

Powerware® 9170 Online Uninterruptible Power System

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
- ▶ PowerSaver™ technology increases unit operating efficiency
- ▶ 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



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, and new high-efficiency power-saver mode, means you never have to compromise reliability for efficiency.

Unique to the Powerware 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.

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

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" 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
- ▶ External options: Rackmount 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, seismic zone 4 anchoring kit

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 modules) 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 part of the system.

Technical Specifications¹

Electrical Input

Voltage	208-240 V or 200/100, 208/120, 220/110,240/120 Vac
Voltage Range	176-276
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 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 slots	2 Slots (standard)
Communication ports	RS232, (DB9) contact closures (std)
SNMP capability	SNMP/Web enabled
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) -20 to 40°C (60°C w/o batt) -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

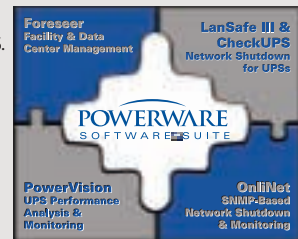
Internal Battery Type	Sealed, lead-acid; maintenance free
Battery Runtime	See Battery Runtimes on back page
Battery Replacement	Hot-swappable
Recharge Time	<4 hours standard

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 (Lite / Vista / 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

Powerware 9170 Model Selection Guide

Model Number	Power Rating	Input Connection	Output	Dimensions HxWxD (in/cm)	Weight (LB/KG)
Pre-configured Systems with Hardwire Input and Output Options					
PW3S3K Includes: (1) 3 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 3 kVA N+1	Hardwired	Hardwired	19.5 x 17.0 x 25.5/ 49.5 x 43.0 x 65.0	155.0/69.9
PW6S3K Includes: (1) 6 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 9 kVA N+X	Hardwired	Hardwired	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	155.0/69.9
PW6S6K Includes: (1) 6 slot enclosure (2) power modules (4) battery modules (1) caster kit	6 kVA expandable to 9 kVA N+X	Hardwired	Hardwired	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	232.0/104.8
PW6S9K Includes: (1) 6 slot enclosure (3) power modules (6) battery modules (1) caster kit	9 kVA expandable to 9 kVA N+X	Hardwired	Hardwired	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	346.0/156.7
PW9S9K Includes: (1) 9 slot enclosure (3) power modules (6) battery modules	9 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	47.0 x 24.0 x 28.5/ 119.5 x 61.0 x 72.5	389.0/176.7
PW12S9K Includes: (1) 12 slot enclosure (3) power modules (6) battery modules	9 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	427.0/193.7
PW12S12K Includes: (1) 12 slot enclosure (4) power modules (8) battery modules	12 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	504.0/228.6
PW12S15K Includes: (1) 12 slot enclosure (5) power modules (10) battery modules	15 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	581.0/263.5
PW12S18K Includes: (1) 12 slot enclosure (6) power modules (12) battery modules	18 kVA expandable to 18 kVA N+X	Hardwired	Hardwired	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	658.0/298.4
Pre-configured Systems with Hardwire Input and Receptacles Output Options					
PW6S3K-PD Includes: (1) 6 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 9 kVA N+X	Hardwired	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	192.0/86.9

Model Number	Power Rating	Input Connection	Output	Dimensions HxWxD (in/cm)	Weight (LB/KG)
PW6S6K-PD Includes: (1) 6 slot enclosure (2) power modules (4) battery modules (1) caster kit	6 kVA expandable to 9 kVA N+X	Hardwired	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	269.0/121.8
PW6S9K-PD Includes: (1) 6 slot enclosure (3) power modules (6) battery modules (1) caster kit	9 kVA expandable to 9 kVA N+X	Hardwired	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	346.0/160.7
PW9S9K-PD Includes: (1) 9 slot enclosure (3) power modules (6) battery modules	9 kVA expandable to 18 kVA N+X	Hardwired	(2) L14-30R, (2) L6-30R, (12) 5-20R	47.0 x 24.0 x 28.5/ 119.5 x 61.0 x 72.5	389.0/176.7
PW12S9K-PD Includes: (1) 12 slot enclosure (3) power modules (6) battery modules	9 kVA expandable to 18 kVA N+X	Hardwired	(3) L14-30R, (3) L6-30R, (12) 5-20R	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	427.0/193.7
PW12S12K-PD Includes: (1) 12 slot enclosure (4) power modules (8) battery modules	12 kVA expandable to 18 kVA N+X	Hardwired	(3) L14-30R, (3) L6-30R, (12) 5-20R	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	504.0/228.6
PW12S15K-PD Includes: (1) 12 slot enclosure (5) power modules (10) battery modules	15 kVA expandable to 18 kVA N+X	Hardwired	(3) L14-30R, (3) L6-30R, (12) 5-20R	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	581.0/263.5
PW12S18K-PD Includes: (1) 12 slot enclosure (6) power modules (12) battery modules	18 kVA expandable to 18 kVA N+X	Hardwired	(3) L14-30R, (3) L6-30R, (12) 5-20R	60.7 x 24.0 x 28.5/ 154.5 x 61.0 x 28.5	658.0/298.4

Pre-configured Systems with Line Cord Input and Receptacles Output Options

PW3S3K-LPD Includes: (1) 3 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 3 kVA N+1	L14-30P	(1) L14-30R, (1) L6-30R, (4) 5-20R	19.5 x 17.0 x 25.5/ 49.5 x 43.0 x 65.0	155.0/69.9
PW6S3K-LPD Includes: (1) 6 slot enclosure (1) power module (2) battery modules (1) caster kit	3 kVA expandable to 9 kVA N+X	L14-50P	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	192.0/86.9
PW6S6K-LPD Includes: (1) 6 slot enclosure (2) power modules (4) battery modules (1) caster kit	6 kVA expandable to 9 kVA N+X	L14-50P	(2) L14-30R, (2) L6-30R, (12) 5-20R	33.3 x 17.0 x 25.5/ 84.5 x 43.0 x 65.0	269.0/121.8

Notes: 50/60 Hz automatic frequency selection. Input/Output voltages 208-240 Vac or 100/200,120/208, 127/220, 110/220 and 120/240 Vac. 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 Cabinet Enclosures and Modules

Model Number	Power Rating	Input Connection	Output Connection	Dimensions HxWxD (in/cm)	Weight (LB/KG)
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UPS Cabinet Enclosures with Hardwire Input and Output Connections

PW9170 3 Slot	3 kVA	Hardwired	Hardwired	17.8 x 17.0 x 25.5/ 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/ 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/ 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/ 154.0 x 61.0 x 72.5	196.0/89.0

UPS Cabinet Enclosures with Linecord Input and Output Receptacles

PW9170 3 Slot	3 kVA	L14-30P	(2) 5-20R, (1) L14-30R, (1) L6-30R	17.8 x 17.0 x 25.5/ 45.0 x 43.0 x 65.0	68.0/30.8
PW9170 6 Slot	3 to 9 kVA	L14-50P	(2) 5-20R, (1) L14-30R, (1) L6-30R, (1) L5-20R, (1) L5-30R	31.5 x 17.0 x 25.0/ 80.0 x 43.0 x 65.0	107.0/48.5
PW9170 9 Slot	3 to 18 kVA	L14-50P	(2) 5-20R, (1) L14-30R, (1) L6-30R, (1) L5-20R, (1) L5-30R	47.0 x 24.0 x 28.5/ 119.5 x 61.0 x 72.5	162.0/73.5

Battery Cabinet Enclosures

6 Slot Battery Cabinet	-	Standard Connector	-	31.5 x 17.0 x 25.0/ 80.0 x 43.0 x 65.0	93.0/42.2
9 Slot Battery Cabinet	-	Standard Connector	-	47.0 x 24.0 x 28.5/ 119.5 x 61.0 x 72.5	148.0/67.1
12 Slot Battery Cabinet	-	Standard Connector	-	60.8 x 24.0 x 28.5/ 154.0 x 61.0 x 72.5	186.0/84.4

Available Modules

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

Notes: 50/60 Hz automatic frequency selection. Input/Output voltages 208-240 Vac or 100/200, 120/208, 127/220, 110/220 and 120/240 Vac. Split phase over Module offer both high and low output voltage. Universal Power Module offers only high output voltage.

Run time Chart (hot-swappable battery modules) in minutes (full load / half load)

Load (kVA) 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	95/125	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

Additional battery runtimes available up to 8 hrs. Please contact your Powerware representative.

	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 run times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

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