

Series 3 power protection

Powerware's Series 3 UPSs offer cost-effective solutions to solving three of the nine most common power problems.

Powerware 3110

- ▶ 300-700 VA
- ▶ 4 UPS/surge receptacles and 2 surge-only receptacles
- ▶ Easy to install, unobtrusive design
- ▶ LED indicators and audible alarms
- ▶ Data line protection
- ▶ User-replaceable battery for simplified service
- ▶ Cold-start capability
- ▶ Ideal protection for PCs and computer peripherals
- ▶ USB and serial communications ports












Powerware 3115

- ▶ 300-650 VA
- ▶ Easy to install, unobtrusive design
- ▶ User-replaceable batteries for simplified service
- ▶ User-friendly front panel
- ▶ Communications port
- ▶ Cold-start capability
- ▶ User-selectable nominal voltages and input voltage range
- ▶ Site wiring fault indicator
- ▶ Ideal protection for PCs, workstations, point-of-sale (POS) systems, cash registers and network nodes



9 Common power problems

-  **1. Power failure** A total loss of utility power. Can be caused by lightning strikes, downed power lines, grid overdemands, accidents, etc.
-  **2. Power sag** Short-term low voltage. Triggered by the startup of large loads, utility switching, utility equipment failure, lightning and power service that is too small for the demand. Can cause system crashes and hardware damage.
-  **3. Power surge** Also known as a spike. Short-term high voltage above 110% of nominal. Surges can be triggered by a rapid reduction in power loads, heavy equipment being turned off or by utility switching. The results can damage hardware.
-  **4. Undervoltage** Also known as a brownout. Reduced line voltage for extended periods ranging from a few minutes to a few days. Can be caused by an intentional utility voltage reduction to conserve power or heavy loads that exceed supply capacity.
-  **5. Overvoltage** Increased line voltage for extended periods ranging from a few minutes to a few days. Can be caused by a lightning strike. A spike almost always results in data loss and/or hardware damage.
-  **6. Electrical line noise** High frequency waveform interference. Can be caused by either Line RFI or EMI interference generated by transmitters, welding devices, SCR-driven printers and lightning.
-  **7. Frequency variation** A change in frequency stability, resulting from generators or small co-generation sites being loaded and unloaded. Can cause erratic operation, data loss, system crashes and equipment damage.
-  **8. Switching transient** Instantaneous undervoltage (notch). Normal duration is shorter than a spike.
-  **9. Harmonic distortion** Distortion of the normal waveform, caused by switch-mode power supplies, variable speed motors and drives, copiers and fax machines, and other non-linear loads. Can result in communication errors, overheating and hardware damage.

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Premium UPS solutions from Powerware: Power protection you can count on



Why a Powerware UPS?

In today's 24 x 7 x 365 business environment, downtime just isn't an option. The ability to ensure that computer systems and mission-critical applications are up and running at all times is vital. The most frequent cause of system-wide failure stems from nine common power problems, all of which can threaten your network's functionality, as well as your company's integrity. Downtime — even a matter of seconds — can carry a staggering price tag. Studies show that businesses can lose \$10,000 to several million dollars per minute when networks go down, a steep price to pay when premium power protection is available for a fraction of what you're spending on your hardware solutions.

One of the most successful means of mitigating the risks associated with power problems is the installation of a Powerware Uninterruptible Power System (UPS). Powerware manufactures a complete line of UPSs available in three levels of protection: Series 3, Series 5 and Series 9, which includes a ferroresonant technology series. Depending on which series of UPSs you choose, your equipment will be safeguarded against three, five or all nine of the most common power problems outlined in this brochure.

Powerware's premium UPS solutions offer a number of exclusive benefits, including:

- ▶ Comprehensive Product Line Ranging From 300 VA - 120 kVA
- ▶ Award-winning, Technologically Advanced UPSs
- ▶ Unparalleled Service & Support
- ▶ Comprehensive Power Management Software
- ▶ 10-year pro-rated warranty on UPS and batteries*
- ▶ \$25,000 load protection guarantee

**10-year pro-rated warranty on most Series 5 and Series 9 models.*

POWERWARE

Series 9 power protection

True online systems such as Powerware's Series 9 UPS families are the only products that completely isolate connected equipment from all nine common power problems.

Powerware 9120

- ▶ 700-3000 VA
- ▶ True online, double-conversion design for maximum reliability
- ▶ ABM® technology doubles battery service life and provides advance warning of the end of battery life
- ▶ Optional EBMs prolong runtimes
- ▶ Individual load segment control maximizes runtime
- ▶ Ideal protection for networks, web servers, telecommunications applications and other critical electronic equipment



Powerware 9125

- ▶ 700-6000 VA
- ▶ True online, double-conversion design for maximum reliability
- ▶ 2-in-1 form factor provides flexibility for use in rack (2U and 5U) or tower environments
- ▶ ABM® technology doubles battery service life and provides advance warning of the end of battery life
- ▶ Optional EBMs prolong runtimes
- ▶ Individual load segment control maximizes runtime
- ▶ Ideal protection for servers, communications equipment and other mission-critical applications



Powerware 9150

- ▶ 8-12.5 kVA
- ▶ True online, double-conversion design for maximum reliability
- ▶ ABM® technology doubles battery service life and provides advance warning of the end of battery life
- ▶ Optional EBMs prolong runtimes
- ▶ Static and manual bypass standard



Powerware 9170+

- ▶ 3-18 kVA
- ▶ True online, double-conversion design for maximum reliability
- ▶ Modular, scalable design allows for future growth by enabling battery and/or power modules to be added
- ▶ N+X power and logic redundancy eliminates single point-of-failure
- ▶ Optional EBMs prolong runtimes
- ▶ Ideal protection for midrange computers, critical servers, telecommunications equipment, generator sites and ISP applications



Powerware 9320

- ▶ 10-60 kVA
- ▶ Ensures maximum uptime and reliability with up to N+2 redundancy
- ▶ External battery cabinets extend battery backup time
- ▶ Scalable design allows you to increase UPS capacity as needed
- ▶ Reduces operating costs without sacrificing reliability and high efficiency rating



Powerware 9330

- ▶ 10-40 kVA
- ▶ Double conversion online technology delivers maximum availability and highest level of efficiency
- ▶ Provides maximum reliability with Powerware Hot Sync® technology, which achieves paralleling for redundancy and capacity (up to four modules) with no single point-of-failure
- ▶ Digital signal processing, true pulse-width-modulation and maximum IGBT responsiveness provide the highest level of performance
- ▶ Ideal protection for mission-critical applications, server farms, data centers, telecommunications and medical equipment, and branch offices



Powerware 9335

- ▶ 80, 120 kVA
- ▶ Provides the highest degree of protection with online, double-conversion technology
- ▶ Integrates easily with generators or alternating power source
- ▶ Achieves maximum reliability and cost-savings with advanced, transformerless technology
- ▶ Small footprint and light-weight design conserves valuable space and reduces shipping costs



Powerware FERRUPS

- ▶ 500 VA – 18 kVA
- ▶ Active Voltage Regulation converts power from almost any AC source into computer-grade power
- ▶ Eliminates harmful harmonic currents generated by widely used switch-mode power supplies
- ▶ Regulates output voltage without drawing power from the batteries for input voltages as low as 38% below nominal, enabling the batteries to remain charged in the event of power disturbances
- ▶ Designed to meet the demands of today's computer loads, including power-factor corrected, switch-mode and linear power supplies
- ▶ Ideal protection for midrange computer systems, application and data base servers, clustered file servers, internetworking equipment, PBX and communications systems, and equipment in poor power conditions



Series 5 power protection

Powerware's Series 5 UPSs provide superior protection against five of the nine most common problems, and also offer varying degrees of protection against other power problems.

Powerware 5115

- ▶ 500-1400 VA
- ▶ Advanced Battery Management (ABM®) technology doubles battery service life and provides advance warning of the end of battery life.
- ▶ Ideal protection for PCs, workstations, SOHO equipment and small internet-working devices
- ▶ Rackmount models available; 500 -1500 VA
- ▶ USB and serial communications ports



Powerware 5125

- ▶ 1000-3000 VA
- ▶ Tower and 2-in-1 form factor for rack-mount (2U) configurations also available
- ▶ ABM® technology doubles battery service life and provides advance warning of the end of battery life
- ▶ Optional EBMs prolong runtimes
- ▶ Individual load segment control maximizes runtime
- ▶ Ideal protection for PCs, workstations, servers, voice/data/wireless equipment, and computer telephony integration



Powerware 5140

- ▶ 6000 VA/6000 Watt Power ideally suited for connected loads
- ▶ ABM® technology doubles battery service life and provides advance warning of the end of battery life
- ▶ Individual load segment control maximizes runtime
- ▶ Buck/Boost corrects wide input voltage range without using the battery
- ▶ Ideal protection for densely populated rack environments

