

EATON

Powerware

Powerware 9370 Uninterruptible Power System

Product Focus

200 kVA - 500 kVA



Performance and reliability for any kind of critical application

Eaton Power Quality Corporation is world's number one UPS manufacturer in above 5 kVA segment.* We are now proud to introduce a new global benchmark product in the higher-power 200kVA to 500kVA category.

The new three-phase Powerware 9370 range, sets the standard in UPS reliability and flexibility, taking you another Powerware step towards total power protection. The 9370 can be installed and run in parallel for both redundancy and capacity, using Powerware patented Hot Sync[®] technology.

More and more critical applications

The ever increasing spread and sophistication of critical applications, requires extremely high quality electrical power. Mains disturbances can cause costly damage to data and electronics. They certainly cause wastage of valuable time and money. In modern professional business applications they should no longer be tolerated. The new Powerware 9370, with its robust design, can operate in many different environments and efficiently protects against all nine of the most common power problems that threaten any system.

Competitively priced, and with amazing additional features, the PW 9370 combines compact design with the most advanced functions and technology. Full 'double conversion', 'on-line' topology, ensures that the UPS provides complete isolation from all incoming utility and generator-related power problems. This produces the highest level of protection to the critical load.

A large variety of configurations and options ensure that the PW 9370 satisfies all customer's requirements.

Compact design with high performance

PW 9370's advanced technology is housed in smart and compact cabinets (amongst the smallest in the world) due to an optimized internal layout and rigorous selection of components.

PW 9370 is designed to provide excellent output voltage stability, ideally suited to very demanding applications with either 100% step, unbalanced, or non linear loads.

*Based on Frost & Sullivan 2004 world UPS market report data.

High availability guaranteed by the most advanced technology

If your business application needs an extremely flexible and reliable UPS solution, you must consider the Powerware 9370. With advanced features and a high efficiency design, we have incorporated 'total digital control' (DSP and μC) and inverter 'current mode' technology. Predictive maintenance is encouraged and unexpected breakdowns are avoided.

The PW 9370 is designed with built-in redundancy at critical points. The design ensures that components such as fans, auxiliary power supplies and processors are no longer single points of failure that would compromise high availability of clean power to the load.

The new PW 9370 has distributed control architecture with independent circuit boards - there will always be a UPS circuit protecting the load, whatever happens.

The internal 'CAN' bus communications solution is robust and designed according to harsh automotive industry standards. The status of the most critical components is constantly monitored.

This allows predictive maintenance and avoids unexpected breakdowns. UPS reliability is greatly increased by our inclusion of advanced and unique UPS options such as: **ABM** (Advanced Battery Management) that can increase UPS battery lifetime by up to 50% and **Hot Sync** parallel, a redundant system with no single point of failure.

Because the PW 9370 is shipped with our **Software Suite**, total control and reportage of the system functions is possible as standard. The software package includes everything needed for trouble-free operation: LanSafe for networked orderly shutdown and PowerVision for comprehensive system management and control.

Powerware 9370 200-500 kVA

Features

Double conversion topology

Distributed CANbus control architecture, with double latch device.

Redundant design solutions for both auxiliary power supplies and cooling systems.

Hot Sync[®], patented paralleling technology upto 8 units

Advanced Battery Management (ABM)[™]

Self-diagnostics. Predictive diagnosis for battery status.

Only front access needed for installation and service

Comprehensive option range

Benefits

Trouble free output solution for every application.

No internal single point of failure. Inherent reliability.

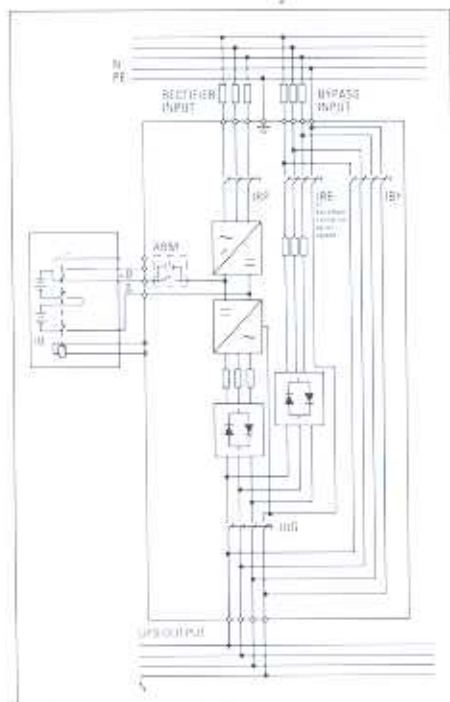
It requires no communication between modules, eliminating a System-level single-point-of-failure.

Reduced battery corrosion results in up to 50% longer battery lifetime.

No unexpected failures.

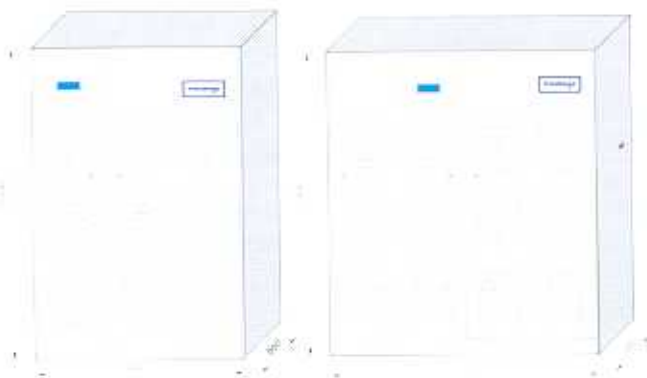
Easy access for service. It requires less space. Smaller footprint.

Allows Powerware to satisfy all the customer's requirements in the various fields of application.



System wiring diagram

Dimensions and Accessories



Easy installation and maintenance

The Powerware 9370 can be installed near a wall because cooling air is expelled through top vents.

The internal air filters allow the installation of the unit in dusty environments without additional maintenance activity. Bottom and top (optional) cable entry allows for easier side-by-side installation.

Despite the compact design, most of the components, including the critical ones, are accessible from the front of the cabinet. No fans or blowers are accessed from the rear - their replacement is achieved from the cabinet front without the need to move the unit. A significant space-saving in locations where floor space is in short supply.

Wide capability to meet customer's requirements

A comprehensive range of additional features is available on request.

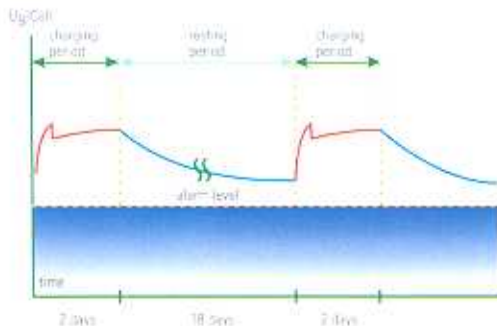
ABM™

ABM constantly monitors battery charge status and only recharges when necessary.

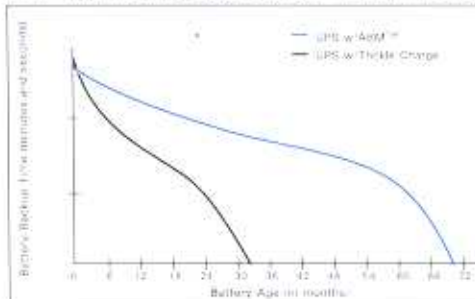
Compared with the traditional trickle-charging method, this reduces battery corrosion enough to provide up to 50% longer battery lifetimes! The ABM system compensates for changes in ambient temperature for proper charging, which in turn leads to lower overall operating temperatures.

Battery monitoring provides real-time information on battery string health and remaining runtime. This allows you to proactively plan maintenance operations instead of reacting to emerging problems.

PW 9370 tests the batteries regularly with the rectifier connected, thus providing consistent test results regardless of inverter load at testing time. Moreover, as the load is never supported by the battery alone, the PW 9370 will keep critical loads fully protected at all times.



ABM™ guarantees low battery corrosion and long life time

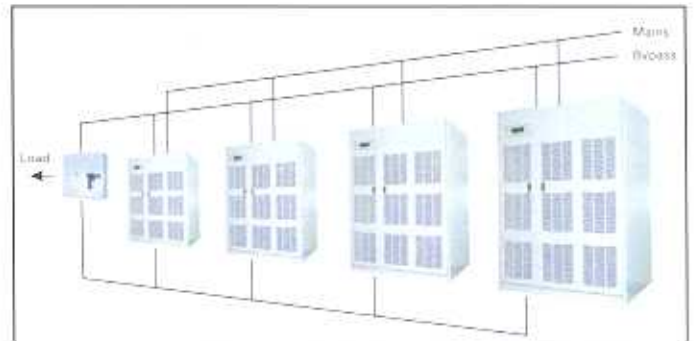


Hot Sync®

Powerware's Hot Sync function parallels two or more UPS units. Units are capable of load sharing without the need for communications wiring. This was hitherto the most vulnerable point of failure in all UPS systems.

Each Powerware module has the ability to synchronise and support the critical load independently of the other modules. In addition to using no centralized or master-slave parallel control, any single point of failure in the communication between the modules is eliminated. The extremely high reliability achieved can be further increased using a **redundant N + 1** module system for the most critical applications.

Hot Sync **capability** can accommodate up to eight modules in parallel for the most critical applications. Superior monitoring and highly automated controls make this system as easy to operate as a single module system.



Hot Sync parallel systems (up to 8 units) with external maintenance bypass

Communication

Four X-Slot expansion bays and a comprehensive range of hot swappable connectivity option cards are provided for easy connectivity. One RS-232 port is included as standard, with more available on X-Slot expansion cards.

The new modem card can therefore be used for the remote monitoring service that provides maximum reliability and availability. The ConnectUPS SNMP adapter provides network connectivity and interfacing with management systems such as HP OpenView, IBM NetView, CA Unicenter and Tivoli, as well as with the Powerware monitoring and performance analysis software 'PowerVision'.

Simple relay inputs and outputs, as well as the MODBUS/Jbus protocols, can be used to provide an interface to building management systems and environmental monitoring systems.



The PW 9370 features excellent connectivity capabilities:

- SNMP/Web communication card (ConnectUPS)
- RS232 communication card
- Modbus/Jbus communication card
- Additional relay interface card
- Integral modem card.



User interface board

Technical Specifications

Rating	200 kVA	250 kVA	300 kVA	400 kVA	500 kVA
Capacity (kVA/kW)	200/160	250/200	300/240	400/320	500/400
Dimensions W x H x D (mm) 6 pulse	1220 x 1900 x 860	1220 x 1900 x 860	-	-	-
Dimensions W x H x D (mm) 12 pulse	1620 x 1900 x 860	1620 x 1900 x 860	2140 x 1900 x 860	2140 x 1900 x 860	2140 x 1900 x 860
Weight (kg) 6 pulse	1130	1130	-	-	-
Weight (kg) 12 pulse	1820	1820	2880	2880	2880
Input connection	Hardwire	Hardwire	Hardwire	Hardwire	Hardwire
Output connection	Hardwire	Hardwire	Hardwire	Hardwire	Hardwire
Battery	External	External	External	External	External
Operational					
Nominal input voltage (Vac)	380, 400, 415 Vac three phase				
Input voltage range	- 15% + 10% from nominal at 100% load				
Frequency	50/60 Hz (45-65 Hz)				
Nominal output voltage	380, 400, 415 Vac three phase				
Output voltage regulation	± 1% static; ± 5% dynamic 100% load change, <3 ms recovery time				
Overload capacity	101-125% for 10 min (on-line); 126-150% for 1 min (on-line); 1000% for 1 cycle (bypass)				
Efficiency	≥ 93%				
User interface					
LCD Display	Graphical LCD display showing status, measurements of performance, alarms and event log				
LED	UPS on, on battery, on bypass, notice, alarm				
Standard communication ports	1x RS232 for local support; 4x A5/400 relays; 4 programmable input; generator on, external bypass, inverter on/off, environment alarm; Remote Emergency Power Off; 4x empty connectivity slots for optional cards				
Optional	RS232 extension, SNMP/WEB, Modbus/Jbus, modem, Remote ViewUPS display panel, additional relays				
Environmental					
Operating temperature	0°C to + 40°C				
Storage temperature	-25°C to + 60°C				
Altitude	< 1000 m				
Audible noise at 1 meter (dBA)	70 dBA (According to ISO 3747)				
Certification					
Markings	CE				
Safety	EN 50091-1-1, IEC 60950, IEC 62040-1-1				
EMC	EN 50091-2, IEC 62040-2				

For more product information please contact us



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