POWERWARE®
UNINTERRUPTIBLE POWER SYSTEMS

Benefits

- **Maximum Availability –** with true double conversion online design, the proven technology that is used for the most mission-critical applications in the world. It's unusual to find line-interactive, pseudo-online or any other kind of UPS, other than double conversion online, supporting 24/365 data centers, facilities, ISPs and major telecommunications installations.
- **Maximum Reliability –** with Powerware Hot Sync®, the award-winning, patented technology that achieves paralleling for redundancy and capacity (up to four modules) with no system-level single-point-of-failure. The preferred paralleling technology installed around the world with such major customers as E*Trade, Colo.com, and Citibank, Powerware Hot Sync will be available in the 10-40 kVA range with the Powerware 9330*.
- **Maximum Efficiency –** the Powerware 9330's advanced design features efficiency of up to 93%, the highest for a double conversion online UPS in this kVA range. No need to compromise reliability for efficiency with the Powerware 9330.
- **Maximum Performance –** the Powerware 9330 delivers the highest performance by using digital signal processing, true pulse-width-modulation and maximum IGBT responsiveness. This provides easy setup, drift-free operation and a pristine output.
- **Global Services –** Powerware service professionals provide round-the-clock monitoring, remote diagnostics, and on-site maintenance programs. More than just a material warranty, this is the most comprehensive service coverage available in the industry. Powerware Global Services provides you with peace of mind that potential downtime is prevented by proactive service and monitoring.

*Available late-2001

Powerware® 9330 Availability Index

With almost 40 years of industry experience and tens of thousands of installed 3 phase UPS's, Powerware understands the most critical of all customer requirements is 100% availability of their critical applications to their customers. To achieve this, customers understand the need for a UPS and expect by definition that all UPS's will work. The degree to which all UPS solutions provide this much sought after availability is usually masked in a lot of marketing hype and exaggerated claims.

In order to cut through all of this hype and measure apples-to-apples performance, it is necessary to look at the Availability Index to level the playing field. The Availability Index uses two empirical data values Mean-Time-Between-Failure (MTBF) and Mean-Time-To-Repair (MTTR). The formula looks like this:

$$\%\ \text{Availability} = \frac{\text{MTBF}}{\text{MTBF} + \text{MTTR}} \times 100\%$$

All Powerware products are designed to provide Maximum Availability, Maximum Reliability and Maximum Performance. Powerware also knows that even the best designed and engineered product may experience a failure, so Powerware has built the industry's' leading service organization, dedicated to proactively monitoring and providing a quick resolution of a customer's problem.

MTBF

MTBF is affected by many factors, but simply stated, the more components a UPS has, the lower the MTBF. Therefore, the Powerware 9330 has been designed to minimize the number of discrete components, use 100% digital signal processing for control, employs redundant critical components, such as power supplies and cooling fans. There by reduce the MTBF. The Powerware 9330 products have other designed in features like battery management and superior cooling systems that further eliminate critical failure points in the system.

MTTR

The short definition of MTTR is the amount of time it takes a qualified service engineer to diagnose, repair and return to service a UPS system. The Powerware 9330 was designed for less than 30 minute MTTR. The Powerware 9330 requires top/front access only for service and the integral manual maintenance bypass assist serviceability. The Powerware 9330 was designed for quick diagnosis (dedicated service port) and servicing, minimizing the amount of down-time (operation in bypass mode). This level of design detail is why the Powerware products are known for their reliability, availability and performance.

Who Cares?

Powerware 9330 purchasers like CIOs, IT directors or IT managers and traditional influences like consulting engineers, facility managers, or electrician's will all be swayed by the increased availability of the Powerware 9330.

The Powerware 9330 is not tied to any specific industry or application, since in this 24/365 world applications run the gamut of verticals and channels.

Why is it important?

It is important to set a level playing field and demonstrate through statistical data the true performance ability of the Powerware 9330. The Powerware 9330 has designed in so many features, like the use of digital signal processing, built-in control area network, the superior cooling and battery management systems, that improve overall system availability and reliability that proving this in an unbiased way require the competition to put their availability on the table.

What are the major benefits?

The benefit of the Availability Index to our customer is a quantifiable way to calculate the availability of all the UPS systems that they may be evaluating non-emotional way. It also opens a discussion on all the strengths of the Powerware 9330 and our world-class service organization.

What is Powerware Enterprise Advantage?

The Powerware 9330 was designed as a cornerstone to providing UPS solutions with the highest reliability and availability to our customer's critical applications. By incorporating exclusive features and options like DC Expert™ Plus Battery Monitoring and Powerware Hot Sync, the Powerware 9330 sets a new standard by which acceptable solutions will be judged.

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