

## Benefits

- ▶ N+X redundancy for both power and logic eliminates system level single-point-of-failure
- ▶ Easily scalable to adapt to changing IT environments by simply adding power and/or battery modules
- ▶ True double conversion online design
- ▶ Advanced Battery Management (ABM<sup>®</sup>) doubles battery service life
- ▶ Universal components fit in any order without affecting UPS operation
- ▶ Protection against all nine power problems
- ▶ Complete offering of power management software included to ensure data integrity
- ▶ Warranty (US and Canada)
  - 2-year Limited Warranty
  - 10-year Pro-rated Warranty
  - \$25,000 Load Protection Guarantee

# Powerware<sup>®</sup> 9170+ Online

## Uninterruptible Power System



*A dynamic innovative solution for the changing global customer landscape*

The emergence of the e-business economy has demonstrated a new standard in system availability: zero downtime. This standard ranges from the largest data centers of the Internet and e-business infrastructure, to the server farms, networks, telecommunications and Internet service providers (ISP) that are quickly becoming the foundation of all business worldwide. This, in turn, has been driving the most aggressive wave of innovation in power technologies, specifically UPS, in decades. The new e-business economy is also driving a requirement that technological solutions be quickly and easily deployed on a global basis.

The Powerware 9170+ is uniquely designed to meet these ever-changing customer needs. Built for a global audience, the 9170+ is a scalable, modular, flexible solution that combines the highest level of reliability with the lowest cost of ownership in the 3–18 kVA range.

### Product Snapshot

Power Rating: 3-18 kVA  
Input Voltage: 200-240 Vac  
Output Voltage: 100-127 or 208-240 Vac  
Frequency: 50/60 Hz auto-sensing  
Configuration: Tower or rack-mount

The 9170+ enables customers to "build" a power solution specific to their needs, with an expandable level of redundancy and increase run times through plug-and-play 3 kVA UPS and battery modules. The 9170+ can be configured to fit three-, six-, nine- or twelve-slot enclosures, and is available for rack-mount applications. The 9170+ also features a new "power-saver" high efficiency mode, a user-selectable feature that increases unit efficiency from 88% in normal operating mode to 97% in Power Saver mode. The combination of its low initial investment, double conversion online technology, ABM, and new high-efficiency power-saver mode, means you never have to compromise reliability for efficiency.

Unique to the 9170+ is its global deployment capability. By using a high frequency design, housing both logic and power in the power module, and offering a single cabinet design, distributors and purchasing departments around the world will have fewer system components to contend with, regardless of where the system is deployed.

Powerware 9170+ shown installed in a standard 19" computer rack.



# Technical Spotlight: Network-level N+X Redundancy

As 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 figured in when designing the network, including power protection.

In this shifting world, however it's becoming more evident that simple power protection isn't

enough; a new level of reliability is needed, which comes with redundancy, and thereby system availability, users can opt for an even greater degree of redundancy, with N+1, N+2, N+3, etc. However, 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. For example, if you have a 9 kVA solution, and are looking for N+2 redundancy, you only need a 15 kVA UPS (5 power module)

with the 9170+, instead of 18 kVA. That's because the five UPS modules run in parallel in the system, giving you N+2 redundancy, without the additional cost and space requirements.

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 a redundancy for the entire UPS. This is a critical distinction when looking for multiple levels of redundancy in the UPS; there is inherent vulnerability in a UPS that limits redundancy in any part of the system.

## Technical Specifications<sup>1</sup>

### ELECTRICAL INPUT

|                    |                                                   |
|--------------------|---------------------------------------------------|
| Voltage            | 208-240V or 200/100, 208/120, 220/110,240/120 Vac |
| Voltage Range      | 176-276V                                          |
| Input Power Factor | .98                                               |
| Frequency          | 50/60 Hz (±3 Hz)                                  |

### ELECTRICAL OUTPUT

|                               |                                                                      |
|-------------------------------|----------------------------------------------------------------------|
| On Utility Voltage Regulation | ±3% of nominal                                                       |
| On Battery Voltage Regulation | ±3% of nominal                                                       |
| Efficiency                    | 88% normal operation<br>97% High performance (optional programmable) |
| Frequency Regulation          | ±3 Hz online; ±0.1 Hz on battery                                     |

### COMMUNICATIONS

|                           |                                                |
|---------------------------|------------------------------------------------|
| LCD Display               | 4 x 20 character backlit display, programmable |
| Language Support          | English, French, Spanish and German            |
| Communication ports       | RS232, (DB9) (std)                             |
| Communication slots       | 2 Slots (standard)                             |
| SNMP capability           | SNMP/Web enabled card options                  |
| Contact Closures          | Relay Card option                              |
| Emergency Power off (EPO) | Input for external EPO                         |

### GENERAL

|                        |                                      |
|------------------------|--------------------------------------|
| Topology               | True online, double-conversion       |
| Diagnostics            | Full system self-test on power up    |
| UPS Bypass             | Automatic on overload or UPS failure |
| Dimensions and Weights | See Model Selection Guide            |

### ENVIRONMENTAL AND SAFETY

|                                        |                                                                                          |
|----------------------------------------|------------------------------------------------------------------------------------------|
| Safety Markings                        | UL, CUL                                                                                  |
| EMC Markings                           | FCC class A                                                                              |
| Surge Suppression                      | IEEE/ANSI C62.41                                                                         |
| Audible Noise                          | <50dBA                                                                                   |
| Ambient Operating/ Storage Temperature | 0 to 40°C (32 to 104°F)/<br>-20 to 40°C (60°C w/o batt)<br>-4 to 104°F (140° F w/o batt) |
| Relative Humidity                      | 5% to 95%, non-condensing                                                                |
| REPO Port                              | Meets NEC code 645-11 intent and UL requirements                                         |

### BATTERY

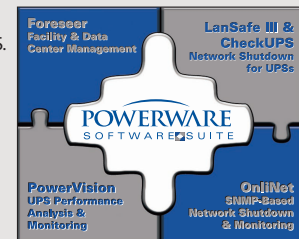
|                       |                                     |
|-----------------------|-------------------------------------|
| Internal Battery Type | Sealed, lead-acid; maintenance free |
| Battery Runtime       | See Battery Runtimes on back page   |
| Battery Replacement   | Hot-swappable                       |
| Recharge Time         | <4 hours standard                   |

1. Due to continuing product improvement programs, specifications are subject to change without notice.

## Powerware Software Suite

The industry's most comprehensive software bundle, the Powerware Software Suite, is free and included with every Powerware 9170+ UPS.

- ▶ Software Wizard guides you through software selection and installation
- ▶ In addition to multimedia demonstrations, product data sheets, and video clips, the Software Suite contains the following power management software:
  - LanSafe III and CheckUPS Network shutdown for UPSs
  - OnliNet (Vista and Centro): SNMP-based network shutdown and monitoring for UPSs
  - PowerVision (30-day trial version): UPS performance analysis monitoring
  - Foreseer (demonstration): Facility and data center management



Powerware Software Suite

| <b>UPS Cabinet Enclosures with Hardwire Input and Output Connections</b> |             |           |           |                                            |            |  |
|--------------------------------------------------------------------------|-------------|-----------|-----------|--------------------------------------------|------------|--|
| PW9170+ 3 Slot                                                           | 3 kVA       | Hardwired | Hardwired | 17.8 x 17.0 x 25.5/<br>45.0 x 43.0 x 65.0  | 66.0/30.0  |  |
| PW9170+ 6 Slot                                                           | 3 to 9 kVA  | Hardwired | Hardwired | 31.5 x 17.0 x 25.0/<br>80.0 x 43.0 x 65.0  | 103.0/47.0 |  |
| PW9170+ 9 Slot                                                           | 3 to 18 kVA | Hardwired | Hardwired | 47.0 x 24.0 x 28.5/<br>119.5 x 61.0 x 72.5 | 158.0/72.0 |  |
| PW9170+ 12 Slot                                                          | 3 to 18 kVA | Hardwired | Hardwired | 60.8 x 24.0 x 28.5/<br>154.0 x 61.0 x 72.5 | 196.0/89.0 |  |

### **Battery Cabinet Enclosures**

|                         |   |                                             |   |                                            |            |
|-------------------------|---|---------------------------------------------|---|--------------------------------------------|------------|
| 6 Slot Battery Cabinet  | - | DC Interconnect Option<br>ASY-0525 Required | - | 31.5 x 17.0 x 25.0/<br>80.0 x 43.0 x 65.0  | 93.0/42.2  |
| 9 Slot Battery Cabinet  | - | DC Interconnect Option<br>ASY-0525 Required | - | 47.0 x 24.0 x 28.5/<br>119.5 x 61.0 x 72.5 | 148.0/67.1 |
| 12 Slot Battery Cabinet | - | DC Interconnect Option<br>ASY-0525 Required | - | 60.8 x 24.0 x 28.5/<br>154.0 x 61.0 x 72.5 | 186.0/84.4 |

### **Available Modules**

|                          |             |   |   |                                          |           |
|--------------------------|-------------|---|---|------------------------------------------|-----------|
| Split Phase Power Module | 3 kVA/2.5kw | - | - | 4.2 x 14.1 x 15.3/<br>10.6 x 35.8 x 38.9 | 17.0/7.7  |
| Universal Power Module   | 3 kVA/2.1kw | - | - | 4.2 x 14.1 x 15.3/<br>10.6 x 35.8 x 38.9 | 17.0/7.7  |
| Battery Module           | -           | - | - | 4.2 x 7.0 x 14.8/<br>10.6 x 17.8 x 37.6  | 30.0/13.6 |
| 20 Amp Charger Module    | 3 kVA       | - | - | 4.2 x 14.1 x 15.3/<br>10.6 x 35.8 x 38.9 | 17.0/7.7  |

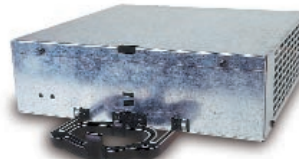
*Notes: 50/60 Hz automatic frequency selection. Input/Output voltages 208-240 V or 100/200, 120/208, 127/220, 110/220 and 120/240 V. Split phase power Module offer both high and low output voltage. Universal Power Module offers only high output voltage. (3) and (6) slot enclosure dimensions include caster kit.*

# Powerware 9170+ Features



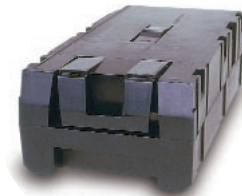
Powerware 9170+ 6-slot configuration

LCD Panel



3 kVA Power or Charger Module (1 per slot)

Communication Cards



Battery Module (2 per slot)

## Maximum Performance

- ▶ The lowest overall cost of ownership is a direct result of the low initial investment, higher operating efficiencies and programmable high efficiency
- ▶ A UPS solution that is as easy to install and operate as a PC. Universal components fit in any order in any slot without affecting the operation of the system or its protection of the critical load
- ▶ Featuring user-friendly LCD display and two internal communication slots, which accept a wide variety of connectivity devices and the new SNMP/Web adapter card
- ▶ 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 highest reliability and availability
- ▶ Redundant modularity virtually eliminates downtime and enhances serviceability
- ▶ ABM doubles battery service life

## 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 Service Plans

- ▶ Powerware Gold Plan Plus Enhance and extend your standard UPS warranty with added assurance of knowing your UPS is installed and operated properly from the start
- ▶ Comprehensive coverage for the entire UPS
- ▶ On-site start-up by authorized Powerware Representative
- ▶ Replacement UPS or module delivered to your locations
- ▶ Original UPS or module picked up from your locations
- ▶ Please call for details

## Rack-mount Configurations

Adding yet another level of flexibility to the unique design of the Powerware 9170+ is the ability to transform a solution configured in a free-standing enclosure into a rack-mount solution by simply adding a rack-mount kit. Imagine all the standard benefits of the Powerware 9170+ in 3- and 6-slot configurations installed in a standard 19 inch computer rack.



## Maximum Flexibility

- ▶ Modular design delivers scalable flexible solutions to constantly changing equipment requirements
- ▶ Easily expanded by installing additional power, charger, or battery modules to support additional critical applications and devices
- ▶ Internal Options: galvanic isolation, line cord, receptacles, communications
- ▶ External options: Rack-mount kit, casters (standard on 9- and 12-slot enclosures), extended runtime battery cabinets (housing up to 8 hours of additional runtime), wall-mounted maintenance bypass cabinets

## Powerware 9170+ Runtime Charts

### Runtime Chart in minutes (full load / half load) Split-Phase Module ASY-0673

Load (VA) Number of Strings (2 battery modules per string)

|        | 1 String | 2 String | 3 String  | 4 String | 5 String  | 6 String | 7 String  | 8 String | 9 String  | 10 String | 11 String | 12 String |
|--------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|-----------|-----------|-----------|
| 3 kVA  | 6.5/16   | 16/40    | 27.5/67.5 | 40/98    | 53.5/132  | 67.5/167 | 83/204    | 98/242   | 15/283    | 132/324   | 149/365   | 167/408   |
| 6 kVA  |          | 6.5/16   | 11/27.5   | 16/40    | 21.5/53.5 | 27.5/68  | 33.5/83   | 40/98    | 46.5/15   | 53.5/132  | 60.5/149  | 575/167   |
| 9 kVA  |          |          | 6.5/16    | 9.5/23.5 | 13/31.5   | 16/40    | 20/49     | 23.5/58  | 27.5/67.5 | 31.5/78   | 35.5/88   | 40/98     |
| 12 kVA |          |          |           | 6.5/16   | 9/21.5    | 11/27.5  | 13.5/33.5 | 216/40   | 19/46.5   | 21.5/53.5 | 24.5/60.5 | 27.5/68   |
| 15 kVA |          |          |           |          | 6.5/16    | 8/20.5   | 10/25     | 12/30    | 14/35     | 16/40     | 18.5/45   | 20.5/50.5 |
| 18 kVA |          |          |           |          |           | 6.5/16   | 8/20      | 9.5/23.5 | 11/27.5   | 18/44     | 14.5/35.5 | 16/40     |

|        | 13 String | 14 String | 15 String | 16 String | 17 String | 18 String | 19 String | 20 String | 21 String | 22 String | 23 String | 24 String |
|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3 kVA  | 185/456   | 204/501   | 223/549   | 242/595   | 262/640   | 283/692   | 302/750   | 323/790   | 345/850   | 365/900   | 387/955   | 408/101.5 |
| 6 kVA  | 75/85     | 83/204    | 90/223    | 98/242    | 106/262   | 115/285   | 123/302   | 132/324   | 140/345   | 149/365   | 157/388   | 167/408   |
| 9 kVA  | 44/109    | 49/120    | 535/132   | 58/143    | 63/154    | 68/167    | 73/179    | 78/191    | 83/204    | 88/210    | 93/229    | 98/242    |
| 12 kVA | 30.5/75   | 33.5/83   | 37/90     | 40/98     | 43/106    | 46.5/115  | 50/123    | 53.5/132  | 57/140    | 60/149    | 64/157    | 68/167    |
| 15 kVA | 23/56     | 25/62     | 27.5/67.5 | 30/73.5   | 32.5/79.5 | 35/86     | 37.5/92   | 40/98     | 425/105   | 45/111    | 48/118    | 51/124    |
| 18 kVA | 18/44     | 20/49     | 21.5/53.5 | 23.5/58   | 25.5/63   | 27.5/68   | 29.5/73   | 31.5/78   | 33.5/83   | 35.5/88   | 38/93     | 40/98     |

### Runtime Chart in minutes (full load / half load) Universal Module ASY-0674

Load (VA) Number of Strings (2 battery modules per string)

|        | 1 String | 2 String | 3 String | 4 String | 5 String | 6 String | 7 String  | 8 String | 9 String | 10 String | 11 String | 12 String |
|--------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|-----------|-----------|-----------|
| 3 kVA  | 8/24     | 24/59    | 43/95    | 58/140   | 80/175   | 95/215   | 119/240   | 135/290  | 155/335  | 165/365   | 200/395   | 215/450   |
| 6 kVA  |          | 8/24     | 16/40    | 24/59    | 32/83    | 40/103   | 49/114    | 58/140   | 69/156   | 83/175    | 90/190    | 103/205   |
| 9 kVA  |          |          | 8/24     | 13/35    | 18/46    | 24/59    | 29/63     | 35/86    | 40/103   | 46/115    | 54/125    | 58/140    |
| 12 kVA |          |          |          | 8/24     | 13/33    | 16/40    | 19.5/43.5 | 24/59    | 29/70    | 33/80     | 36/90     | 41/100    |
| 15 kVA |          |          |          |          | 8/24     | 11.5/31  | 14.5/31.5 | 18/46    | 20.5/51  | 24/58     | 28/66     | 31/73     |
| 18 kVA |          |          |          |          |          | 8/24     | 11/31.5   | 13/36    | 15.5/41  | 18/45     | 20.5/51   | 24/58     |

|        | 13 String | 14 String | 15 String | 16 String | 17 String | 18 String | 19 String | 20 String | 21 String | 22 String | 23 String | 24 String |
|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3 kVA  | 225/500   | 245/540   | 270/600   | 290/620   | 315/650   | 335/690   | 350/720   | 365/780   | 375/850   | 395/890   | 425/920   | 450/950   |
| 6 kVA  | 113/335   | 123/255   | 135/273   | 143/290   | 148/315   | 156/333   | 165/350   | 175/365   | 183/385   | 190/395   | 198/420   | 205/440   |
| 9 kVA  | 63/150    | 73/165    | 80/178    | 86/190    | 93/200    | 100/210   | 107/225   | 115/240   | 121/255   | 125/270   | 135/280   | 143/290   |
| 12 kVA | 47/110    | 52/121    | 56/130    | 58/140    | 65/147    | 70/156    | 75/165    | 80/175    | 85/185    | 90/195    | 95/205    | 100/215   |
| 15 kVA | 34/83     | 38/94     | 41.5/103  | 44.5/113  | 46.5/117  | 51/127    | 56/130    | 58/140    | 61/149    | 66/158    | 71/165    | 73/170    |
| 18 kVA | 27/65     | 31.5/72   | 34.5/77   | 36/83     | 38/94     | 41/100    | 44/105    | 45/115    | 48/122    | 54/131    | 57/137    | 58/140    |

\* Battery strings above and to the right of the dark line require additional (N+X) power modules or an auxiliary charger. Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc. Additional battery runtimes available up to 8 hrs. Please contact your Powerware representative.