

POWERWARE  
9120

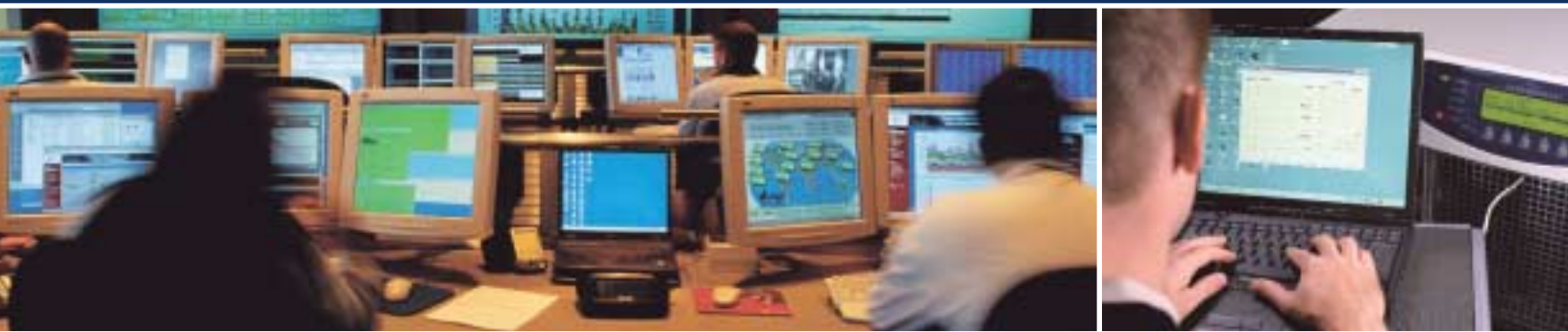
## Powerware product catalog



# 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.

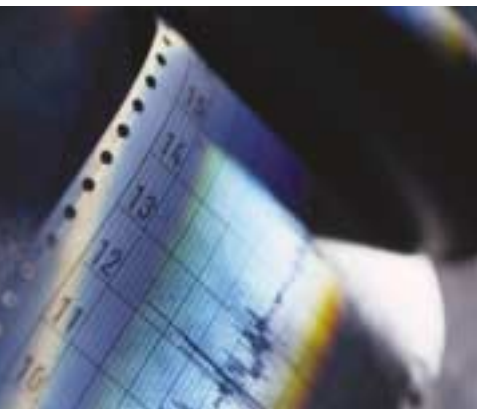
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## Power Protection as easy as 3, 5, 9

**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.

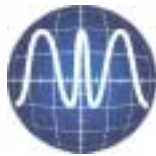
Visit the Product Selector on our website to identify the best UPS solution for your specific needs: [www.powerware.com/Products/selector](http://www.powerware.com/Products/selector).



**POWER FAILURE**



**UNDERVOLTAGE**



**FREQUENCY VIOLATION**



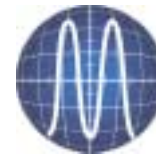
**POWER SAG**



**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.

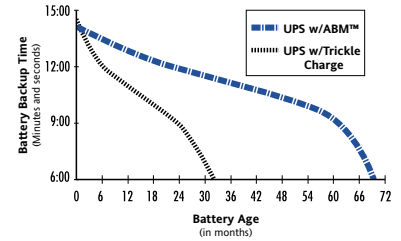
### Features and Benefits

- ▶ 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