

POWERWARE
9120

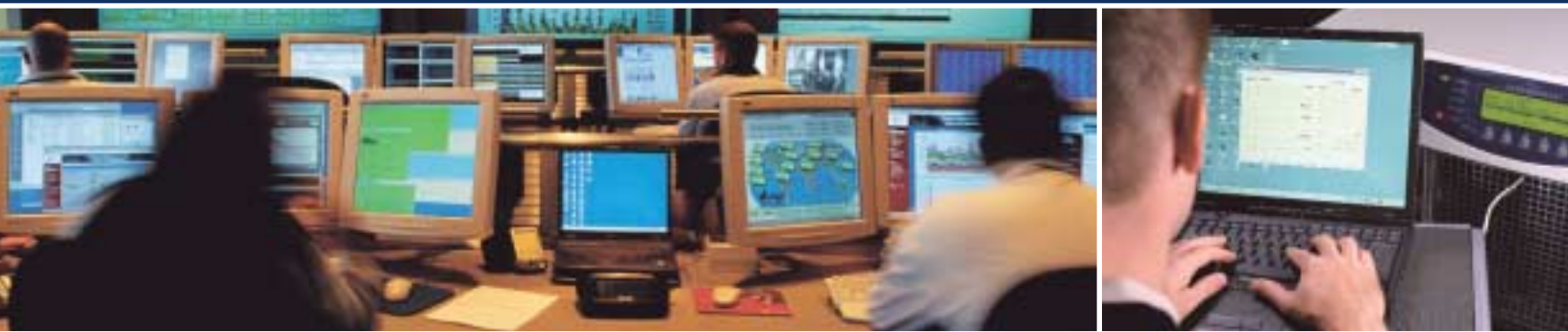
Powerware product catalog



Invensys Powerware Division

Powerware® has been protecting mission-critical operations since the days when a mainframe needed its own room. That's over 35 years of experience in the power protection industry. Today, Powerware's distinction comes from applying our large system engineering expertise to more modular uninterruptible power systems (UPSs). The result is an expansive product line with advanced solutions for any application, from desktops to data centers.

Powerware offers UPSs from 250 VA to more than 4000 kVA as well as award-winning software with features such as predictive analysis, remote access and control, customized alerts, automatic sequential shutdown and more. We've got the best engineers in the business continuously striving to improve UPS technology because we know how much you have at stake.



Whether you're sending a proposal over e-mail or transferring money between bank accounts, your transactions are critical and power protection is essential. Powerware provides you with the highest caliber of power protection so you don't have to think about whether or not you're protected. Because you're always protected with Powerware.

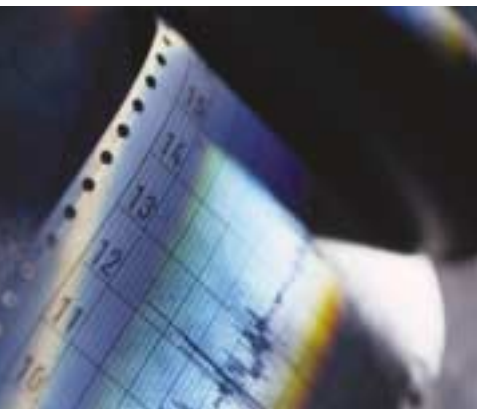
Powerware UPSs ensure uptime for customers like you, all over the world. From the FAA and NASA to Citibank, Time Warner Cable or MSNBC, Powerware's client list covers the spectrum of diverse and high-profile applications.

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Power Protection as easy as 3, 5, 9

Powerware's approach to power protection revolves around the nine most common power problems present in any environment. This unique approach will make your decisions about power protection much simpler. The nine most common power problems are: power failure, power sags, power surges, brownouts, line noise, overvoltage, frequency variation, switching transients and harmonic distortion.



These nine power problems are potentially harmful to your valuable data and your computer hardware. Not every UPS protects against all of them. Powerware offers three levels of power protection to choose from: **Series 3**, **Series 5** and **Series 9**.

Each series is designed to fit a different set of power protection needs and allows you to match your needs precisely with the appropriate level of power protection. Using the Series 3, 5, and 9 approach to power problems, Powerware eases your selection process, and your worries.

Powerware Series 3

UPSs primarily protect against three of the nine power problems including power failures, power sags and power surges. This basic protection is necessary in order to prevent damage such as data loss, file corruption, flickering lights, hardware damage, and equipment shutoff. For example, if your utility fails you could lose all of your work in progress. Series 3 UPSs offer a degree of protection against other power problems and are most commonly used to protect single workstations.

Powerware Series 5

UPSs are most effective against five power problems (power failures, power sags, power surges, undervoltage and overvoltage) and offer a degree of protection against other power problems. Some of the damages you risk by not using a Series 5 UPS include premature hardware failure, data loss and corruption, data error, keyboard lockup, storage loss and system lockup. Series 5 UPSs are recommended for small network systems – all the way up to enterprise networking environments.

Powerware Series 9

UPSs protect against all nine power problems: power failures, power sags, power surges, undervoltage, electrical line noise, overvoltage, frequency variation, switching transients and harmonic distortion. Powerware Series 9 comprehensive protection prevents all of the damages mentioned earlier as well as component stress, burned circuit boards, data crash and program failures. Series 9 UPSs offer the highest level of power protection available and are always recommended for mission-critical applications like server farms and hospitals.

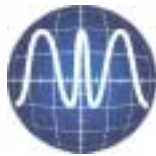
Visit the Product Selector on our website to identify the best UPS solution for your specific needs: www.powerware.com/Products/selector.



POWER FAILURE



UNDERVOLTAGE



FREQUENCY VIOLATION



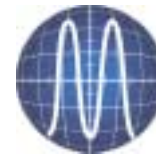
POWER SAG



OVERVOLTAGE



SWITCHING TRANSIENT



POWER SURGE



LINE NOISE



HARMONIC DISTORTION

Powerware Netsurge

Powerware Netsurge provides the ultimate in configurable transient protection through its unique patented design incorporated in the high-performance AC outlets and its three slide-in protection bays.

Features and Benefits

- ▶ Easy slide-in communication modules allow for mix-and-match protection for ADSL, digital satellite connections, cable TV, Internet, cable modem, FAX/modem, and LAN applications
- ▶ Customer-installable modules slide easily into the Powerware NetSurge
- ▶ Protection status indicator assures that the suppressor is protecting the equipment
- ▶ Guaranteed grounding of modules is automatic
- ▶ Lifetime Product Warranty
- ▶ Lifetime Connected Equipment Warranty of up to \$25,000



Powerware 3110 (250-600 VA)

Ideal for PC-based applications, the **Powerware 3110** provides affordable protection in a sleek, well-designed unit that can easily fit under a desk or can be wall-mounted.

Features and Benefits

- ▶ Available in cabinet and wall-mount configurations
- ▶ LED indicators and audible alarms warn of power problems and low battery conditions
- ▶ User-replaceable batteries extend the service life of the UPS
- ▶ Compact size saves space and makes installation easy
- ▶ Data line protection isolates network/phone wiring
- ▶ Triple Power Warranty (U.S. and Canada)
 - 5-Year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - 25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22

Powerware 3115

(300-650 VA)

The Powerware 3115 provides cost-effective power protection for PCs, network nodes, point-of-sale (POS) systems, and computer peripheral devices.



Features and Benefits

- ▶ Power management software bundle provides monitoring and shutdown capabilities
- ▶ User-replaceable batteries extend the service life of the UPS
- ▶ Compact size saves space and makes installation easy
- ▶ Triple Power Warranty (U.S. and Canada)
 - 5-Year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22



Powerware 5115

(500-1400 VA)

The Powerware 5115 offers excellent protection for PCs, small-office-home-office (SOHO) equipment, NT workstations, and small internet-working devices.

Features and Benefits

- ▶ Advanced Battery Management (ABM®) doubles battery service life
- ▶ Pure sine wave output delivers smooth continuous power
- ▶ Buck and Boost voltage regulation corrects incoming voltage fluctuations
- ▶ Hot-swappable batteries simplify service
- ▶ Network Transient Protector isolates network/phone wiring
- ▶ Power management software bundle provides monitoring and shutdown capabilities
- ▶ Triple Power Warranty (U.S. and Canada)
 - 10- year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22

Powerware 5125

(1000 VA-3000 VA)

The **Powerware 5125** Provides advanced power management for PCs, workstations, servers and other applications. Available in both rackmount and tower configurations, the Powerware 5125 is the most flexible UPS in the 1 – 3 kVA power range.



Features and Benefits

- ▶ Extended Battery Modules (EBMs) extend run time capability
- ▶ Advanced Battery Management Plus (ABM Plus) doubles battery service life
- ▶ Load segment control enable scheduled shutdowns and maximize run time for each critical device
- ▶ Two-in-One rack and tower form factor provide versatility
- ▶ Buck and Double Boost voltage regulation ensures sine wave output without using batteries
- ▶ Hot-swappable batteries simplify service
- ▶ Power management software bundle provides monitoring and shutdown capabilities
- ▶ Triple Power Warranty (U.S. and Canada)
 - 10- year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22



Powerware 5140

(6000 VA/6000 Watt)

The **Powerware 5140** is designed with a unity power factor rating, meaning it is ideally suited to meet the requirements of today's Power Factor Corrected (PFC) loads. With proven and reliable technology, it delivers up to a third more power than traditionally rated UPSs while still occupying only 6U of rack space.

Features and Benefits

- ▶ Unity power factor rated design protects more equipment
- ▶ Advanced Battery Management (ABM®) doubles battery service life
- ▶ 6U (10.5 inches) rack height conserves valuable rack space
- ▶ Extended Battery Modules (EBMs) prolong backup times
- ▶ Buck and Double Boost voltage regulation ensures sine wave output without using batteries
- ▶ Modular design eases setup and service
- ▶ Load segments enable scheduled shutdowns and maximize backup time for critical devices
- ▶ Hot-swappable batteries and Manual Bypass Switch simplify service
- ▶ Triple Power Warranty (U.S. and Canada)
 - 10-year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22

Powerware 9 Prestige™

(600-6000 VA)

The **Powerware 9 Prestige** is a modular UPS designed to accommodate virtually any mission-critical application for a few minutes or for several hours. The Powerware 9 Prestige protects AS/400 servers, industrial applications, and internetworking devices such as ATM switches.



Features and Benefits

- ▶ True online design ensures continuous, clean power
- ▶ Cell Saver® technology reduces battery replacement costs
- ▶ Additional, hot-swappable battery packs extend backup times
- ▶ Versatile, modular design provides easy setup and service
- ▶ Power management software bundle provides monitoring and shutdown capabilities
- ▶ Automatic internal bypass adds redundant power path
- ▶ Triple Power Warranty (U.S. and Canada)
 - 10-Year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22



Powerware 9120

(700-3000 VA)

The **Powerware 9120** provides maximum protection in the 700 VA – 3000 VA range, the Powerware 9120 is the ideal solution for networks, web servers, telecommunications and other critical applications.

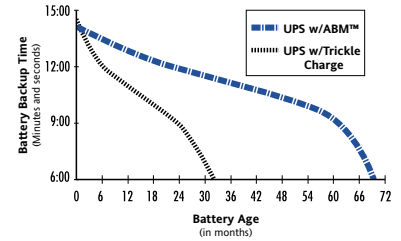
Features and Benefits

- ▶ Advanced Battery Management (ABM™) doubles battery service life
- ▶ True double conversion online technology
- ▶ Simple installation and operation
- ▶ Intuitive LCD screen providing real-time updates of UPS status, power usage, battery run time remaining, and other critical parameters
- ▶ Hot-swappable batteries simplify service
- ▶ Network Transient Protector isolates network/phone wiring
- ▶ Load segments enable scheduled shutdowns and maximize backup time for critical devices (1000/1500 VA)
- ▶ Power management software bundle provides monitoring and shutdown capabilities
- ▶ Triple Power Warranty (U.S. and Canada)
 - 10- year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22

Single-Phase UPS Feature Focus

Advanced Battery Management (ABM®)

The lead-acid batteries typically used in a UPS are considered viable as long as they can maintain backup times of at least half that of new batteries. Virtually all other UPSs on the market today have batteries that are constantly trickle charged. Those batteries reach the end of their useful life in less than half the time of batteries that are charged using ABM. ABM uses a three-stage charging technique that not only doubles battery service life, but also optimizes battery recharge time and provides up to a 60-day advanced notification of the end of useful battery life.



Data based upon tests performed by an independent battery manufacturer.

Featured on the following UPSs: 5115, 5125, 5140, 9104, 9120, 9125, and 9150.

Extended Battery Module (EBM)

For applications requiring extended battery backup times, Powerware has several UPSs that accommodate optional, EBMs. Featured on the following UPSs: Powerware 9 Prestige, 5125, 5140, 9104, 9120, 9125, 9150 and 9170.



Powerware 9125 with two EBMs

Load Segments

Load segments are groups of receptacles that can be independently controlled via LanSafe™ power management software, which is bundled with the UPS. Load segments extend battery backup times for critical equipment.



UPS Rear Panel

Featured on the following UPSs: 5125, 5140, 9120 and 9125.

To preserve battery power for more critical equipment connected to **load segment 1**, shut down **load segment 2** supporting less critical equipment.
 Shut down and power up Load Segments in user-defined sequence.

Powerware 9125

(700-2000 VA)

Combining superior performance with an innovative set of features, the **Powerware 9125** is the ultimate UPS in its class. The Powerware 9125 delivers superior power protection for banking and security systems, manufacturing process control, heavily configured servers and telecommunications/PBX equipment.



Features and Benefits

- ▶ Fourth-Generation Online™ topology ensures continuous, clean power
- ▶ Advanced Battery Management Plus (ABM Plus™) doubles battery service life
- ▶ Additional, hot-swappable Extended Battery Modules (EBMs) extend backup times
- ▶ Load segments enable scheduled shutdowns and maximize backup time for critical devices
- ▶ Two-in-one rack and tower form factor provides versatility
- ▶ 2U (3.5 inches) rack height conserves valuable rack space
- ▶ Power management software bundle provides monitoring and shutdown capabilities
- ▶ Triple Power Warranty (U.S. and Canada)
 - 10-Year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22
- ▶ Also available in black

Powerware 9150

(8.0-12.5 kVA)

The **Powerware 9150** is the power protection solution for network server farms, enterprise telecommunications systems, clustered PCs, and LAN gateways, bridges and routers.

Features and Benefits

- ▶ Double-conversion online technology provides reliable operation
- ▶ Advanced Battery Management (ABM™) doubles battery service life
- ▶ Matching battery cabinets extend backup times
- ▶ Automatic voltage and frequency selection eases startup
- ▶ Standard Static Bypass and Manual Bypass switches mean zero transfer time
- ▶ Power management software bundle provides monitoring and shutdown capabilities
- ▶ Efficiency Optimizer minimizes power loss, reduces power consumption and cuts your power bill
- ▶ Compatible for engine generator applications
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22



Powerware 9170

(3 kVA-18 kVA)

The **Powerware 9170** offers the highest level of reliability and the lowest cost of ownership of any UPS in the 3 kVA - 18 kVA range; available in three-, six-, nine-, and twelve-slot configurations.



Features and Benefits

- ▶ True double conversion online design delivers the highest level of reliability
- ▶ Offers N+X redundancy for both power and logic modules and battery modules, eliminating any system level single-point-of-failure
- ▶ PowerSaver™ technology increases unit operating efficiency
- ▶ Hot-swappable batteries, power modules & charger modules simplify service
- ▶ Universal components fit in any order without affecting UPS operation
- ▶ Power management software bundle provides monitoring and shutdown capabilities
- ▶ Matching battery cabinets extend battery run times
- ▶ Triple Power Warranty (U.S. and Canada)
 - 10-Year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22



Powerware FERRUPS

(500 VA – 18 kVA)

The Powerware FERRUPS uninterruptible power systems furnish unmatched reliability in configurable power protection for computers and telecommunications equipment. Patented ferroresonant technology delivers “bulletproof” power protection, overcoming power failures, spikes, sags, surges, brownout, noise, switching transients, and harmonic distortions.

Features and Benefits

- ▶ Active voltage regulation converts power from almost any AC source into computer grade power
- ▶ Eliminates harmful harmonic currents from entering a building’s wiring, where they can disrupt computer operations
- ▶ Enhanced diagnostics initiates automatic startup and scheduled tests on the logic board, battery and other critical systems
- ▶ Provides regulated output voltage without drawing power from batteries keeping the batteries fully charged from unexpected blackouts
- ▶ Complete offering of power management software included to ensure data integrity
- ▶ Triple Power Warranty (U.S. and Canada)
 - 10-Year Pro-Rated Warranty
 - 60-Day Money Back Guarantee
 - \$25,000 Load Protection Guarantee
- ▶ Powerware Gold Plan™ service maximizes uptime and system availability – see page 22



Powerware 3-Phase Solutions

Centralized 7 X 24 power availability

The rise of the Internet, telecommunications, and other digital technologies have driven greater dependence on both business-to-business and business-to-consumer technologies. Things we take for granted, like easy access

to cash from ATMs, broadband cabling for fast Internet service, or instant access to disparate databases located all over the world, are now a requirement to keep the global economy working and growing.



These technologies are possible because of a vast and complex infrastructure of hardware and software. This infrastructure is housed in corporate data centers, isolated remote locations, and within business offices. Keeping this infrastructure working all the time means understanding what could be risking your system availability, and finding the best way to manage, and if possible, eliminate, those risks. It will come as no surprise to anyone who has spent any time working with technology

to find out that power anomalies and failure are the chief cause of system downtime and lost revenue. Prevent these power problems, and you've gone a long way toward zero downtime.

By building on its status as the industry's leading developer of innovative 3-phase power solutions, Powerware eliminates the risks power can pose to your critical infrastructure, increasing system reliability and availability.

Powerware three-phase solutions provide the critical elements you need for a power solution tailored to your needs, including:

- ▶ Advanced UPS technology
- ▶ Redundancy
- ▶ Communications
- ▶ Complete power train protection



Powerware 9315

(30-750 kVA)

More than the power standard for data centers, facilities and network solutions, the **Powerware 9315** is the industry's most reliable and flexible three-phase UPS. The Powerware 9315 uses intelligent communications and parallel configurations to provide maximum uptime and 99.9999% availability. And, the Powerware 9315 can be paralleled for both redundancy and capacity using patented Powerware Hot Sync technology.

Features and Benefits

- ▶ True double conversion online technology protects the critical load from any power variation on the input
- ▶ DC Expert™ monitors and maintains battery health; provides state-of-charge and dynamically updates battery time remaining information
- ▶ UPS initiates outcall for user-selected events
- ▶ Intelligent input filter provides superior generator interface, and provides additional isolation between input and output
- ▶ Intelligent design reduces component count significantly, which reduces points-of-failure
- ▶ Monitor panel provides single-button start, along with pushbutton controls to easily access data about UPS status
- ▶ Intelligent controls with digital signal processing (DSP) processing provides more pristine output signal
- ▶ True pulse width modulation (PWM) technology enables IGBTs to switch at their highest capacity, increasing system reliability and ensuring perfect power on the output
- ▶ Powerware Hot Sync® patented paralleling technology requires no communication between modules, eliminating a system-level single-point-of-failure
- ▶ ProActive™ Service Plan comes standard for one year, providing maximum uptime for mission-critical systems

9315 Models:

9315-40
 9315-50
 9315-65
 9315-80
 9315-130
 9315-160
 9315-200
 9315-225
 9315-250
 9315-300
 9315-400
 9315-500
 9315-750

The Powerware 9315 is available in the following systems configurations:

- ▶ Single Module – Reverse Transfer
- ▶ Multi-Module – Parallel for Redundancy
- ▶ Multi-Module – Parallel for Capacity

The Powerware 9315 is designed for a wide range of critical applications, including:

- ▶ Data Centers
- ▶ Server Farms
- ▶ Facilities
- ▶ Telecommunications
- ▶ Enterprise Networks
- ▶ Internet Service Providers

Powerware Feature Focus

Powerware Hot Sync®



Ensuring the reliability and availability of critical systems has been the hallmark of Powerware's 3-phase solutions for more than 30 years. Each technological innovation has represented another step in the evolution of maximizing reliability. The latest step in this development is Powerware Hot Sync®, an enabling technology that allows parallel for redundancy and parallel for capacity configurations of UPS, without a system level single-point-of-failure. This is a significant capability, and unique to Powerware Hot Sync. Field-tested and installed in more than 1500 locations around the world, Powerware Hot Sync has become the global standard of availability for technology infrastructure applications.

How it works

Powerware Hot Sync enables UPS modules to work in tandem in complete synchronization without being wired together. This wireless design means that while the modules are in sync, they are functioning independently of each other. The modules are tied together only on the output, with each monitoring the output and using a digital algorithm to make adjustments 3000 times per second. This unique technology not only makes redundancy even more reliable, but can also be used to increase the capacity of the system, so your power solution easily grows to protect your system as it expands.

Load Sharing

In an optimum parallel configuration, the two UPS modules must share the load equally. In a traditional analog configuration, this required wire communications between the modules, which in turn created a single point-of-failure. Powerware Hot Sync eliminates the necessity for wire communications, providing true wireless paralleling for the first time, and eliminating that single-point-of-failure. The load-share control algorithms maintain synchronization and load balance by being adaptive. Each module monitors its own output power and tracks fluctuations from one output power cycle to the next. In this manner, each module need only look at its own output power to remain phase-locked.

Powerware Hot Sync Benefits

- ▶ Elimination of system level single-point-of-failure
- ▶ Through Powerware Hot Sync, the UPS components operate at their optimal capacity, increasing reliability and perfect power on the output
- ▶ Digital synchronization for automatic load sharing
- ▶ Selective tripping to automatically remove units in need of repair

Selective Tripping

In addition to enabling precise load-sharing, Powerware Hot Sync enables a module to employ a unique selective tripping approach, that is, each module need only look at itself to see if it has failed. Since each module in a Powerware Hot Sync system monitors itself for a failure, the faulty module will isolate itself from the critical bus, as opposed to identifying a faulty module from a system level, which is commonly used in conventional parallel redundant systems. Though most of the module failure modes are benign, there are several failure modes that will affect the critical bus. For instance, a component failure, such as a shorted IGBT, will appear as a fault on the critical bus. For these types of failures, it is essential that the failure be quickly identified and that the failed module be removed from the critical bus. As with the load sharing routine, the Powerware Hot Sync employs wireless selective tripping. In other words, there are no inter-module communications required to perform this function. This eliminates the single-point-of-failure in conventional parallel redundant systems.

The development of Powerware Hot Sync is the culmination of Powerware's expertise, the availability of high-speed digital processors, the development of component technology and the creation of enabling software. With all of the technological elements falling neatly into place, Powerware Hot Sync is ushering in a new era in critical-system reliability.

Powerware 9330

(10-40 kVA)

Powerware once again sets the standard for availability higher than any other UPS company with the introduction of the **Powerware 9330**. This product integrates all of Powerware's award-winning technology, software and service capabilities into a single module capable of supporting critical servers, ISPs, telecommunications or process control equipment from 10 – 40 kVA.

Features and Benefits

- ▶ Double conversion online topology delivers superior performance levels under varying load conditions
- ▶ Ergonomically designed control panel features a large LCD (8 line x 40 character) and status LEDs with soft keys for easy navigation to access critical-status information at the touch of a button
- ▶ Compact footprint includes 12 minutes of backup time and a maintenance bypass switch for complete UPS isolation during maintenance
- ▶ Full-featured monitoring with active mimic bus and diagnostics helps prevent risks to availability before they occur
- ▶ DC Expert Plus™ built-in battery monitoring provides the most comprehensive battery management system in the industry
- ▶ 7 x 24 availability with Powerware Hot Sync® paralleling for redundancy and/or capacity
- ▶ ProActive™ Service Plan comes standard for one year, providing maximum uptime for mission-critical systems



9330 Models:

9330-20

9330-40

IPM™ Three-Phase Industrial

BPII and BPII-S*

Balanced Power II (BPII) offers the reliability of true online technology utilizing digital signal processing (DSP) control and monitoring. In addition, the BPII uses the patented technology of an inverter software harmonic conditioner for less than 4% THD output while driving 100% non-linear loads. In addition, the BPII offers enhanced UPS/generator interface as well as rectifier-intelligent battery charging.



BPIII Industrial

The Balanced Power III Industrial features digital network control (DNC) logic providing maximum reliability through individual inverter, rectifier, and monitoring control circuitry. A high-speed digital network enables internal communications while the advanced battery management system and high-speed pulse width modulated (PWM) inverter add to its reliability. In addition to a variety of standard and optional features typically provided with on-line UPSs, the BPIII Industrial offers features ideal for industrial applications.

BPII HE and BPII-S HE*

The BPII HE provides many of the same features and benefits of the BPII. However, the BPII HE is designed to withstand the abuse of typical industrial environments and applications.



BPIII HE

The BPIII HE provides many of the same features and benefits of the BPIII. In addition, the BPIII HE offers features designed to withstand the abuse of many typical industrial environments and applications.

*Single-phase output

	BP-II/BP-II S	BP III Industrial	BP II HE/BP II S HE	BP III HE
Internal Batteries	X			
Internal input filter				
10% THD (optional)	X		X	X
Internal maintenance bypass	X		X	X
Internal input and output isolation transformers (standard)			X	X
Internal input isolation transformer (optional)	X			
Remote control and diagnostics	X		X	
Phone Home alarm reporting (with optional modem)	X	X	X	X
Single or dual inputs	X			
Dual input only			X	X
14-gauge heavy-duty panels	X	X	X	X
Heavy-duty filtration (optional)		X	X	X
ANSI 61 gray paint on exterior panels		optional	X	X
50°C continuous operation		10% derated capacity	20% derated capacity	X
120 VDC link (compatible with existing rectifiers and batteries)			X	X
Blocking diodes (optional)			X	X
DC ground fault detection (optional) (requires IsoTrans)		X	X	X
Start on battery (optional)			X	X
Inrush overload inverter capability		up to 160kVA	X	X
Conformal coated boards			X	X
Oversized rectifiers (optional)			X	X

Additional features and options available; please contact your sales representative.

Three-Phase System Accessories

Maintenance Bypass Module

This floor-mounted, enclosed cabinet provides continuous support for critical loads during servicing or testing of the UPS Module. The MBM includes the Maintenance Isolation Breaker (MIS) and Maintenance Bypass Breaker (MBP).

Powerware PDM

The Power Distribution Module (PDM) provides distribution of output power from the UPS to critical applications. Each PDM includes two panels, each containing 42 poles that can be assigned depending upon application requirements. If additional distribution is required, these cabinets can be daisy-chained to increase distribution capacity.

Remote Monitor Panel

The Remote Monitor Panel (RMP) allows customers to monitor the operational status of the UPS system from virtually any location within a facility. The RMP utilizes simple backlit status indicators and an alarm horn that notify customers of changes in the operational status of the UPS system. This option can be installed in multiple locations throughout a customer's facility.

Relay Interface Module

The RIM provides a critical communications link to optimize reliability, utilizing serial interface and relay contact closures to support up to eight critical loads. The RIM notifies customers of operational status changes allowing them to respond with the appropriate action.

Powerware PDU

Protects your critical computer equipment and applications from electrical noise and spikes, and acts as a single point reference ground. Each Powerware PDU can be configured to meet your specific needs for isolation, voltage transformation, harmonic reduction and voltage regulation with virtually limitless distribution options. Built-in system monitoring and diagnostics facilitate load balancing and warn of potential threats to your critical equipment.

Powerware PDU-R

The Powerware PDU-R provides additional distribution capabilities without consuming valuable floor space. A freestanding device, the PDU-R allows you to effectively use all of your existing capacity before investing in additional distribution. To "expand" your system, simply connect the PDU-R to any standard sub-feed circuit breaker or a PDU or 208V distribution board.

Powerware Flywheel by Active Power

The flywheel is a DC battery-free energy storage system that includes a motoring function for start-up, an internal flywheel for energy storage, and a generator function to provide electrical power when needed. This simple, elegant and powerful solution incorporates a single moving part with a design life of more than 20 years, and system performance is not affected by the number of discharges.

Powerware IsoTran

The Powerware IsoTran protects your equipment from power disturbances caused by load-generated harmonics which can disrupt critical processes, damage equipment and cause expensive unplanned shutdowns.

Powerware VR (Line Conditioner)

The Powerware VR series increases the performance and life of your equipment by protecting it from oscillating transients and voltage spikes.

Powerware TVSS

Powerware has introduced a new line of surge suppression devices designed to improve the availability of your complex network systems. Powerware surge suppression equipment provides an added level of protection for both electrical and data communication lines, plus telephone line protection for a complete, integrated power protection solution.



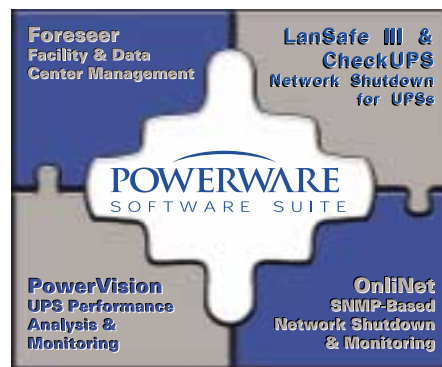
Software Suite

Complete set of power management software solutions

Features and Benefits

- ▶ Free and bundled with all Powerware® UPSs*
- ▶ Software Wizard guides you through software selection and installation
- ▶ In addition to multimedia demonstrations, product data sheets, and video clips, the Software Suite CD contains the following power management software:
 - **LanSafe™ III and CheckUPS:** Network shutdown for UPSs
 - **OnliNet®** (Vista/Centro): SNMP-based network shutdown and monitoring for UPSs
 - **PowerVision®** (30-day trial version): UPS performance analysis and monitoring
 - **Foreseer®** (demonstration): Facility and data center management

*NOTE: (not bundled with Powerware 3110)



LanSafe™ III

Network shutdown for UPSs

LanSafe III is Powerware's software solution that allows you to establish a prioritized, sequential shutdown of all network devices and most popular client/server applications.

Features and Benefits

- ▶ Preserve data integrity system-wide with automatic, unattended network shutdown during an extended power failure
- ▶ Reduce cost per device for power protection with UPS groups
- ▶ Receive system-wide control via cross-platform functionality and support for other manufacturers' UPSs
- ▶ Test all networked UPSs from one node
- ▶ Determine overall operating environment with extensive graphical displays
- ▶ Stay informed of power problems by pager and e-mail
- ▶ Analyze your conditions with voltage logging
- ▶ Conserve power by means of scheduled on/off times

PowerVision® Software

PowerVision software is designed for UPS performance analysis and monitoring of a single UPS or multiple power devices. With a powerful, intuitive user interface and extensive data archiving and analysis capabilities, PowerVision offers a long list of unique capabilities.

Features and Benefits

- ▶ True client/server architecture
- ▶ True multi-user application
- ▶ Multi-tasking, 32-bit Windows 95 and Windows NT
- ▶ Vast data archive and robust data analysis
- ▶ Alarm management tools
- ▶ Multi-vendor connectivity
- ▶ Intuitive interface



Foreseer® Software

Imagine seeing the solution before the problem...

Foreseer is the ultimate solution to proactively monitoring and managing foundation equipment. Regardless of manufacturer, from UPS, air handlers and battery monitoring to simple intrusion detectors, Foreseer monitors them all.

Features and Benefits

- ▶ Easily configured to your unique environment, regardless of the complexity, size, or number of distributed sites
- ▶ Advanced alarm management capability. Alpha numeric OutCall Paging™ ensures that the right personnel are automatically notified of alarms and potential problems
- ▶ Graphical views to accurately depict your site
- ▶ Custom Report Generator produces management reports and other specific information whenever needed
- ▶ Installed, serviced and supported by Powerware Global Services Group. A range of installation packages are available to meet your specific needs including complete, turn-key project management and on-site training

OnliNet® Centro/Vista Software

SNMP – based network shutdown and monitoring for UPSs

Features and Benefits

- ▶ Automatic, unattended shutdown via SNMP
- ▶ View all network UPSs on a single screen
- ▶ Manage and monitor one, several, or all networked UPSs
- ▶ Diagnose chronic power problems through event logs
- ▶ Automatic, unattended shutdown of UPSs
- ▶ Graphical representation of system and UPS
- ▶ Paging and e-mail capabilities



ConnectUPS™ SNMP and Web Adapters

ConnectUPS SNMP Adapters

Features and Benefits

- ▶ Compatible with leading SNMP network management software (NMS) packages and Powerware's OnliNet Centro and OnliNet Vista
- ▶ Automatically records UPS events and alarms in an event/history log
- ▶ Supports Powerware® PowerMIB and UPS Standard MIB (RFC 1628)
- ▶ Available for Ethernet (10 Mbps) twisted-pair, thinwire, and token-ring (4 and 16 Mbps) applications
- ▶ Configurable over the network from a remote location via BOOTP
- ▶ Out-of-band modem support with ConnectUPS-M™ (alarms to pagers)



ConnectUPS™ SNMP/Web Adapters

Features and Benefits

- ▶ Provide web access for easy monitoring and management any time, any place, with any standard web browser
- ▶ Work with a wide range of third-party network management programs (SNMP)
- ▶ Remote monitoring and control of UPS-protected devices network-wide
- ▶ E-mail notification providing real-time information of events (SMTP)
- ▶ Provide automatic shutdown with NetWatch software
- ▶ Out-of-band modem support with ConnectUPS-M™ (alarms to pagers)

POWERWARE®

GLOBAL SERVICES

Powerware Global Services offers a wide range of services for UPS systems, Intergy DC systems and batteries. Our comprehensive services, combined with our wide geographic coverage and technical expertise, result in peace-of-mind for you and your organization.



Powerware ProActive™ Service Plan

Available for new 9315 Systems, 50 kVA and higher and 9330 10–40kVA. (USA only: First year included in UPS purchase price). Features include 7x24 start-up service, 7x24 corrective maintenance coverage, 7x24 annual performance check, 7 x 24 annual power protection audit, remote monitoring advance response service, monthly UPS performance report and web access to account information and site service activity.

Powerware Plus Pak™

Included for the first two years with your hard-wire installed Powerware UPS equipment (12kVA – 36kVA), and IPM Single Phase and Three Phase equipment, the Plus Pak delivers start-up service, corrective maintenance coverage and a performance check.

Respond and Respond Plus Service

Available for systems 12kVA and higher, sold before January 1, 2000. Provides emergency maintenance at one low annual fee. Benefits include full corrective maintenance coverage of UPS electronics for one year, including materials, labor and travel expenses (batteries not included) as well as eligibility for discounts and one annual performance check.

Powerware Gold Plan™

Powerware Global Services Gold Plan service provides up to five years of bumper-to-bumper coverage with maximum responsiveness. The Gold Plan delivers added assurance that critical equipment and information is protected.

Powerware Gold Plan Plus™

Powerware Global Services Gold Plan Plus service provides up to five years of bumper-to-bumper service with maximum responsiveness, plus the added convenience of on-site system start-up. The Gold Plan Plus delivers added assurance that your power system has been installed properly and is operating as designed to protect your critical equipment and information.

Powerware Multi-Vendor Services

Provides service for an array of critical power equipment, regardless of the manufacturer, allowing you to maintain a single-business relationship for all your power equipment protection needs. Enjoy the ease of scheduling service from one company, and at the same time benefit from having experienced technicians provide maximum uptime for all your mission-critical equipment.

Powerware Product Modifications and kVA Upgrades

KVA Upgrade Service provides you with an affordable solution for keeping pace with your increasing power protection needs. Product Modification Services provide a means to upgrade your existing equipment and maximize its functionality, as new technology and equipment becomes available.

Remote Monitoring Services

Armed with state-of-the-art communications tools, Powerware Global Services stands guard over your equipment, managing critical system alarms, performing remote diagnostics, and providing informative periodic reports. A variety of monitoring solutions are available; all deliver 24-hour surveillance by the Global Services Command Center, and immediate professional service when you need it most.

Powerware Battery Preventive Maintenance

The best time to find out whether your batteries are defective or deteriorated is during a preventive maintenance service, not when power failures could compromise critical loads. Options include comprehensive maintenance for your V.R.L.A. or flooded batteries, measure of cell voltage levels, and total battery terminal voltages.

Powerware Battery Update Service

Refresh your UPS instead of risking critical loads on weak batteries. Features include removal of all old batteries, installation of new batteries, ground freight and EPA approved battery disposal and recycling.

Powerware On-Site Gold Plan

The Powerware On-Site Gold Plan provides maximum responsiveness with up to five years of bumper-to-bumper, on-site service and system start-up. The On-site Gold Plan takes care of your UPS from the initial system start-up and beyond with Powerware's eight hour response guarantee for any on site corrective maintenance needs.

Powerware On-Site Gold Plan Plus

The Powerware On-Site Gold Plan Plus provides maximum responsiveness with up to five years of bumper-to-bumper on-site service, system start-up, plus performance checks. The On-site Gold Plan Plus delivers complete care of your UPS from the moment it begins protecting your mission-critical systems and beyond with Powerware's eight hour response guarantee for any on-site corrective maintenance needs.

PDU, PDU-R, IsoTrans, and VR Service

Keep your power distribution system in top condition with proper service. Let Powerware Global Services begin caring for your Powerware PDU, Powerware PDU-R, Powerware IsoTrans and Powerware VR equipment from the moment it begins supporting your critical systems.

Powerware UpTime Guarantee

We guarantee your critical applications will be up all the time. At Powerware Global Services we are serious about keeping your equipment running at optimal effectiveness. We are convinced that with proper maintenance, there is no reason you should suffer a load-loss due to a malfunction of your UPS or batteries. To prove this, we will give you our UpTime Guarantee.

Full Year Battery Coverage

If any of your covered batteries fail, you are entitled to replacement of failed batteries, including freight charges, labor and associated expenses to install new batteries and EPA approved disposal of the original batteries.

Battery Services

Battery performance is critical to your power systems, and Powerware Global Services offers a comprehensive set of battery services specifically designed to minimize the risk of system downtime and provide you with peace of mind. These services include: Battery Update Service, Battery Additions, Battery Preventive Maintenance, Battery Coverage and Battery Monitoring.

Remanufactured Equipment

Cost-effective, reliable power protection solutions that fit your budget. Components are replaced and/or refurbished to restore system to like new condition. All products are tested under load and upgraded to the most recent revision levels.

Spare Parts Kits

Powerware UPS systems keep a vast amount of spare parts in inventory to support our customer support engineers. There are numerous stocking locations and a repair center conveniently located to provide world class service, and quick response when the need exists.

Battery Monitoring

Powerware Global Services offers a variety of plans and programs to ensure the maximum longevity and service life of your UPS batteries. Battery Monitoring services include Powerware CELLWATCH and DC Tracker. Other battery services are: Powerware Battery Preventive Maintenance, Battery Update Service, Battery Additions, Battery Preventive Maintenance, Battery Coverage.

ProActive Battery Coverage

ProActive Battery Coverage provides uptime peace-of-mind with proactive replacement of your complete battery string, regardless of the battery condition, battery preventive maintenance inspections and full battery coverage. As long as you maintain ProActive Battery Coverage on your system then your batteries will be replaced.



Federal Systems Division Integrated Solutions



Powerware maintains a division that offers unique solutions for the power protection marketplace. **Federal Systems Integrated Solutions** provides a design/build service that can encompass the entire power system or a single UPS integration. The in-house design and project management staff, coupled with our equipment supplier OEM and installation contractor relationships, enables you to draw together a proficient team to quickly assess and implement your power protection needs.

Federal Systems Integrated Solutions delivers comprehensive offerings of products and services for the ultimate in power reliability.

Power Protection Products

- ▶ UPSs (single & three phase)
- ▶ TVSSs
- ▶ Flywheels
- ▶ PDUs
- ▶ Transfer Switches
- ▶ HVAC Systems
- ▶ Transformers & Voltage Regulators
- ▶ Batteries
- ▶ Switchgear
- ▶ Software
- ▶ Power Generation Systems (standby & prime)
- ▶ Load Banks
- ▶ DC Rectifiers

UPS System Configurations

- ▶ Single Module
- ▶ Double Redundant Module
- ▶ Hot Tie Separate Multi Module system
w/automatic paralleling capability
- ▶ Redundant Module
- ▶ Parallel for Capacity

Integrated Solutions Services

- ▶ Installation
- ▶ Maintenance
- ▶ Project Management
- ▶ Testing
- ▶ Training
- ▶ Engineering
- ▶ Logistics Support
- ▶ Modifications

We have various contracts available for the procurement of single or program purchases for government, commercial, industrial and institutional customers.

- ▶ Fixed Price
- ▶ Cost Plus Fee
- ▶ Time and Material (T & M)
- ▶ Performance Based

Invensys Powerware Division

Headquartered in Raleigh, N.C., **Invensys Powerware Division** is part of Invensys Plc. Invensys Plc was created in 1999 when BTR plc and Siebe plc merged to create a world-class electronics engineering company. Upon merging, stockholders voted to change the name of the newly formed company to Invensys, reflecting its image of invention, innovation and systems. This convergence of intelligent, global technologies allowed companies with compatible products to join forces. Hawker, Powerware, Swichtec, Lectro and Hawker Saturnia came from BTR while Siebe added Teccor Electronics and Lambda to create what today is known as Invensys Powerware Division.



Invensys Powerware Division brings safety, certainty, reliability and control to an otherwise unstable resource: power. Each plays an integral role in power control by manufacturing unique but complementary products for the marketplace. Together, these companies produce power control and energy storage products and services for computer, telecommunications and industrial applications. The \$2 billion division offers customers a single source for critical elements of their power systems.

Three product groups make up Invensys Powerware Division: Energy Storage, Power Components and Power Systems. All products can be found working together in a variety of applications, including data centers, factories, hospitals and even your own home.

Powerware Product Information

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