

# POWERWARE<sup>®</sup>

An Invensys Company

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## Powerware 5125



## Reviewer's Guide

## REVIEWER'S GUIDE

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The information contained in this document was examined carefully and is believed to be accurate as of its date of publication.

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## A Note To Product Reviewers

We're pleased that you have chosen to review a Powerware product. This guide provides information to help you publish a review of Powerware Corp.'s 5125 family of power-management products. We hope you'll find it useful. We'd like your feedback and look forward to reading your published review.

Additional resources are available to assist you with your review. A list of telephone contacts is provided on the following page. Please don't hesitate to call when any question—big or small—arises. If this guide accomplishes one goal, it is that we want to make sure you publish a factually accurate review. Also, be sure to check the Powerware documentation, which is included with the product you received. Finally, the Powerware Web site, located at [www.powerware.com](http://www.powerware.com) also provides up-to-the-minute information.

## Key Editorial Contacts

As you conduct your review, we encourage you to call with questions. Though we've worked hard to ensure that you have all the facts needed to write an accurate review, occasionally a question may arise that isn't covered in this guide. For publication purposes, refer readers to the Powerware Web site, [www.powerware.com](http://www.powerware.com).

**NOT for publication; For use by editors only**

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## REVIEWER'S GUIDE


**Background Information**

## Today's UPS: Not Just For Power Outages Anymore

*Tell your readers that blackouts are the least of a PC user's power woes. Voltage sags and spikes are the real dangers.*

**W**HETHER dealing with a single PC in a private home, hundreds of computers at the office, or thousands of mission-critical Web servers in a commercial server farm, each leads a tenuous existence. For lurking just out of sight is a force so dangerous, so unpredictable, each computer hovers just a few milliseconds away from certain death. That evil force is the electricity that gives life to every computer, every tape backup, every network router, every switching hub, and all the other devices that allow modern business to function.

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**NO UPS  
PRODUCT  
REVIEW IS  
COMPLETE  
UNTIL ITS  
SOFTWARE  
AND CONNec-  
TIVITY OP-  
TIONS  
ARE TESTED**

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The fact is, despite what your local utility tells you, power is dirty. Sometimes, it stops completely—a blackout, or power outage. When an outage occurs, we all know it right away. But far worse are the power problems happen every day—when the electricity is still flowing. Voltage spikes, transients, rolling brownouts, and a host of other problems that humans never see are the real perils that threaten to harm today's delicate high-tech devices. It is for these invisible—but very clear and present dangers—that the modern UPS, or uninterruptible power supply was designed.

A modern UPS, like the Powerware 5125, consists of the hardware that regulates incoming power and supplies backup power when necessary. Just as important is the software that comes with a UPS. That software continually monitors the power health of your PC or server. No review of a UPS unit is complete until its associated software is installed and challenged.

# Top 5 Reasons To Buy A Powerware 5125 UPS

No computer, cable or DSL modem, router, hub, storage subsystem or other critical device should ever be without power protection—for a variety of reasons. Powerware's 5125 family protects against the following five common power dangers.

**Power Failure (Blackout):** When the electricity goes out completely, power stored in a UPS unit's batteries is converted into full 120-volt line voltage to keep your hardware running long enough for you to save your work and perform a graceful system shutdown. The length of time you have depends on the capacity of the batteries and how much equipment they have to power (the load). Want more backup time? Simply add Powerware's Extended Battery Modules.

**Power Sag:** Sometimes, the power from the local utility dips below the normal 120-volt level for an instant or a few seconds. That's bad, because your equipment strains to continue function even though it can't get enough power. All modern UPS systems *regulate* power. The Powerware 5125 uses its smart internal circuitry—not its batteries—to boost power back up to the normal 120-volt level.

**Power Surge (Spike):** If power can sag, so too can it momentarily jump up to levels higher than normal. A spike occurs when voltage is more than 10 percent too high—high enough to possibly “fry” your equipment. The Powerware 5125 uses its voltage-regulation circuitry to smooth out these spikes so that the power fed to your equipment is a safe, steady 120 volts.

**Undervoltage (Brownout):** When the utility company makes a conscious decision to reduce voltage for an extended period of time (think California), a brownout occurs. Your computer equipment has to work harder when voltage is reduced. The Powerware 5125 uses its smart internal circuitry to boost the power to a safe 120 volts. The batteries do not kick in until the incoming voltage drops to about 85 volts or less. That's crucial, because a brownout can last up to several hours or even for days—and no UPS battery can supply power for that long.

**Overvoltage:** Less common than a brownout is its exact opposite, a situation where too much voltage is present for several minutes to several days. The UPS regulates, or “bucks down” the voltage to a safe level.

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PROVIDING  
BACKUP

POWER IN THE  
MIDST OF A  
BLACKOUT IS  
WHAT A UPS  
DOES LESS  
OFTEN THAN  
ANYTHING  
ELSE

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**Part**  
**2**

**Powerware 5125 models**

## About The Powerware 5125

*With eight rack-mount and floor models, the 5125 family offers protection from 1kVA to 3 kVA and many management options*

**T**HERE'S hardware, software, and now, Powerware. Why do we think the Powerware 5125 is so cool? After all, a UPS from any vendor starts out using similar sealed lead-acid battery technology. Here, briefly, are the top six features you'll no doubt want to share with your audience. You can find more detail about some of these Powerware advantages immediately following the chart.



**5125 Family:** Two-In-One form factor, left, can be positioned vertically, as shown, or rack mounted horizontally. Tower model, right, employs traditional UPS styling.

### Key Powerware 5125 Features

<b>Long Battery Life</b>	Powerware's Advanced Battery Management Plus (ABM™ Plus) circuitry uses smart logic to double battery service lifetime.
<b>More Backup Minutes</b>	Just plug in up to four Extended Battery Modules to increase backup up-time.
<b>Buck and Boost Voltage Regulation</b>	No, it's not a rodeo event. The 5125 uses clever internal circuitry—not the batteries—to cut excessive voltage or boost low voltage to the usual 120-volt level.
<b>Flexible Device Management</b>	Switchable receptacle groups let you keep most critical devices powered longer.
<b>Two Styles Fit Your Installation Needs</b>	The "Two-in-One" style can be rack mounted or sit upright on the floor. And the traditional tower style is perfect for floor mounting.
<b>Hot-Swappable Batteries</b>	Powerware 5125 models let you replace worn out batteries without shutting down the equipment you're protecting.

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**CHARGING A  
BATTERY  
SHORTENS  
ITS LIFE.  
ABM PLUS  
DOUBLES  
BATTERY LIFE  
AND CUTS  
REPLACEMENT  
COSTS IN  
HALF**

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**Long Battery Life**

Powerware's method for charging batteries is such a breakthrough, it's covered by a U.S. Patent. Advanced Battery Management Plus (ABM™ Plus) charges and maintains batteries in a way that extends their life substantially.

Did you know that keeping a battery charged is one of the worst things you can do? Most laptop PCs and UPS system use a technique called "trickle charging," which charges and discharges their batteries 60 times a second. Unfortunately, this discharging is cumulative over the battery's life, eventually rendering the battery no longer useful.

ABM Plus is different. Once the battery is fully charged, ABM Plus disconnects the charging circuit for 30 days. Then, once every 30 days the charging circuit turns itself on and tops off the battery with a full charge. The result: Instead of replacing the battery every 2 to 3 years, it's more like 4-6. In a large corporation with thousands of UPS units, this is a major cost savings.

**More Backup Minutes**

We accomplish this in two ways, efficient design and the ability to add extra batteries.

Powerware's highly efficient circuit designs mean you can get more minutes of backup time than a similar competing unit. Read more about *volt-amps*, *watts* and *power factor* on page 7.

To greatly extend backup time, you can add up to four Extended Battery Modules to a Powerware 5125 UPS. Not all competing products support the addition of additional battery modules.

**Flexible Device Management**

Some equipment that you plug into a UPS is more crucial. Suppose you have three servers, an LCD monitor, a KVM switch, and a tape backup all plugged in. Normally, you're protecting these devices from voltage fluctuations. But what about when the power goes out completely? The outlets on the Powerware 5125 are grouped into three Load Segments Groups that can be shut down remotely. Shut down the group into which the monitor, KVM, and tape are plugged into to maximize battery run time for the three servers. Not all competing products support remote load shedding. Or simply to reduce electricity use, schedule a group of non-critical hardware to shut down over the weekend.

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**MAXIMIZE  
BATTERY RUN  
TIME OR CUT  
ELECTRICITY  
CONSUMPTION  
BY SHEDDING  
NON-CRITICAL  
LOADS**

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## Models And Prices

The Powerware 5125 is a family of UPS systems, not just one product. In addition, a wealth of options are available, including extra batteries, PC and network interface modules, and monitoring software.

Two form factors are offered, Tower and Two-In-One.

Tower models feature the traditional oblong shape that comes to mind when people think of a UPS. The Two-In-One form factor is a low, horizontal shape (like a VCR) that is suitable for rack mounting. Alternatively, the unit can be stood up vertically, occupying very little floor space. In addition to the UPS, this chart shows prices for add-on Extended Battery Modules (EBMs), which provide additional minutes of back-up power. Up to four EBMs can be attached to a Powerware 5125 UPS.

### Powerware 5125 Models North America models listed

VA	Model	Launch Date	USA List Price
<b>Tower Models</b>			
1000	PW5125 1000	Sept. 2001	\$699
1500	PW5125 1500	Sept. 2001	\$879
2200	PW5125 2200	Sept. 2001	\$1,210
2200	PW5125 2200b	Sept. 2001	\$1,325
<b>Two-In-One Form Factor (Rack Mount)</b>			
1000	PW5125 1000 RM	Aug. 2001	\$829
1500	PW5125 1500 RM	Aug. 2001	\$1,079
2400	PW5125 2400 RM	Sept. 2001	\$1,420
3000	PW5125 3000 RM	Sept. 2001	\$1,618
<b>Optional EBMs for Tower Models</b>			
	PW5125 EBM-24	Sept. 2001	\$368
	PW5125 EBM-48	Sept. 2001	\$435
<b>Optional EBMs for Two-In-One Models</b>			
	PW5125 EBM-48 RM	Aug. 2001	\$790
	PW5125 EBM-120 RM	Sept. 2001	\$1,308

## Product Info Box

If your review includes a product information box, here is some useful information you can use to populate your text chart.

### Powerware 5125 Product Info

**In Brief**

Highly efficient UPS that can cut corporate power-management costs significantly. The unit supports higher loads than competing products and uses advanced circuitry to double battery useful lifetime, both major cost-saving features. Optional add-on batteries extend run time. Internal battery is hot-swappable by user. Easy-to-use LanSafe management software is included.

<b>Price</b>	\$699 for 1000 VA tower model to \$1,618 for 3000VA rack-mount version. Add-on batteries from \$368 to \$1,308 depending on capacity.
<b>Warranty</b>	2-year limited warranty, 10-year pro-rated warranty, \$25,000 load-protection guarantee
<b>Vendor</b>	Powerware Corp., an Invensys company Raleigh, N.C.
<b>Web site</b>	<a href="http://www.powerware.com">www.powerware.com</a>

## Lab Testing Your Powerware 5125

*Tell your readers that blackouts are the least of a PC user's power woes. Brownouts and voltage spikes are the real dangers.*

WHEN you test the Powerware 5125, it's important to remember that you'll be examining two separate products—the UPS hardware and the monitoring software—that work together as one. You'll run separate tests on each.

In this portion of the Powerware 5125 Reviewer's Guide, we'll cover the following:

- Test bed considerations
- Hardware set-up
- Software installation
- Hardware tests
- Software tests

### Volt-Amps, Watts, And Power Factor

Every manufacturer of UPS systems labels their systems in volt-amps. The problem is that volt-amps isn't a true measure of the unit's capabilities. What's more important are *watts* and *power factor*. And remember: adding more batteries increases run time; it does not boost the amount of power the UPS can deliver. This is common misconception.

The **Power factor** is the proportion of available watts of AC power to the volt-amp rating of the unit. The higher, the better. For example, if a 3000VA UPS could yield 3,000 watts of power, its power factor would be 1.0. (This is a practical and physical

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WITH ITS  
HIGH 0.9  
POWER FAC-  
TOR, THE  
POWERWARE  
5125 CAN  
PROTECT  
MORE EQUIP-  
MENT THAN A  
COMPETING  
UPS WITH THE  
SAME VOLT-  
AMP RATING

---

impossibility, however.) The Powerware 5125 family, thanks to its advanced design, boasts an extraordinary power factor of 0.9. Multiply the power factor by the UPS's volt-amps rating and you get the number of watts the unit can deliver. The load (all the equipment you plug into the UPS) must consume fewer watts than this. Here's a striking competitive example. Draw your own conclusion!

**Powerware 5125:**

$$3000 \text{ volt-amps} \times 0.9 \text{ power factor} = 2,700 \text{ watts max. load}$$

**APC Smart-UPS 3000:**

$$3000 \text{ volt-amps} \times 0.75 \text{ power factor} = 2,250 \text{ watts max. load}^1$$

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**POWERWARE'S  
HIGH LOAD  
FACTORS  
MEAN CUSTOMERS GET  
MORE POWER  
PROTECTION  
FOR EACH  
UPS DOLLAR  
SPENT**

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You should interpret this in three very different but important ways:

- **Load size:** The Powerware 5125 can protect, for example, nine servers consuming 300 watts each (2,700 watts total). The APC Smart-UPS 3000 can protect only seven 300-watt servers (2,100 watts total).
- **Run time:** If each UPS is protecting six 300-watt servers (1,800 watts), the Powerware 5125 can deliver roughly 15 to 18 minutes of battery backup time. The APC can furnish only about 5 to 6 minutes of battery run time.
- **Power Density:** When you rack mount several Powerware 5125 systems, you get more watts per unit of rack space than with the Smart-UPS 3000. This greater power density can add up to a significant savings in rack space.

## The Test Bed

You'll need the following equipment for testing your Powerware 5125 UPS:

- One alternating current variable transformer for feeding current of differing voltages to the input of the UPS. A TechniPower VARIAC variable AC transformer from Power Designs of Danbury, Conn. is the standard choice

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<sup>1</sup> Source: APC Web site, [www.apc.com/resource/include/techspec\\_index.cfm?base\\_sku=SU3000NET&displaylist=OutputInputSurge,Asterisks#anchor1](http://www.apc.com/resource/include/techspec_index.cfm?base_sku=SU3000NET&displaylist=OutputInputSurge,Asterisks#anchor1).

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**THE PURPOSE  
OF A UPS IS  
NOT TO  
PROVIDE  
UNLIMITED  
BATTERY  
BACKUP, BUT  
TO PROVIDE  
ENOUGH TIME  
SO THAT  
PROTECTED  
SYSTEMS CAN  
BE SHUT DOWN  
GRACEFULLY**

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([www.powerdesigns.com/varioc/](http://www.powerdesigns.com/varioc/).) This VARIAC stands in for the power utility, providing a wide range of continuously variable voltages.

- Two voltage meters. One measures the voltage being fed from the VARIAC to the UPS's input (simulating the utility company). The second meter measures the voltage being fed from the UPS to the equipment being protected (the load). Ideally, this voltage should always read 120 volts. You do not need to measure the voltage being supplied to the VARIAC by the utility company.
- The load. This is the equipment that you are powering from the outlets on the rear panel of the UPS. At least one PC and monitor is required, as you'll want to use this to monitor the software. You may want to connect several PCs, and connect them to one monitor using a KVM switch, which you'd also plug into the UPS. If you are testing several UPS units from different vendors, you must use the exact same load with each UPS device.

## Hardware Set-Up

This is pretty simple. Plug the Powerware 5125 into the VARIAC. Plug the VARIAC into a wall outlet. Allow 24 hours for the battery to reach a full charge. Plug the computer, monitor, and other hardware you are protecting into the outlets on the rear of the Powerware 5125. You'll want to install one voltage meter between the VARIAC and the UPS. Connect the second voltage meter to any outlet on the Powerware 5125's rear panel.

To connect the UPS to a computer running the LanSafe monitoring software, an interface card must be installed. The default is a serial card, but others, such as an Ethernet or USB interface are available.

- A new Web interface card that includes a built-in three-port switching hub is available. The card is SNMP compatible and allows the Powerware 5125 to be managed from any browser. Also, it allows others devices to be networked.

## Software Installation

Simply insert the CD after connecting the communications cable. The installation program is very simple. The following screen shots are representative of the installation process.

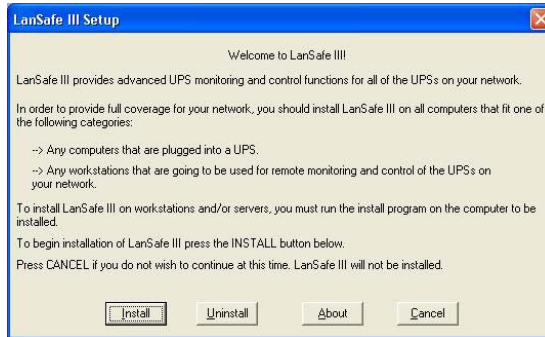
The Powerware Software Suite contains instructional videos, product information, and documentation. Select "Install" option to begin software installation.



A wide variety of operating systems, including Windows XP, Linux, and Solaris are supported.

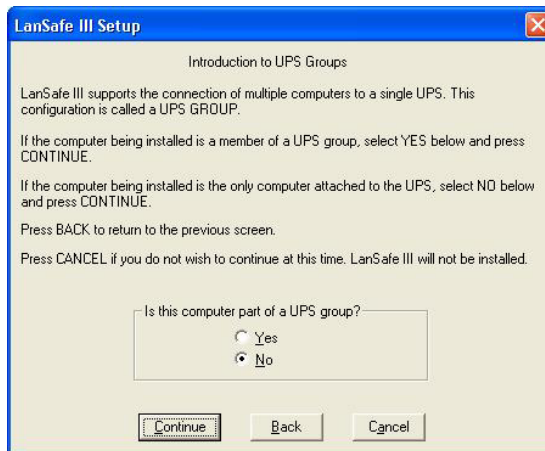
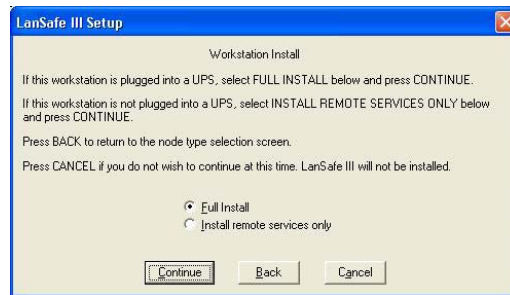
Serial, USB, and Ethernet connections are supported.





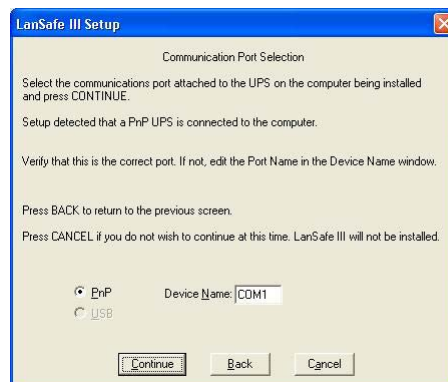
The LanSafe III UPS monitoring utility can be installed on a workstation PC or a server.

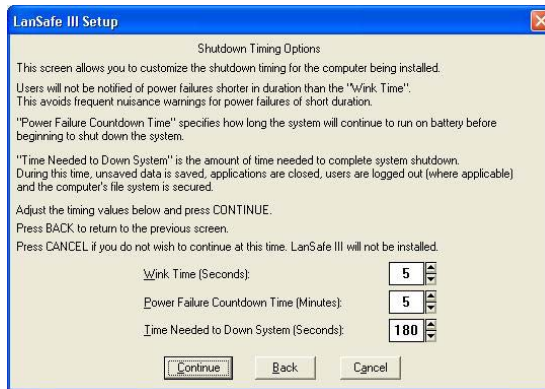
For a system plugged directly into the Powerware 5125, a full install is required.



When two or more computers are plugged into the UPS, they can be set up as a group. An action can be carried out on the entire group simultaneously.

If your operating system supports “plug and play” or automatic hardware discovery, this screen verifies the connection.





In this example, users will not be notified of power outages of 5 seconds or less. Shutdown procedures begin after 5 minutes of battery operation, with the process taking 3 minutes.

## Hardware Testing

You'll want to perform three hardware tests. The first clocks how many minutes of backup power the UPS can furnish to a known load. The second measures how the unit responds as the incoming current from utility company sags below 120 volts for an extended period. The third test measures the unit's response when the incoming line voltage surges above 120 volts.

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**TEST THE  
HARDWARE  
FOR BATTERY  
RUN  
TIME AND FOR  
VOLTAGE  
REGULATION**

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### Test 1: Back-Up Time

In this simple test, you'll use a stopwatch to document for how long the Powerware 5125 provides back-up power in the event of a complete loss of electricity (black-out).

1. Charge the Powerware for 24 hours to ensure that it's internal battery is at full capacity. Note that 90 percent battery capacity is reached after just three hours of recharge time.
2. Plug the load into the receptacles on the unit's rear panel. The load is the computers, monitor, and other devices to which the UPS will provide backup power.

**IN A POWER  
OUTAGE, THE  
POWERWARE  
5125 UPS  
SWITCHES TO  
BATTERY  
POWER IN  
4 MILLISEC-  
ONDS OR LESS**

- Unplug the UPS from the wall receptacle and start the stopwatch. Monitor the voltage meter to see how close the UPS comes to delivering a constant 120 volts to the load. Note also whether this voltage is steady, wavers, or drops as the test progresses. The steadier, the better.
- When the load shuts down due to lack of power, note the reading on the stopwatch. This is the time you'll want to report to your readers.

**Note 1:** When running this test on competing UPS products, your times may vary due to a variety of factors including product design and slightly different battery capacities.

**Note 2:** Run time can be greatly extended with the use of add-on batteries, called Extended Battery Modules. A maximum of four EBMs can be added.

How many minutes of battery run time should you expect? Here's a chart of typical results.

**Battery Run Times**  
In minutes with full load / half load

	<b>Internal Battery</b>				
<b>kVA</b>	<b>Only</b>	<b>1 EBM</b>	<b>2 EBMs</b>	<b>3 EBMs</b>	<b>4 EBMs</b>
<b>Tower Models</b>					
1.0	5 / 14	25 / 60	55 / 170	83 / 199	109 / 228
1.5	6 / 17	33 / 79	63 / 146	92 / 174	120 / 201
2.2	5 / 14	26 / 60	55 / 170	81 / 198	106 / 224
<b>Two-In-One Form Factor (Rack Mount)</b>					
1.0	7 / 19	33 / 68	58 / 120	82 / 166	105 / 214
1.5	5 / 13	23 / 57	49 / 161	73 / 172	96 / 205
2.4	7 / 19	35 / 73	60 / 124	85 / 177	110 / 229
3.0	5 / 15	25 / 61	49 / 103	69 / 146	90 / 190

Up to 4 Extended Battery Modules can be connected to 1000VA - 3000VA models. EBM run times shown in the chart include internal batteries. Times shown are typical and may vary with equipment, configuration, battery age, temperature, and other factors.

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**A BROWNOUT  
CAN LAST FOR  
HOURS OR  
DAYS. THE  
LONGER A  
UPS CAN  
BOOST POWER  
WITHOUT  
SWITCHING  
TO ITS BAT-  
TERIES THE  
BETTER.**

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### **Test 2: Undervoltage Trigger Test**

The purpose of this test is twofold: First, to determine the voltage at which the Powerware 5125 circuitry is triggered to boost output voltage up to 120 volts, and second, to determine the voltage at which the batteries take over completely. Both voltage meters are used in this test.

1. With the battery charged and the load plugged in, slowly dial down the voltage on the VARIAC until the unit's front panel LED indicator signals that it is in boost mode. Note the voltage reading on the meter installed between the VARIAC and the UPS. This is the trigger voltage value for power boosting.
2. Continue dialing the voltage down until the UPS switches completely to battery power. Note the voltage reading for your published review. The lower this voltage, the better the UPS is at using its internal circuitry, instead of the battery, at providing acceptable output to the load. In a brownout that lasts for hours or days, it is this reading that is perhaps the single most important reason for investing in a UPS in the first place.
3. Finally, slowly dial up to voltage on the VARIAC and note the voltage at which the UPS switches its batteries out of the circuit, relying on utility power. The lower this reading, the better.

### **Test 3: Overvoltage Trigger Test**

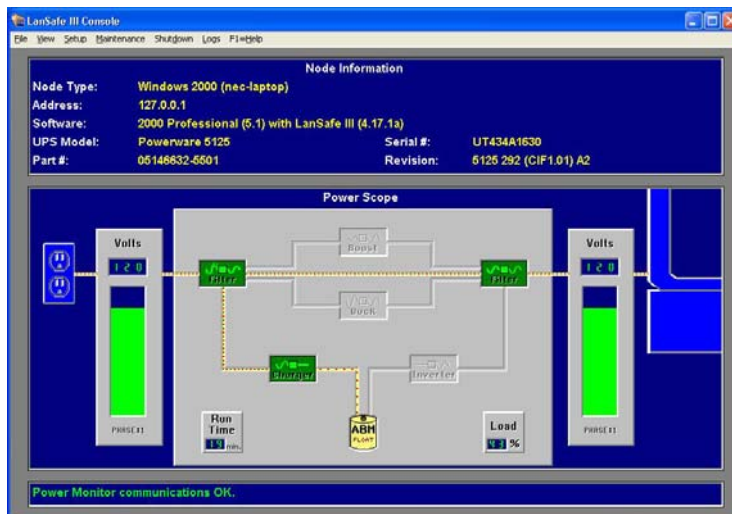
In this test, you'll note how well the UPS continues to supply a steady 120 volts to the load as the utility company voltage rises above the 120-volt level.

1. With the battery charged and the load plugged in, slowly increase the voltage on the VARIAC until the UPS unit's front panel LED indicator signals that it is in buck mode. Note also the voltage being supplied to the load. Ideally, it should remain at 120 volts.
2. Continue dialing up the voltage and note the voltage at which the UPS drops the utility feed and switches to its batteries. The higher this reading the better although it's very unlikely that the utility would ever deliver a sustained 130, 140, or 150 volts.

## Software Testing

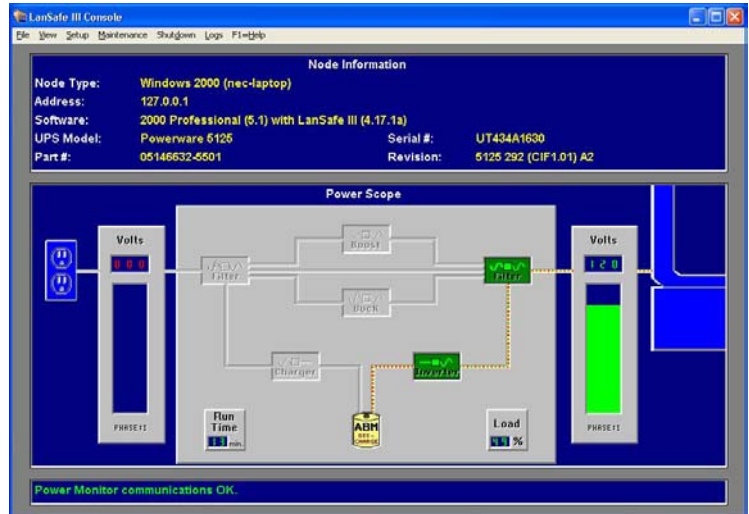
Working with the software is no so much a test as it is an observation of the user-friendly interface. The animated graphical interface conveys the current operating conditions of the Powerware 5125 with factors such as remaining battery time and load level.

The utility company is supplying 120 volts and the Powerware 5125 is passing it onto the load. The batteries can supply 19 minutes of run time to the load, which is only 43 percent of the maximum load supported by the UPS. The battery charging circuit is shown as being active.



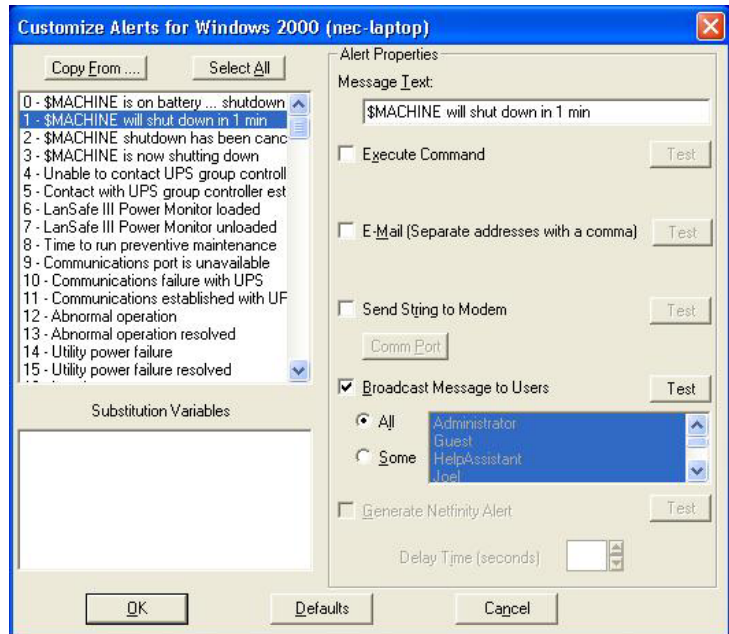
This screen shot is an alternate view of the same information shown in the preceding screen. The light green bars show the current reading while the wider dark green areas show the acceptable range of values.

This screen represents a power outage. No power is coming from the wall outlet. The inverter is converting battery power into 120-volt AC power and presenting it to the load.



The same power outage from the previous screen is shown in graphical form.

Dozens of alert messages are built into LanSafe III. Some are for administrators only, while others, such as the one that is highlighted, notify users of impending system shutdowns. Also, test scenarios can be executed.





**Detailed Specifications**

# Product Specifications

The following charts list all technical specifications for the Powerware 5125 product family. The 5125 product line offers solutions from 1000 VA to 3000 VA. For some items, specifications for products in the 1000 VA to 2200 VA range differ from products in the 2400 VA to 3000 VA range.

Electrical Input	1000-2200 VA	2400-3000 VA
<b>Nominal Voltage</b>	120, 208 and 230 VAC; See Model Selection Guide user-selectable voltages	120, 208, 230 and 240VAC; See Model Selection Guide user-selectable voltages
<b>Input voltage ranges for user-selectable voltages</b>	Low voltage: 77-152V; High voltage: 154-288V	
<b>Operating Frequency</b>	50/60Hz, Auto-sensing	
<b>Frequency Range</b>	46-65Hz	

Electrical Output	
<b>On Utility Voltage Regulation</b>	-10% to +6% of nominal
<b>On Battery voltage Regulation</b>	±5% RMS
<b>Voltage Wave Shape (on battery)</b>	Sine Wave
<b>Output protection</b>	Short circuit protection

## Battery

<b>Battery Type</b>	Sealed, lead-acid; maintenance free
<b>Battery Run time</b>	See Battery Run Times Table
<b>Battery Replacement</b>	Hot-swappable internal batteries and external batteries modules
<b>Recharge Time</b>	<3 hours to 90% usable capacity
<b>Start-On-Battery</b>	Allows start of UPS without utility input

General	1000-2200 VA	2400-3000 VA
<b>Diagnostics</b>	Full System self-test on power up	
<b>UPS Bypass</b>	No Bypass	Internal Bypass
<b>Transfer Time</b>	2-4ms typical	
<b>Dimensions and weights</b>	See Model Selection Guide	
<b>Overload (normal operation)</b>	110% overload, shut down after 3 minutes. 150% overload, shut down 10 cycles	110% overload for 30 seconds short circuit protected

## Communications

<b>User Interface</b>	Front Control Panel
<b>Audible Alarms</b>	For various UPS alarm conditions, including: On Battery, Low Battery, Overload, UPS fault
<b>Network transient Protector</b>	UL 497 A, In/out jacks RJ45 (high voltage models network protection) & RJ11 (low voltage models modem protection)

<b>REPO Port</b>	Meets NEC code 645-11 intent and UL requirements
<b>X-Slot Interface</b>	RS-232 Single Serial Module (standard), Other options available: RS-232 Multi-Port Module (6), SNMP/Web Module; USB Module; Relay Module
<b>Cable</b>	6-foot communications cable included
<b>Power Management Software</b>	Powerware Software Suite CD-ROM (bundled with UPS)

<b>Environmental</b>	<b>1000-2200 VA</b>	<b>2400-3000 VA</b>
<b>Safety Certifications</b>	UL; cUL; NOM; C-Tick; CE mark	
<b>EMC Compliance</b>	FCC Part 15, EN50091-2, Class A for 2.2KVA and RM; Class B for 1000 and 1500VA tower models	FCC Part 15, EN50091-2, Class A
<b>Operating Temperature</b>	0 to 40° C (32 to 104° F)	
<b>Storage Temperature</b>	-15 to 50° C (5 to 122° F)	
<b>Relative Humidity</b>	0% to 95% non-condensing	
<b>Lightning &amp; Surge Protection</b>	ANSI/IEEE C62.41 (IEEE 587), IEC61000-4-5	
<b>Surge energy rating</b>	480 Joules	
<b>Audible Noise</b>	Less than 40 dBA typical	
<b>Altitude</b>	3000m (10,000 ft) without derating	

Note: Specifications are subject to change without notice due to continuing product improvement programs. Visit the Powerware Web site for enhancements to specifications at [www.powerware.com/Products/5125/options.asp](http://www.powerware.com/Products/5125/options.asp).

## Available Options

Part Number	Description
05141562-0021	4 post rack-mount kit (fits 19-inch racks)
05146726-5501	2 post rack-mount kit (fits 19-inch racks)
05146871-5501	3-Slot seismic mounting kit (1000 / 1500 RM models only)
05146875-5501	5-Slot seismic mounting kit (1000 / 1500 RM models only)
05146447-5502	X-Slot multi-server card
05146508-5501	X-slot USB module
1018460	X-slot relay card
IPK-0330	X-slot SNMP/Web adapter card
103002510-5501	X-slot modbus card
05146288-5501	X-Slot SNMP card (used with onlinet software only)
05146519-001	Powerpass distribution module (1000 / 1500 RM models only)



## News Release

### **INVENSYS POWERWARE DIVISION ANNOUNCES COMPACT UPS CAPABLE OF DELIVERING TWELVE HOURS OF RUNTIME**

Feature-rich models from 1-3kVA offer functionality found in larger systems

RALEIGH, N.C. (August 15, 2001) — Invensys Powerware Division, a global leader in uninterruptible power system (UPS) technology, today announced the Powerware® 5125 advanced power solution for workstations, servers and process control equipment. With extended battery modules capable of providing up to 12 hours of backup time, the Powerware 5125 will enhance the reliability and availability of systems ranging from 1-3kVA. Available in both rack-mount and tower configurations, the 5125 is one of the most flexible UPSs in its class available today.

“The features and functionality of the Powerware 5125 were designed based on customer feedback,” said Jeff Ames, director of product marketing, Powerware. “Advanced communications, high-power density, compact size, and extended run-time options make the Powerware 5125 a very cost-effective, efficient solution for today’s communications networks.”

Inherent to the Powerware 5125 are features often found only in higher, more costly kVA units including:

- Advanced Battery Management Plus (ABM Plus™) – not only reduces battery recharge time and doubles battery life, but also provides advanced notification of end of battery life for both internal and Powerware externally connected battery modules.
- Unique Two-in-One Form Factor Design - innovative design makes the new “2 in 1” rack models adaptable to tower, rack mount, bench top and under counter applications, all in a 2U configuration.
- Hot-swappable electronics module with internal bypass on 2400 and 3000VA models maximizes uptime, minimizes maintenance interruptions.
- Load segments - enables separate control of up to three discrete loads with one UPS.
- Wide voltage regulation with Buck and Double Boost technology - minimizes battery use to correct voltage fluctuations.
- Bundled Powerware Software Suite delivers complete power management for extensive control and monitoring.
- Hot-swappable batteries.

- Triple Power Warranty (call for details).

With its advanced battery management products, Powerware continues to raise the technological standards in the industry. The latest innovation, ABM Plus, is capable of doubling battery life with a three stage charging process. Unlike the traditional trickle-charging, ABM Plus optimizes recharge time and eliminates overcharging. The new ABM Plus provides enhanced manageability for the network manager by predicting the run time remaining on internal batteries as well as the optional extended battery modules.

Load segment features of the 5125 allow separate control of two or three load segments. This gives the network manager flexibility for powering up, shutting down non-essential equipment (such as monitors) during extended brownouts or power failures, and scheduling on/off times for security or power conservation. Load segments save money by eliminating the need to buy multiple UPSs for separate load control.

Communications and connectivity options available on the 5125 include the ConnectUPS™ family of devices. ConnectUPS-X and ConnectUPS-BD SNMP/Web adapters provide feature-rich network connectivity enhancing communications capabilities, delivering remote monitoring and shutdown of network equipment including switches, routers and hubs. Network managers have the choice of SNMP, RS-232, USB, multi-port or relay modules, providing expanded control of the entire network. All Powerware UPS and connectivity products are manufactured to ISO 9001 standards and meet or exceed worldwide specifications for safety, performance and excellence.

The Powerware 5125 tower units will be available on a global basis beginning August 2001, starting at a list price of US\$699.00. The rack mount configurations will be ready for first customer shipment in September. For additional information on this product and the complete Powerware product line and service portfolio, visit [www.powerware.com](http://www.powerware.com) or call toll free 1-800-822-4877 - U.S. and Canada.

#### Background

Invensys Powerware Division is a US\$2.6 billion global leader in the power solutions industry. Offering the broadest range of products and services available today, Invensys Powerware brands integrate a full line of AC and DC power systems, power conversion products, standby batteries, telephone line surge suppression, power management software, remote monitoring, turnkey integration services and site support, providing a seamless solution. Powerware systems and services increase enterprise-wide systems availability and are utilized in local and wide area networking, data and voice over IP, colocation facilities, fixed-line and wireless communication networks, and industrial manufacturing. Invensys Powerware Division is headquartered in Raleigh, N.C., and is part of Invensys plc, a global leader in the Automation and Controls industry headquartered in London, England.

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