# Rackmount Product Guide

POWERWARE®

All utility power suffers from power fluctuations. Sometimes fluctuations are so small you won't even notice, but sometimes they are substantial. Yet even the most advanced computer systems are very sensitive to disturbances in their power supplies. Effects of these fluctuations may be devastating for today's data systems including shutoffs, system lock-ups, corrupted files and data damage. A large percentage of data loss in unprotected systems is caused by bad power. To overcome the problems caused by bad power, it is essential to use an Uninterruptible Power Supply (UPS).

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# Industry-leading power density and innovation

Powerware Rackmount (RM) UPSs are based on field-proven, industry leading technology. They offer a wide range of VA/Watt ratings and are designed to address and support a variety of applications including RAID, SANs, Blade Servers, IT, Telecomm, Medical and other network equipment configurations. Powerware RM UPSs are compatible with virtually all popular rack systems and are easy to install.

### Power density and innovation in a small footprint

At Powerware, your evolving requirements are the focus of everything we design. Data centers are requiring advanced technology in smaller form factors. With our comprehensive portfolio of high-density RM solutions, we have the perfect answer to power management needs. The Powerware RM UPSs bring unprecedented power capacity providing more value in less space compared to competitive UPSs.

### Solutions backed with 40 years of trusted experience

The 24x7 world is nothing new to Powerware. For more than 40 years, we have been meeting our customers' needs. Whether it's the NASA facility, the FAA radar sites or CitiBank's data center, Powerware products are designed to meet the high-tech standards of today's business operations, tailored specifically to customer requirements. Delivering the high 9's of availability, our advanced technology provides unsurpassed reliability - because we know you have enough on your mind without having to worry about system failure.

### Tailored monitoring for various applications

The more protection you have in place the greater your need for accurate UPS monitoring capabilities In the event of an extended power outage, you must ensure that your system is shut down systematically to prevent data loss. UPSs have a variety of capabilities to monitor and shut down systems necessary to meet the requirements of various applications. As an example, in IT applications, the shutdown and remote monitoring over a network may be a necessity while in industrial applications, relay-based info on UPS status may be the only information needed. Powerware is your total solution provider, with UPS monitoring capabilities tailored to your unique requirements.

### Superior technical expertise and support

Even 99.9 percent availability leaves 9 hours annually when systems may experience down time. This does not include the time needed to find the faults, fix them and get the system functioning again. Powerware gives superior technical expertise and support. We have the experience in providing maximum uptime. Thousands of installed units in demanding environments such as industrial, aerospace, banking and IT systems are living proof of our success. Powerware has been setting the standard for innovative designs and quality products for over 40 years and no other manufacturer in the industry can provide a broader range of sizes and configurations in rack equipment supported by our extensive service and support capabilities.

| Powerware Standard Features | 5115 | 5125 | 5140 | 9125 | 9170+ | |
|---|---|---|---|---|---|---|
| ABM® Technology | • | • | • | • | • | |
| Load Segments | • | • | • | • | | |
| Hot-Swappable Batteries | • | • | • | • | • | |
| X-slot™ Communications Bay | • | • | • | • | • | |
| Ideal for Power Factor-Corrected Loads | | • | • | • | • | • |
| Automatic Bypass | | | • | • | • | |
| Automatic Voltage Regulation (AVR) | • | • | • | • | • | • |
| Battery at Rest During AVR | • | • | • | • | • | • |
| Hot-Swappable Electronics | | • | | | • | |
| Network Transient Protector | • | • | • | • | | |
| REPO Port | • | • | • | • | • | • |
| Galvanic Isolation | | | | | • | • |
| True Sine Wave Output | • | • | • | • | • | • |
| 0U Rackmount and Wall-mount | • | | | | | |
| Configurable Output Connections | | | | | • | • |
| N+X Parallel Redundant | | | | | • | |
| Extended Battery Module (EBM) | | • | • | • | • | • |
| Power Distribution Unit (PDU) | | • | • | • | • | • |
| Software Suite CD Bundle | • | • | • | • | • | • |
| Gold Plan Service | • | • | • | • | • | • |

## Things to consider when choosing power backup for your rack

**Sizing solution and load**

- How critical is the load? Different UPS technologies offer different protection, Series 9 UPSs offer the highest level of protection.
- Power requirement in both Watt and VA? As many of today's servers use power factor corrected supplies it is important to look at both Watt and VA power needs to avoid over sizing.
- How much backup time is needed? Is it acceptable that your system smoothly shuts down after a typical power outage of 5 minutes or do you want to keep the system up for 30 min or even one hour when a power outage happens? You might have different loads in your rack and require that some of them stay on longer than others to preserve battery capacity for the most critical load.
- What are your future power requirements? Should you oversize your UPS solution today to meet your future power requirements or can you add power or backup time later when needed?

**Installation**

- Depending on the power requirement, will you need a hardwired installation? For applications above 3 kVA, both plug-connected and hardwire options are available.
- What are your space requirements? How high can the UPS solution be so that your load still fits into the rack?
- Determine heat dissapitation. Series 5 UPSs have better efficiency; however Series 9 offers better protection.

**Monitoring and management of your UPS**

- Do you want to monitor your system remotely?
- Do you have access to a network?
- Do you need a shutdown solution?
- Do you want to integrate your UPS into other building management solutions or do you want the UPS solution to be independent?

A Powerware field employee is available to assist with on-site visits.

# Powerware Rackmount Features

**Power Density**

High power capacity and compact design saves valuable rack space for other critical equipment

**Automatic Voltage Regulation**

Monitors and adjusts incoming voltage levels to ensure your equipment only receives regulated, consistent power

**Hot-Swappable Batteries**

Extend the life of the UPS without shutting down your attached equipment

**Load Management**

Individually controlled load segments (groups of receptacles) allow local and remote prioritized shutdowns and scheduled startups to extend uptime to critical devices and to conserve power

**Advanced Battery Management (ABM®) Technology**

Doubles battery service life, optimizes recharge time and provides up to 60-day advance notification of battery end of life

**Power Management**

Bundled software package provides UPS power management, monitoring and automatic shutdown

**X-slot Communications Bay**

Allows the UPS to communicate in a variety of networking environments with different types of devices

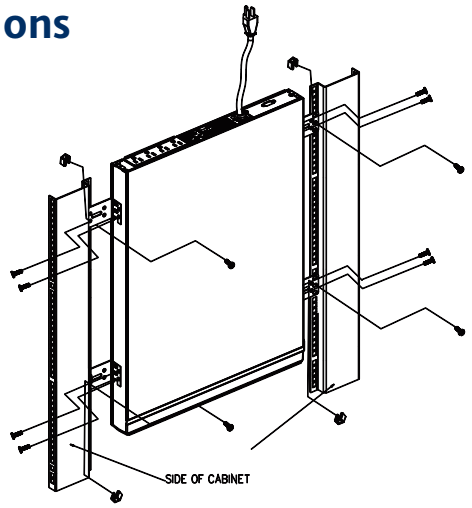
# Powerware 5115 RM UPS
500-1500 VA

The Powerware 5115 1U Rackmount UPS delivers the ideal high-density power protection solution for your servers, storage systems, network equipment, and other critical devices. A slim design and wide range of installation possibilities make the Powerware 5115 Rackmount the most versatile UPS available. Occupying only 1U of rack height, the 5115 conserves valuable rack space for other critical devices while delivering powerful performance.

## Notable Features

The Powerware 5115 RM UPS packs industry-leading technology into a compact design for various applications. By limiting the UPS height to 1U, the Powerware 5115 RM takes less room to provide more space for other critical equipment such as servers and disk arrays. Adaptable to rackmount, wall mount, side-mount and bench-top applications, the Powerware 5115 RM is the most versatile UPS available. All mounting accessories are included with every UPS.

## Mounting configurations




**Side mount (zero-U) installation**

## Hot-swappable components

The Powerware 5115 RM UPS allows users to hot-swap batteries without powering down the connected load or removing the unit from the rack. This makes it possible to extend the life of the UPS without returning the unit for service and ensures connected equipment always stays up and running. The batteries are easily accessible via the tool-free front access panel.

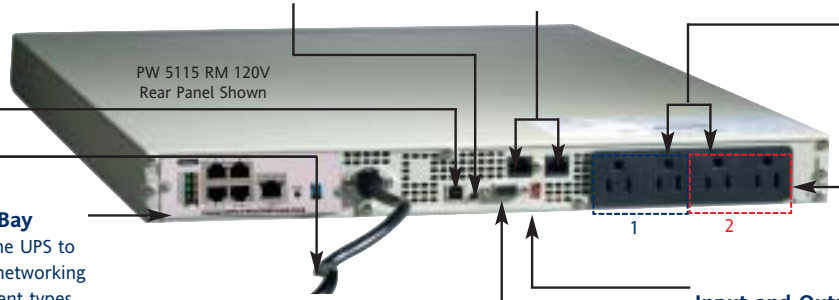
## 5115 UPS Configuration

**USB Communications Port** communicates with a USB-compliant computer when used with included LanSafe power management software

**Site Wire Fault Indicator** offers instant notification of site wiring problems

**Network Transient Protector** isolates your modem, fax machine, telephone and other communications equipment

**4 UPS Protected Outlets** offer complete Series 5 power protection during power failures



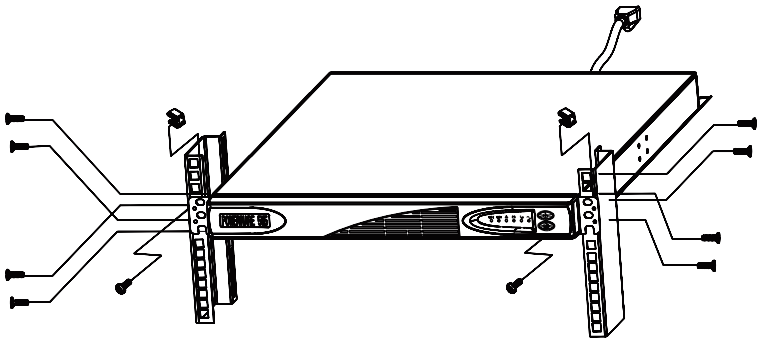

**6-ft. Power Cord with 5-15 Plug**

**Load Segments 1 & 2** are sets of receptacles that can be controlled by power management software, to provide an orderly shutdown and startup of your equipment

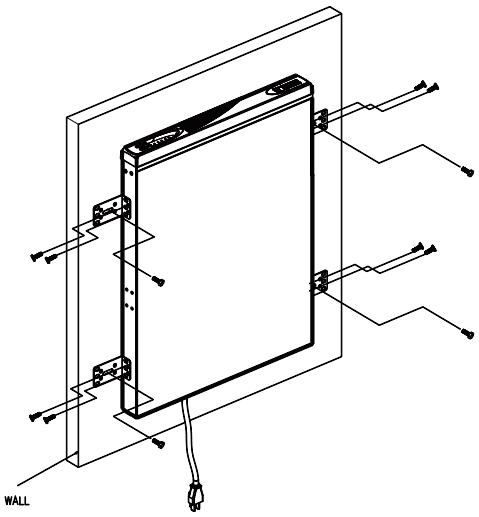
**X-Slot Communications Bay**
Optional X-slot Cards allow the UPS to communicate in a variety of networking environments and with different types of devices

**RS232 Communications Port** provides unattended shutdown and remote UPS monitoring capability when used with included power management software and communication cable

**Input and Output Voltage Configuration DIP Switches** configure the output voltage and input voltage range



19 inch and 23 inch Rackmount installation




Wall-mount installation

## Features & Benefits

- 1U rack height conserves valuable rack space
- Unique chassis design adapts to rack-mount, wall-mount, side-cabinet (zero U), and bench-top applications
- Advanced Battery Management (ABM) technology doubles battery service life
- True sine wave output delivers smooth, continuous power
- Buck and Boost automatic voltage regulation corrects incoming voltage fluctuations
- Load segments enable scheduled shutdowns and extend backup time for critical devices
- Hot-swappable batteries minimize downtime, simplify service and extend service life of UPS
- Standard USB and RS232 serial ports extend communication capacity
- X-slot Card communication options extend power management capacity
- Warranty

– 2-year Limited Warranty
– 10-year Pro-Rated Warranty
- $25,000 Load Protection Guarantee

## Powerware 5125 RM UPS
1000-3000 VA

The Powerware 5125 Rackmount UPS provides advanced power management for a variety of network equipment configurations. Available with optional extended battery modules (EBMs) and X-Slot communication cards, the Powerware 5125 is the most flexible UPS in the 1 – 3 kVA power range. Featuring capabilities often found only in higher kVA units, the Powerware 5125 design provides high power density, occupying only 2U of valuable rack space.


## Notable Features

## Hot-swappable Electronics and Battery Modules

**Hot-swappable Battery Modules**
When batteries reach the end of their useful life, replace battery modules without powering down connected equipment (all models).

**Hot-swappable Electronics Modules**
Replace electronics modules without shutting down connected equipment (2400-3000 VA models only)

**PW5125 2400/3000 VA model shown**

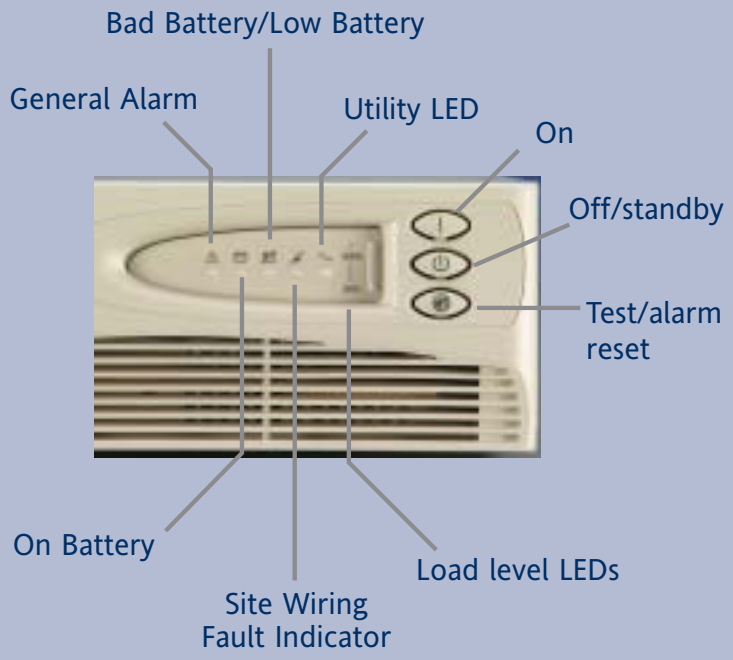
## More Power in Just 2U

The Powerware 5125 brings unprecedented power capacity and innovative features to the proven Powerware family of rackmounted UPS products. And with the space-saving 2U design, it's the most power-dense 3000VA UPS you can buy.

## Unmatched Power Density

Rated at near unity in just 2U of rack space, the 5125 allows you to support more critical equipment compared to competitive UPSs. Ideal for service providers, telcos and other space constrained data centers as well as branch sites where power protection is key. The Powerware 5125 provides more value in less space than any UPS in its class.

## Front Panel Display




PW5125 1000/1500 model shown


**Battery Connector**

Increasing battery backup time is as simple as plugging in an extended battery module

**X-slot Communications Bay**

Optional X-slot Cards allow the UPS to communicate in a variety of networking environments and with different types of devices

**REPO (Remote Emergency Power Off) Port**

The REPO port enables shutdown the of the UPS and connected equipment from a remote location in an emergency

**Network Transient Protector**

Isolates your communications equipment from "back door" power surges

**Load Segments**

Load Segment 1 & 2 are sets of receptacles that can be controlled by power management software, providing an orderly shutdown and startup of your equipment

## Features & Benefits

- 2U rack height conserves valuable rack space
- Advanced Battery Management (ABM) technology doubles battery service life
- Extended Battery Modules (EBMs) extend run time capability
- Buck/Double Boost voltage regulation with pure sine wave output
- Load Segment enable scheduled shut-downs and extend bacup time
- Network Transient Protector isolates networks, modems and cables from surges and spikes
- X-slot communication bay extends power management capabilities
- Hot-swappable batteries simplify service
- Complete offering of power management software included to ensure data integrity
- 2400/3000VA models increase uptime via hot-swappable electronics and battery module
- Warranty
  - 2-Year Limited Warranty
  - 10-Year Pro-Rated Warranty
  - $25,000 Load protection Guarantee

# Powerware 5140 RM UPS
## 6000 VA/6000 Watts

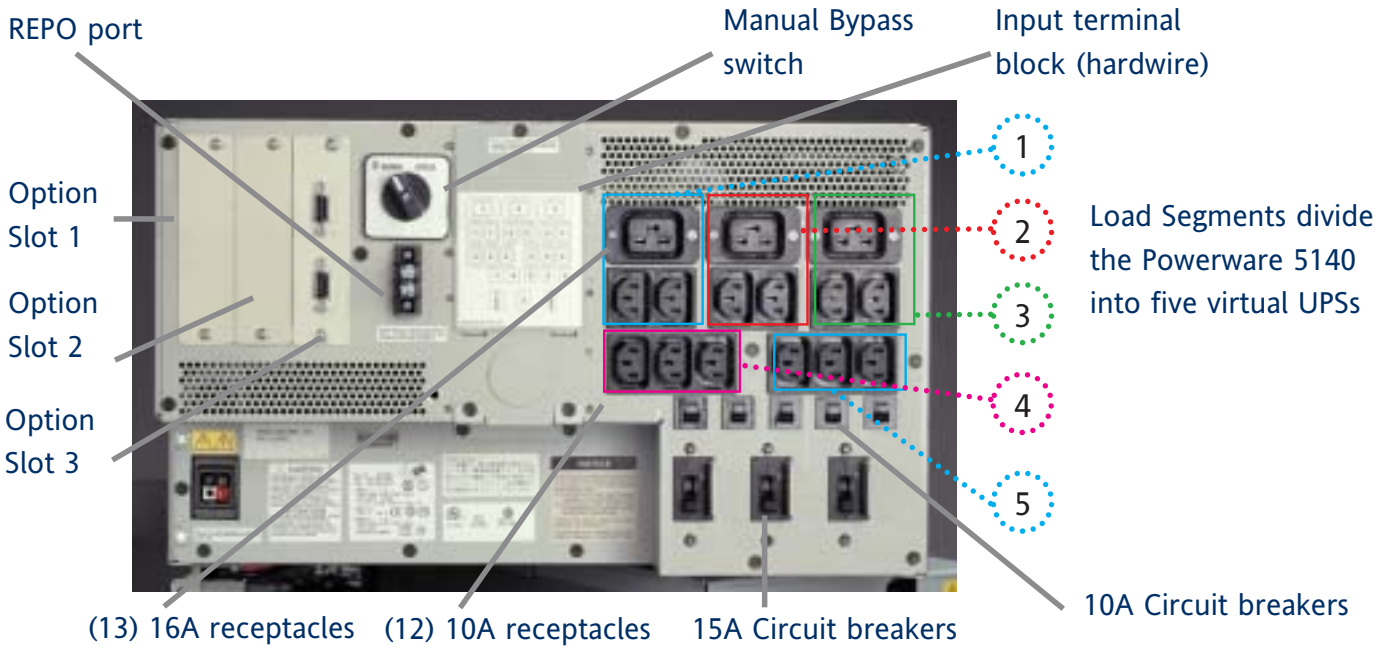
In response to your rapidly growing power protection needs for rack-based applications, Powerware has created the ideal solution. Designed with a unity power factor rating - meaning that it is ideally suited to meet the requirements of today's power factor corrected (PFC) loads – the Powerware 5140 is powerful and flexible enough to meet virtually any of your enterprise computing network needs. Incorporating our proven technology, this unique system delivers up to a third more power than traditionally rated UPSs while still occupying only 6U (10.5 inches) of valuable rack space.

## Notable Features

## Power Density Factor Rating

What does unity power factor rating mean? Quite simply, it means that the watt rating of the UPS is equal to its VA rating. Traditionally, UPSs have been designed, built, and sold with a power factor rating of approximately 0.6 to 0.7. For example, a 1000 VA UPS could supply a maximum of 600 to 700 watts. Historically, this 0.7 power factor was appropriate for the majority of computer loads the UPS was intended to support since most computers demanded power at a 0.7 power factor.

Today, however, a large percentage of high-end computers utilize Power Factor Corrected (PFC) power supplies, which have a power factor of approximately 1.0. Take a look at the configuration to the right. To support this load, you need a UPS with a rating that meets or exceeds both the watt and VA demand shown. A traditionally rated 5000 VA/3750 watt UPS without a unity power factor rating cannot be used. The Powerware 5140, on the other hand, has capacity to spare.



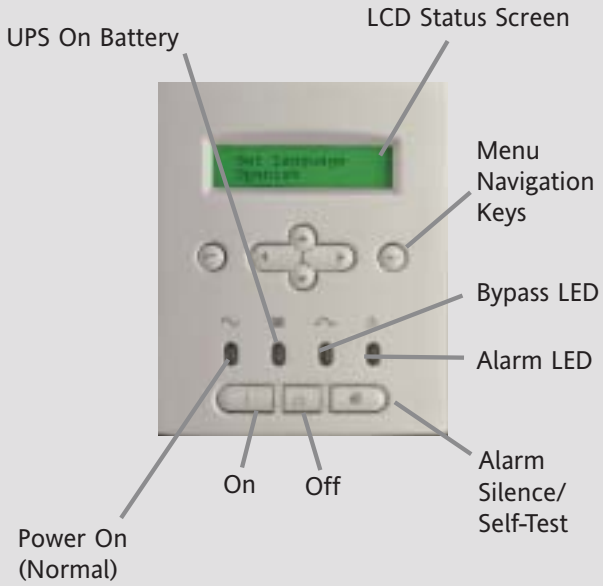

**PW5140 6000i model shown**

## Sample Configuration

| Equipment | Load: Watts | Load: VA |
|---|---|---|
| (3) Servers* | 3300 | 3366 |
| (2) Workstations* | 1000 | 1020 |
| (1) Color Monitor | 200 | 300 |
| Total | 4500 | 4686 |

**Equipment with PFC power supplies.*

## Front Panel Display




## Features & Benefits

- Power factor corrected (PFC) design allows for protection of more equipment
- 6U rack height conserves space
- Advanced Battery Management (ABM) technology doubles battery service life
- Buck and Boost voltage regulation enables pure sine wave output
- Extended battery modules (EBMs) prolong runtimes
- Load segments enable scheduled shut-downs and maximize runtime
- Hot-swappable batteries and manual bypass switch simplify service
- Warranty

– 2-year Limited Warranty
– 10-year Pro-Rated Warranty
- $25,000 Load Protection Guarantee

## Powerware 9125 RM UPS
700-6000 VA

Protect your mission-critical applications with the most feature-rich UPS on the market – the Powerware 9125. Designed with double-conversion online topology, the Powerware 9125 not only offers the reliability and protection expected from an online design but also provides an operating efficiency of more than 90%. The bottom line: the Powerware 9125 yields lower power costs while delivering optimal availability.

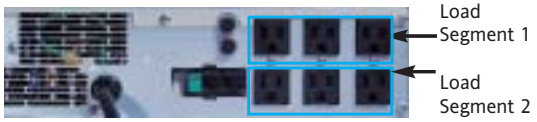

PW 9125 6000 VA with EBM and PPDMs

## Notable Features

## Load Segments and Advanced Battery Management

**Maximize battery backup time for critical systems**
Using Powerware LanSafe power management software, you can independently control load segments, which are groups of receptacles on the rear panel of the Powerware 9125 UPS (700-3000 VA). This feature enables you to manage scheduled shutdowns and sequential startups of protected loads. During a power outage, you could shut down power to non-critical devices, thereby extending battery backup time available for critical devices.

When the load segments feature is used with Powerware ConnectUPS™ connectivity cards, users can remotely re-boot locked-up network equipment. Simply connect to the ConnectUPS connectivity card over the network, and toggle the password-protected Load Segment controller to get your network back online.



## Hot-swappable battery modules

PW 9125 6000 VA

PW 9125 700-2000 VA PPDMs

### PowerPass

The Powerware 9125 PowerPass distribution module is designed to enchance the reliability and flexibility of the Powerware 9125. The PowerPass enables you to upgrade or replace the UPS while continuously providing power to your protected equipment.

## Extended battery modules (EBMs)

PW 9125 6000 VA with 2 EBMs

### Add battery modules for even more backup capacity

Up to four extended battery modules can be added to provide additional battery backup capacity as necessary. These battery modules are hot-swappable and can be replaced at any time without interrupting UPS operation and load protection.

## Features & Benefits

- 2U rack height (700-3000 VA) conserves valuable rack space
- Double-conversion online technology is universally recognized as providing the highest availability in an internet-centric global marketplace
- Advanced Battery Management (ABM) technology doubles battery service life
- Additional hot-swappable extended battery modules (EBMs) extend backup times
- Load segments enable scheduled shutdowns (700-3000 VA only)
- Complete power management software included
- Warranty (U.S. and Canada)

– 2-year Limited Warranty

– 10-year Pro-Rated Warranty

- $25,000 Load Protection Guarantee

### Double battery life with Advanced Battery Management (ABM) technology

Most UPS manufacturers in the market today offer batteries that are constantly ‘trickle-charged’—a process that degrades the battery’s internal chemical composition, reducing potential battery service life by as much as 50 percent. In contrast, Powerware ABM technology uses sophisticated sensing circuitry and an innovative three-stage charging technique that doubles the useful service life of UPS batteries while optimizing battery recharge time. The Powerware 9125 provides up to 60 days’ notice of the end of useful battery service life, to allow ample time to hot-swap batteries without ever having to shut down connected equipment.

## Powerware 9170+ RM UPS
3-18 kVA

Uniquely designed to meet your evolving needs, the 9170+ is a scalable, modular, flexible solution combining the highest level of reliability with the lowest cost of ownership in the 3 – 18 kVA range. The Powerware 9170+ enables customers to build a power solution specific to their needs, with an expandable level of redundancy and increased runtimes through plug-and-play 3 kVA UPS and battery modules.

## Notable Features

### N+X Redundancy

As a business moves from a “bricks and mortar” model to “clicks and mortar,” the need for system availability at all levels of enterprise is rising exponentially. From servers to routers to telecommunication installations, the interdependence of the technological components of the wired world can make systems vulnerable to downtime. Many precautions and preventive measures are taken when designing the network, including power protection. In this changing world, however, it’s becoming more evident that simple power protection isn’t enough. A new level of reliability is needed, one with redundancy, and thereby high availability. Today users can opt for an even greater degree of redundancy, with N+1, N+2, N+3, etc. This level of redundancy can quickly become cost prohibitive if the user is creating redundant systems with single module UPS. The 9170+ overcomes this potential obstacle with its modular design. Redundancy comes from the 3 kVA power modules plugged into the system.

# Powerware 9170+ Features

Powerware 9170+ 6 slot configuration

LCD panel

Communication cards

3 kVA power or charger module (1 per slot)

Battery module (2 per slot)

For example, if you have a 9 kVA solution, and are looking for N+2 redundancy, you only need a 15 kVA UPS (five power modules) with the 9170+, instead of 18 kVA. That's because the five UPS modules run in parallel within the system, giving you N+2 redundancy, without the additional cost and space requirements.

The Powerware 9170+ eliminates a system-level single point-of-failure. Because both the logic and power are housed in the module and not in the enclosure, there is redundancy for the entire UPS. This is a critical distinction when looking for multiple levels of redundancy in the UPS, as there is inherent vulnerability in a UPS that limits redundancy in any part of the system.

## Features & Benefits

### Maximum Availability

- Double-conversion online technology is universally recognized as providing the highest availability in an internet-centric global marketplace
- Provides protection against power surges, spikes, sags, line noise, and lightning

### Maximum Performance

- The lowest overall cost of ownership is a direct result of the low initial investment, higher operating efficiencies and programmable high efficiency
- Universal components fit in any order in any slot without affecting the operation of the system or its protection of the critical load
- Lightweight, high-performance power and battery modules weigh under 30 lbs. for easy service and hot-swapping

### Maximum Reliability

- N+X power and logic redundancy eliminates single point-of-failure, providing the highest reliability and availability
- Redundant modularity virtually eliminates downtime and enhances serviceability

### Maximum Flexibility

- Modular design delivers scalable, flexible solutions to constantly changing equipment requirements

# Powerware FERRUPS
850-7000 kVA

The unique design of our FERRUPS Rackmount UPS provides you with unmatched reliability in configurable power protection for your computers and telecommunications equipment. Powerware's patented ferroresonant technology delivers "bulletproof" power protection, overcoming spikes, sags, surges, noise, and lightning. Our exclusive Sine Sense feature provides you with clean, reliable power while conserving batteries during blackouts.

## Notable Features

### Unmatched reliability in configurable power

Extensive configurability and customization options make the FERRUPS the ideal power protection solution with a wide range of voltages, frequencies, runtimes, power cords and receptacles. FERRUPS prevents the backfeed of harmonic currents into building wiring which can disrupt computer operations. Intelligent controls assure high fault-tolerance and optimum uptime. Galvanic Isolation separates input from output filtering line noises and surges. No matter what the specifications of your installation anywhere in the world, FERRUPS gives you the protection options you need to meet your specific requirements.

**FERRUPS Features**

- Active Voltage Regulation converts power from almost any AC source to computer grade power
- Enhanced diagnostics initiate automatic startup and scheduled tests
- Provides regulated output voltage without drawing power from batteries
- Complete power management software included
- Warranty (U.S. and Canada)

– 2-year Limited Warranty

- $25,000 Load Protection Guarantee

## Powerware Rackmount Runtime Matrix (in minutes)

| PW5115 RM, Series 5, line interactive UPS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Load** | **VA** | **200** | **300** | **500** | **600** | **750** | **900** | **1000** | **1200** | **1440** | |
| | **Watts** | **130** | **190** | **320** | **400** | **520** | **600** | **670** | **800** | **1000** | |
| PW5115 RM 500 VA | | 19 | 11 | 5 | | | | | | | |
| PW5115 RM 750 VA | | 37 | 25 | 13 | 9 | 6 | | | | | |
| PW5115 RM 1000 VA | | 41 | 29 | 15 | 12 | 8 | 6 | 5 | | | |
| PW5115 RM 1440 VA | | 76 | 58 | 28 | 21 | 16 | 11 | 9 | 8 | 5 | |

| PW5125 RM; Series 5, line interactive UPS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Load** | **VA** | **250** | **500** | **750** | **1000** | **1500** | **2000** | **2500** | **3000** |
| | **Watts** | **225** | **450** | **675** | **900** | **1350** | **1800** | **2250** | **2700** |
| PW5125 RM 1000 VA | | 36 | 19 | 13 | 7 | | | | |
| PW5125 RM 1000 VA +EBM cabinet | | 150 | 68 | 57 | 33 | | | | |
| PW5125 RM 1000 VA +2 EBM cabinet | | 300 | 161 | 120 | 58 | | | | |
| PW5125 RM 1500 VA | | 36 | 19 | 13 | 7 | 5 | | | |
| PW5125 RM 1500 VA +EBM cabinet | | 150 | 68 | 57 | 33 | 23 | | | |
| PW5125 RM 1500 VA +2 EBM cabinet | | 300 | 161 | 120 | 58 | 49 | | | |
| PW5125 RM 2400 VA | | 70 | 55 | 40 | 25 | 15 | 10 | 7 | |
| PW5125 RM 2400 VA +EBM cabinet | | 280 | 200 | 140 | 100 | 61 | 45 | 33 | |
| PW5125 RM 2400 VA +2 EBM cabinet | | 500 | 360 | 250 | 180 | 100 | 80 | 60 | |
| PW5125 RM 3000 VA | | 70 | 55 | 40 | 25 | 15 | 10 | 7 | 5 |
| PW5125 RM 3000 VA +EBM cabinet | | 280 | 200 | 140 | 100 | 61 | 45 | 33 | 25 |
| PW5125 RM 3000 VA +2 EBM cabinet | | 500 | 360 | 250 | 180 | 100 | 80 | 60 | 50 |

| PW5140 RM; Series 5, line interactive UPS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Load** | **VA** | **1000** | **1500** | **2000** | **2500** | **3000** | **3500** | **4000** | **4500** | **5000** | **5500** | **6000** |
| | **Watts** | **1000** | **1500** | **2000** | **2500** | **3000** | **3500** | **4000** | **4500** | **5000** | **5500** | **6000** |
| PW5140 RM 6000 VA | | 62 | 48 | 28 | 23 | 18 | 15 | 12 | 10 | 8 | 7 | 6 |
| PW5140 RM 6000 VA +EBM cabinet | | 144 | 98 | 66 | 56 | 40 | 34 | 28 | 25 | 21 | 20 | 18 |
| PW5140 RM 6000 VA +2 EBM cabinet | | 236 | 166 | 107 | 88 | 66 | 56 | 47 | 41 | 36 | 32 | 28 |

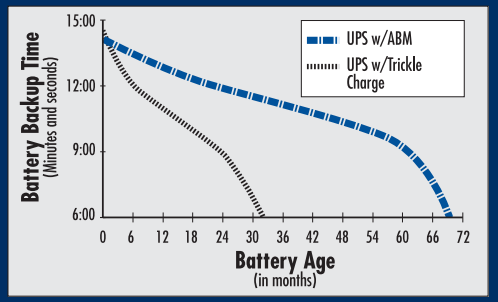
| PW9125 RM; Series 9, double conversion UPS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Load** | **VA** | **400** | **700** | **1000** | **1500** | **2000** | **2500** | **3000** | **3500** | **4000** | **5000** | **6000** |
| | **Watts** | **280** | **490** | **700** | **1050** | **1400** | **1750** | **2100** | **2450** | **2800** | **3500** | **4200** |
| PW9125 700 & 1000 VA | | 19 | 9 | 5 | | | | | | | | |
| PW9125 700 & 1000 VA +1 EBM cabinet | | 142 | 72 | 48 | | | | | | | | |
| PW9125 700 & 1000 VA +2 EBM cabinets | | 278 | 156 | 104 | | | | | | | | |
| PW9125 1500 & 2000 VA | | 46 | 25 | 16 | 8 | 5 | | | | | | |
| PW9125 1500 & 2000 VA +1 EBM cabinet | | 177 | 96 | 61 | 37 | 26 | | | | | | |
| PW9125 1500 & 2000 VA +2 EBM cabinet | | 331 | 180 | 115 | 70 | 49 | | | | | | |
| PW9125 1500 & 2000 VA +3 EBM cabinets | | 501 | 272 | 174 | 106 | 74 | | | | | | |
| PW9125 1500 & 2000 VA +4 EBM cabinets | | 682 | 370 | 237 | 144 | 100 | | | | | | |
| PW9125 2500 & 3000 VA | | | | 19 | 13 | 9 | 7 | 5 | | | | |
| PW9125 2500 & 3000 VA +1 EBM cabinet | | | | 59 | 55 | 31 | 28 | 25 | | | | |
| PW9125 2500 & 3000 VA +2 EBM cabinets | | | | 108 | 72 | 58 | 48 | 38 | | | | |
| PW9125 2500 & 3000 VA +3 EBM cabinets | | | | 180 | 120 | 82 | 68 | 54 | | | | |
| PW9125 2500 & 3000 VA +4 EBM cabinets | | | | 240 | 160 | 106 | 88 | 70 | | | | |
| PW9125 5000 & 6000 VA | | | | 64 | 52 | 38 | 36 | 34 | 24 | 19 | 13 | 10 |
| PW9125 5000 & 6000 VA +1 EBM cabinet | | | | 179 | 130 | 108 | 82 | 70 | 60 | 49 | 37 | 30 |
| PW9125 5000 & 6000 VA +2 EBM cabinet | | | | 308 | 230 | 186 | 148 | 122 | 100 | 86 | 65 | 52 |
| PW9125 5000 & 6000 VA +3 EBM cabinet | | | | 448 | 330 | 271 | 210 | 178 | 140 | 125 | 96 | 76 |
| PW9125 5000 & 6000 VA +4 EBM cabinet | | | | | 440 | 362 | 280 | 237 | 200 | 168 | 128 | 102 |

PW9170+ and PW FERRUPS Rackmount on Request

Note: Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.

## The technology of 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. The illustratoin below shows that batteries that are constantly trickle-charged (as are virtually all other UPSs on the market today) reach the end of their useful life in less than half the time of batteries charged using Advanced Battery Management. ABM uses a proprietary three-stage charging technique that not only doubles battery service life, but also optimizes recharge time and provides up to a 60-day advanced notification of the end of useful battery life.




Data based on tests performed by an independent battery manufacturer.

# Software & Connectivity

Powerware's full line of software and connectivity products represents a key element of the comprehensive power management solution. Arriving bundled with every Powerware UPS, our Software Suite CD incorporates user-friendly features including Software Wizard to guide you through software selection and installation. The CD includes LanSafe™ network shutdown software, a 30-day trial version of PowerVision®, and a FORESEER® demonstration.

Powerware connectivity products additionally offer a wide range of communication methods to integrate the UPS into various environments and applications, including Ethernet (SNMP/Web), serial/USB, Modbus®, and relay contacts.

## Software and connectivity options offer maximum flexibility

### LanSafe

Power management software for network shutdown

The next generation of LanSafe power management and UPS monitoring software has arrived complete with a series of revolutionary features new to the power quality arena.

LanSafe v. 5 offers graceful, remote shutdown of UPS systems and network monitoring tools via serial, USB, and network connectivity options.

### PowerVision

UPS Power management software for enterprise monitoring and shutdown

Crucial to the success of a comprehensive network monitoring system is the ability to identify and eliminate potential vulnerabilities to critical systems. With PowerVision enterprise UPS management software, constant system availability can be a reality. PowerVision is a Microsoft® Windows®-based client/server software application that provides monitoring, alarm notification and data analysis for multiple Powerware UPSs and parallel/redundant UPS configurations within an enterprise network. Options include:

- Operating system shutdown using emergency computer shutdown
- Network management integration using SNMP Trap Agent.
- Remote access using PowerVision secure web server with SSL encryption

### Powerware MultiView

Browser-based, multiple UPS monitoring

Delivering a strong power management and network monitoring tool to your desktop, Powerware MultiView UPS is a web browser for Microsoft® Windows® 98, ME, NT, 2000™, XP™. Features enable users to:

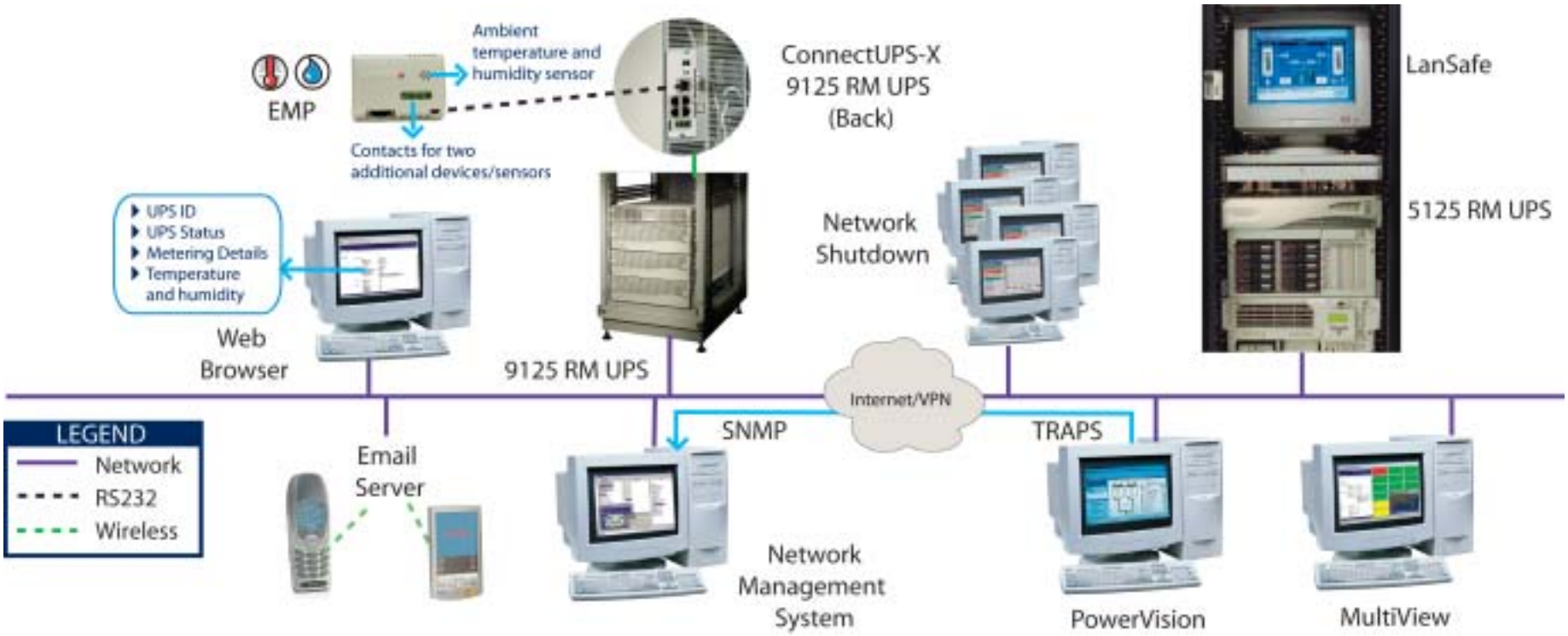
- View multiple web sites within a single browser window
- Detect and display browser pages of connected ConnectUPS Web/SNMP Cards from Powerware UPSs, as well as the Status@aGlance page from Powerware's new LanSafe v. 5 software.

### Powerware Snap-ins for Network Management Systems

Network management system integration software

As a part of Powerware's comprehensive family of power management applications, the Snap-ins for Network Management Systems UPS software considerably simplify network monitoring tasks. This exclusive UPS monitoring software brings control to the fingertips of system administrators through an interface they are already familiar with, allowing one to monitor, diagnose, configure, set alarms, schedule self-tests, check battery, gather inventory information, and control Powerware UPSs network-wide from a single console.

## Typical Network Using ConnectUPS-X and -BD




## ConnectUPS™ Web/SNMP family

Provide real-time Web-based and SNMP-based communication over 10/100BaseT ethernet connections

**ConnectUPS-X** supports Powerware UPSs that have X-slots; serves as a power-protected switching hub to support three 10/100BaseT links

**ConnectUPS-BD** supports Powerware UPSs that have BestDock ports

**Environmental Monitoring Probe (EMP)** measures humidity, temperature and two additional user-supplied contact devices (rear door entry, smoke detection, motion sensor etc.)

**Bestlink**- supports Powerware FERRUPS UPS; EMP is not compatible with BestLink

## Additional connectivity options

**Expansion Chassis** expands communication methods for a UPS through its support for additional X-Slot cards; preconfigured with the Powerware Modbus card

**Multi-Server Card** provides serial connections for monitoring and graceful shutdown of up to five computer systems running various operating systems

**Modbus Card** enables real-time monitoring of power conditions through Building Management Systems (BMS)

**Relay Card** provides simple alarm notification via isolated contacts to signal a change of state in UPS operation (typical in IBM® eServer® iSeries applications)

# Global Services

## World-class, 7x24 support

Supporting a wide array of industry sectors including Telecom, IT, Industrial, Financial and Government institutions, Global Services offers a complete line of power system services worldwide with around-the-clock coverage. Global Services has 40 years of experience in supporting critical power equipment and providing industry leading quality-of-service.


Where there is a need, Global Services delivers a solution with integrated technical support teams, customer support associates, highly trained field service representatives and technical experts supporting critical power systems around the world.

Global Services offices are located around the globe, including the United States, Canada, Finland, France, Germany, United Kingdom, Sweden, Hong Kong, China, Singapore, Japan, India, Australia, Brazil, Mexico and Argentina. Corporate headquarters are located in Raleigh, North Carolina.

### Service Plans

- **Gold Plan**
  Standard maintenance coverage for 2, 3, or 5 years with technical support, advance overnight replacement, and all freight charges paid by Global Services
- **Gold Plan Plus**
  All of the standard features plus the convenience of on-site start-up
- **On-Site Gold Plan**
  All the features of the Gold Plan Plus, with the added convenience of on-site service instead of overnight replacement
- **On-Site Gold Plan Plus**
  All the features of the On-Site Gold Plan, with the added features of annual UPS and battery performance checks

# Powerware Rackmount Specifications

| | 5115 | 5125 | 5140 | 9125 | 9170+ | FERRUPS |
|---|---|---|---|---|---|---|
| Topology | Line-Interactive | | | Double-Coversion Online | | Ferroresonant |
| Output VA Rating | 500/750/1050/1500 | 1000/1440/2400/2880 | 6000 | 700/1000/1250/1500/2000<br>2500/3000/5000/6000 | 3000/6000/9000<br>12000/15000/18000 | 850/1150/1400/1800/2100<br>3100/4300/7000 |
| Output Wattage Rating | 350/520/670/1000 | 900/1340/2250/2700 | 6000<br>1750/2100 | 490/700/875/1050/1400<br>1750/2100/3500/4200 | 2500/5000/7500<br>10000/12500/15000 | 600/800/1000/1250<br>1500/2200/3000/5000 |
| Rack Height | 1U | 2U | 6U | 2U | 10U-34U | 6U-11U |
| **Electrical Input** | | | | | | |
| Nominal Voltage (Vac) | 120 and 230 | | 208, 230 and 240 | 120 208, 230 and 240 | 208-240 or 200/100<br>208/120, 220/110, 240/120 | 120, 208, or 240 (60 Hz)<br>220, 230, or 240 (50 Hz) |
| Nominal Voltage Range (V) | 120 V: 96 - 144 | 120 V: 77-152 V<br>230 V: 154-288 V | 208/230 V: 160 - 288 V | 120 V: 80-144 V<br>208/230 V: 160 - 288 V | 176-276 V<br>208-240 V | 240 V: 192-276 V |
| Operating Frequency | 50/60Hz, Auto-sensing | | | | | 50 Hz or 60 Hz |
| **Electrical Output** | | | | | | |
| On Utility Voltage Regulation | -10% to +6% of nominal | | | ±3% of nominal | | |
| On Battery voltage Regulation | ±5% RMS | | | ±3% of nominal | | |
| Voltage Wave Shape (on battery) | True Sine Wave | | | | | |
| Frequency Regulation | ---- | ---- | ±3 Hz online; ±0.1 Hz on battery | | | |
| Load Crest Factor | 3 to 1 ratio | | | | | |
| Load Segments (Receptacle Groups) | 2 | 2-3 | 5 | 3 | ---- | ---- |
| **Battery** | | | | | | |
| Internal Battery Type | Maintenance-free, sealed, valve-regulated lead-acid (VRLA) | | | | | |
| Recharge Time | <3 hours to 90% usable capacity | | | | | Battery Dependant |
| Transfer Time | 2-4ms typical | | | | N/A | 0 ms |
| **Communications** | | | | | | |
| Network transient Protector | Yes | | No | Yes | No | |
| REPO Port | No | Yes | | | | |
| X-Slot Interface | Yes | | Non X-Slot adapter | Yes (2) | | Non X-Slot adapter |
| Standard Communications | 1 x RS-232 Serial Port<br>& 1 x USB Port | 1 x RS-232 Serial Port | 2 x RS-232 Serial Port | 700-3000 VA: 1xRS232<br>5000/6000 VA: RS232 & USB | 1 x RS-232 Serial Port | |
| **General** | | | | | | |
| Dimensions (HxWxD) Inches | 500-1500 VA<br>1.75x17.3x22.8 | 1000-1440 VA:<br>3.5x19.0x19.4<br>2400-3000 VA:<br>3.5x19.0x24.5 | 6000 VA<br>10.5x17.25x24.3 | 700-2000 VA:<br>3.5x19.0x19.4<br>2500-3000 VA:<br>3.5x19.0x23.9<br>5000/6000 VA:<br>8.63x17.37x24.94 | 3-Slot:17.8x17.0x25.4<br>6-Slot: 31.5x17.0x25.4<br>9-Slot: 45.0x17.0x25.4<br>12-Slot: 58.0x17.0x25.4 | 850-1400 VA:<br>9.75x16.0x21.25<br>1800-3100 VA:<br>9.75x16.0x26.25<br>4300-7000 VA:<br>19.0x16.0x26.25 |
| Weight (lb) | 35.2/41.4/41.4/48.6 | 61.0/61.0/89.0/89.0 | 250 | 34.0/34.0/50.0/50.0/50.0/<br>81.5/81.5/206/206 | 66/103/158/196/<br>158/196 | 105/135/150/209/<br>220/238/495/580 |
| Available colors | Gray | Gray or black | Gray | Gray or Black | Gray or Black | Gray |
| Rail kit | Included | Optional | Included | Optional | Optional | Included |
| **Environmental** | | | | | | |
| Safety Markings | UL, cUL, C-Tick,<br>CE, TUV | UL, cUL, NOM,<br>C-Tick, CE | UL, CSA, NOM,<br>CE, VDE | UL, CSA, NOM, VDE,<br>CE, S, D, N, FI, B, NOM, R | UL, cUL, TUV, CE,<br>C-Tick, BCIQ | UL,CSA (CUL), CE, TUV |
| EMC Compliance | FCC Part 15<br>subpart J Class A,<br>ICES-003; EN 50091-2 | FCC Part 15<br>EN50091-2,<br>Class A & B | FCC-A, CISPR-A;<br>VCCI | FCC Class B and VCCI Class II,<br>3000 FCC Class A | FCC class A | FCC part 15:<br>Class A & B |
| Internal Fans for Cooling | Yes | | | | | |
| Operating Temperature | 0 to 40°C (32 to 104°F) | | | | | |
| Relative Humidity | 0% to 95% non-condensing | | | | | |
| Surge Suppression | ANSI C62.41 Category A (formerly IEEE 587) | | | | | |
| Audible Noise | Less than 40 dBA typical | | | Less than 55 dBA typical | | |
| Altitude | Up to 3000M (10,000 ft) without derating | | | | | |

1. Specifications typical and subject to change without notice. Powerware, ConnectUPS, Foreseer, X-slot, LanSafe, PowerVision, and Modbus are trademarks of Powerware Corporation. All other trademarks are the property of their respective owners.

www.powerware.com

**Powerware Product Information**
1.800.356.5794
info@powerware.com

**North America**
**UNITED STATES**
3201 Spring Forest Road
Raleigh, NC 27616
Telephone: 919.872.3020
Int'l. Telephone: 919.870.3238

2727 Kurtz Street
San Diego, CA 92110
Telephone: 619.291.4211

**CANADA**
380 Carlingview Drive, Toronto
Ontario, Canada M9W 5X9
Telephone: 416.798.0112

**Latin America**
**MEXICO**
Golfo de Riga No. 34 Colonia Tacuba
C.P. 11410 Mèxico D.F.
Mèxico
Telephone: 52.55.9171.7777

**ARGENTINA**
Belgrano 768 5th PISO
Buenos Aires, Argentina C1092 AAU
Telephone: 54.11.4343.6323

**BRAZIL**
Rua Aurelia Luiza M. Zanon, 600
Iporanga
Sorocaba, Sao Paulo
Brazil 18087-100
Telephone: 55.51.235.8000

**Europe**
**UK**
221 Dover Road, Slough
Berkshire, England, SL1 4RF
Telephone: 44.1753.608.700

**DENMARK**
Powerware Danmark
Østmarken 9
DK-2860 Søborg, DENMARK
Telephone: 45.3686.7910

**FINLAND**
Powerware Oy
Koskelontie 13,
FIN-02920 Espoo, FINLAND
Telephone: 358.9.452.661

**FRANCE**
ZAC des Delâches, BP 1077
GOMETZ LE CHATEL
F-91940 Les Ulis, FRANCE
Telephone: 33.1.60.12.74.00

**GERMANY**
Am Weichselgarten 30 a
D-91058 Erlangen, GERMANY
Telephone: 49.9131.7770.241

Karl-Bold-Strasse 40
D-77855 Achern, GERMANY
Telephone: 49.7841.6660

**ITALY**
Via Pelizza da Volpedo, 53
20093 Cinisello Balsamo
Milano, ITALY
Telephone: 39.02.66.04.05.40

**NORWAY**
Powerware Norge
Konowsgate 5
N-0192 Oslo, NORWAY
Telephone: 47.23.03.65.50

**POLAND**
Invensys Systems Sp. z o.o.
Ul. Chroscickiego 93/105
02-414 Warsaw, POLAND
Telephone: 48.22.331.85.24

**SWEDEN**
Powerware Nordic AB
Sågvägen 2
S-184 25 Åkersberga, SWEDEN
Telephone: 46.8.598.940.00

**Asia Pacific**
Headquarters 65.6829.8888

**CHINA**
Room 1811, 18/F
Kodak House II
38-39 Healthy Street, E
North Point, Hong Kong
Telephone: 852.2745.6682

Unit 2718, South Office Tower, Kerry Center,
1 Guanghua Road, Chaoyang District, Beijing
100020, P.R. China
Telephone: 86.21.6350.0606

**SINGAPORE**
62 Toh Guan Road, #05-00
Freight Links Express Distripark
Singapore 608831
Telephone: 65.6829.8888

**INDIA**
4, Community Centre, Panchsheel Park
New Delhi-110 017 India
Telephone: 91.11.2649.9414 to 18

**AUSTRALIA**
119-127 Wicks Road, North Ryde 2113
Sydney NSW Australia
Telephone: 612.9878.5000

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