx</b>	Standalone & Din rail mount	Up to 32 modules per rail, rack or wall mount		12-27V (data)
MDL Series Enclosure Modules	<b>4N-GA250-xx</b> <b>4N-GA262-xx</b> <b>4N-GA264-xx</b>	Data Truck Line	3 & 20 modules per enclosure	1.9-3 kA	12-27V (data) <sup>6</sup> 105-270V (tel)
Cables	<b>4N-GA270-xx</b> <b>4N-GA272-xx</b> <b>4N-GA276-xx</b> <b>4N-GA277-xx</b>				

1. Minimum Clamp V threshold of power modules is 150.
2. Use 4N-GA440-AD for systems with 5-20R plug.
3. Clamp V at 6 kV (1.2/50 ms) and 3 kA (8/20 ms) IEEE CAT B impulse test. UL 1449 for panel devices.
4. Clamp V at 6 kV (1.2/50 ms) and 500A (8/20 ms) UL 1449 for receptacle devices.
5. 4N-GA240 data protection modules must be used in combination with 4N-GA350/420/430 & 4N-249 plug surge protectors. Number of modules unlimited on strip models.
6. Clamp V at 2 kV (1.2/50 ms) and 1000A (8/20 ms).
7. Also for any system requiring 3-phase power or non-standard plug types.
8. When used in series with Zonemaster devices, maximum let through voltage is 330V.

## Transient Voltage Surge Suppressors (*continued*)

### Application Information

- Panelboard Protection
  - Main panel protection is the single best way to reduce all high-level power surges from external disturbances to safe levels within the building.
  - Use the ZoneMaster 75 series at the service entrance of small single three-story facilities and at sub-panels feeding sensitive equipment. Use the 140 series at the service entrance of larger facilities or where lightning is more prevalent, such as the southeastern and southern areas of the U.S.
  - Zone Sentinel devices are ideal for protecting a dedicated secondary panel within a building or may be used as main panel protection to handle lower surge levels.
- Desktop Power and Data/Network Protection
  - As long as there is a communications port available on the device to be protected, it is important that BOTH power AND the communications port are protected. Protecting power or data/telephone alone in these situations increases the likelihood of voltage potential differences and resulting damage to equipment.

### AC Desktop Protector Options

#### ZoneGuardian Plus—Premium Performance (10 KA max)

4N-GA420-AD	Three-outlet, 15A wall plug
4N-GA430-AF	Three-outlet, 15A power strip <sup>2</sup>
4N-GA430-AG	Seven-outlet, 15A power strip <sup>2</sup>
4N-GA440-AD <sup>1</sup>	One 20A 5-20R outlet with wall plug <sup>2</sup>
4N-GA440-AE <sup>1</sup>	One 20A L5-20R outlet with wall plug <sup>2</sup>

#### ZoneGuardian—High Quality Performance (10 KA max)

4N-GA353-BC	Seven-outlet, 15A power strip
4N-GA353-BD	Seven -outlet, 15A power strip with Tel Surge protection

1. Not ZoneGuardian Series Devices—will not accept CPP modules.
2. All Power Strips and GA440 devices furnished with 6-foot cord.

#### AC Panel Protection ZoneMaster 140—Main Panel Protection (140 KA max)

4N-GA171-AA	120/240V 1-phase 3W, 400V clamp
4N-GA171-AB	120/208V 3-phase 4W WYE, 400V clamp
4N-GA171-AC	120/240V 3-phase 4W Delta, 400V clamp
4N-GA171-AD	240V 3-phase 3W Delta, 800V clamp
4N-GA171-AE	277/480V 3-phase 4W WYE, 800V clamp
4N-GA171-AG	480V 3-phase 3W Delta, 1500V clamp

#### ZoneMaster 75—Main and Secondary Panel Protection (75 KA max)

4N-GA112-AA	120/240V 1-phase 3W, 400 V clamp
4N-GA112-AB	120/208V 3-phase 4W WYE, 400 V clamp
4N-GA112-AC	120/240V 3-phase 4W Delta, 400 V clamp
4N-GA112-AD	240 V 3-phase 3W Delta, 800 V clamp
4N-GA112-AE	277/480V 3-phase 4W WYE, 800 V clamp
4N-GA112-AG	480V 3-phase 3W Delta, 1500 V clamp

## Transient Voltage Surge Suppressors (*continued*)

### ZoneSentinel—Secondary Panel Protection (40 KA max)

4N-GA121-AA	120/240V 1-phase 3W, 400 V clamp
4N-GA121-AB	120/208V 3-phase 4W WYE, 400 V clamp
4N-GA121-AC	120/240V 3-phase 4W Delta, 400 V clamp
4N-GA121-AD	240V 3-phase 3W Delta, 600 V clamp
4N-GA121-AE	277/480V 3-phase 4W WYE, 1000 V clamp

### Communication Port Protection

ZoneGuardian Series CPP modules are supplemental snap-on devices to be used for communications port protection with ZoneGuardian AC surge or to extend the number of ports on SCP modules below. Wall plug models limited to four modules per suppresser.

### CPP Modules

4N-GA240-AB	2 wire dial-up, RJ11
4N-GA240-AC	2-2 wire dial-up, RJ11
4N-GA240-AD	4 wire leased line, RJ11
4N-GA240-AE	4 wire leased line, term strip
4N-GA240-AF	4 wire digital data, RJ485
4N-GA240-AG	4 wire data, term strip
4N-GA240-AH	4 wire T1 RJ48C
4N-GA240-AJ	4 wire T1 term strip
4N-GA240-AK	EIA-232 4 wire+SH, term strip
4N-GA240-BA	EIA-232 5 wire, term strip
4N-GA240-BB	EIA-232 8 wire, RJ45
4N-GA240-BC	EIA-232 6 wire, MMJ
4N-GA240-BF	EIA-232 6 wire RJ45
4N-GA240-BG	EIA-423 4 wire+SH, term strip
4N-GA240-BH	EIA-423 6 wire, MMJ
4N-GA240-BJ	EIA-485 2 wire+GRD term strip
4N-GA240-CB	IBM 3270 video one-wire with shield, BNC
4N-GA240-EA	8 wire UL category 5, RJ45

### SCP Modules (standalone Communications Port Protectors)

Add up to 4 CPP modules to increase number of ports.

4N-GA249-BB	EIA-232 8 wire RJ45
4N-GA249-BH	EIA-232 6 wire RJ45
4N-GA249-AB	2 wire Dial-Up, RJ11 Telco
4N-GA249-AD	4 wire leased line, RJ11 Telco
4N-GA249-AF	4 wire Digital Data, RJ48S Telco
4N-GA249-BB	8 wire RS232, RJ45
4N-GA249-BH	6 wire RS423, MMJ
4N-GA249-CA	4 wire 10BaseT, RJ45

### In-line Devices (attach to Device Port)

4N-GA700-BH	EIA-232, 12 wire, DB25F/DB25M
4N-GA700-BA	EIA-232, 8 wire, DB9

**Note:** All order numbers include one 7-foot data cable with mating connectors. CPP modules must be used with ZoneGuardian series AC TVSS devices. SCP modules plug into wall receptacle for standalone protection.

## Transient Voltage Surge Suppressers (*continued*)

### Accessories for DB25 and DB9 EIA-232 Communication Interfaces

<b>H8575-A</b>	MMJ-to-DB25 EIA-232 adapter
<b>H8571-J</b>	MMJ-to-DB9 EIA-232 adapter
<b>BC16E-10</b>	10-foot 6-wire jumper cable with MMJ connectors

**Note:** Use of these adapters will not allow full modem control.

### Zone Barrier Din Rail Mount Devices

<b>4N-GA245-AA</b>	17.5" Din Rail w/19" rackmount kit, up to 32 modules
<b>4N-GA245-AB</b>	2 wire Dial-Up, RJ11
<b>4N-GA245-AC</b>	4 wire leased line, RJ11
<b>4N-GA245-AF</b>	4 wire Digital Data Service, RJ48S Telco
<b>4N-GA245-AH</b>	4 wire TI, RJ48C Telco
<b>4N-GA245-BB</b>	8 wire RS232, RJ45
<b>4N-GA245-CB</b>	Coax IBM 3270/Video, RJ45
<b>4N-GA245-CD</b>	TwinAx IBM AS400/S3X
<b>4N-GA245-CF</b>	4 wire Dial-Up, RJ11
<b>4N-GA245-CH</b>	4 wire Token Ring, RJ45
<b>4N-GA245-EA</b>	8 wire RJ45, UL Category 5

### Transient Voltage Surge Suppressers Specifications

Technical Data	General/Environmental
Operating temperature range	-40° to 85° C (-40° to 185° F)
Operating humidity range	0 to 95% (non-condensing)
Maximum continuous operating volts	25% above nominal service voltage
Safety cutout	Thermal protection against sustained overvoltages above maximum continuous but below clamp level
Enclosures	Durable lightweight plastic UL94-5V flame retardant. ZoneMaster products meet NEMA 1, 2, 3R, 3S, 12, and 13 classifications
Three-function LEDs on power modulered = gnd not present or L-N reversal; green = normal operation Note: communication protector modules failsafe via short circuit to gnd.	
Maximum Peak clamp volts <sup>1</sup>	See TVSS (Quick Selection Chart)
1. Clamp levels given for L-N and L-L modes, where most damage occurs.	

	ZoneGuardian 4N-GA350	ZoneGuardian Plus 4N-GA420, 4N-GA430	
	ZoneMaster 75	ZoneMaster 140	ZoneSentinel
Hybrid clamp circuit (MOV, coil, capacitor)	3 stage		5 stage
Weight	6 lb (2.72 kg)	10 lb (4.54 kg)	4 lb (1.8 kg)
Size	10 x 8 x 4 in.	12 x 12 x 6 in.	8 x 6 x 4 in.
Stage/clamp component	Single stage MOV	Single stage MOV	Single stage MOV
No. redundant components	2 @40 kA	4@40 kA	1@40 kA
Required input circuit breaker		60 Amps	30 Amps