



Powerware® 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. The Powerware 9170 enables customers to "build" a power solution specific to their needs, with an expandable level of redundancy and increased battery 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, as well as being available for rackmount. 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, its double conversion online technology, and its 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.

Built to Protect

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

Benefits

- ▶ **Reliability** – the Powerware 9170 features N+X redundancy for both power and logic, eliminating the potential system-level single-point-of-failure that competitive models have by having the unit logic reside in the framework.
- ▶ **Scalable** – the Powerware 9170 is easily adapted to changing IT environments by simply adding power and/or battery modules.
- ▶ **Redundant** – new 24/365 availability needs driven by the new e-business economy have made redundant systems a requirement for nearly all IT installations, regardless of size.
- ▶ **Maximum Availability** – true double conversion online design, the proven technology that is used for the most mission-critical applications in the world.
- ▶ **Maximum Efficiency** – new Power Saver technology is a user-selectable mode of operation that increases unit operating efficiency to 97%.
- ▶ **Maximum Simplicity** – finally a UPS solution that is as easy to install as a PC. Universal components fit in any order without affecting the operation of the system.
- ▶ **Maximum Performance** – the Powerware 9170 protects against all nine power problems.

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 the enterprise is rising exponentially. From servers to routers to telecommunications 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. By using a redundant power system, the degree of system reliability rises significantly. To maximize redundancy, and thereby system

availability, users can opt for an even greater degree of redundancy, with N+1, N+2, N+3, etc. This level of redundancy, however, 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 3KVA 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 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 Specifications

ELECTRICAL INPUT

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

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 TUV
EMC Markings	FCC & CSPR22 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	50 to 90%, 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

Powerware 9170 Features



Powerware 9170 6-slot Configuration

3kVA Power Module
(1 per slot)



Battery Module
(2 per slot)



Communication Slots



LCD Panel



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 outages, surges, spikes, sags, line noise and lightning

Maximum Flexibility

- ▶ Modular design delivers scalable flexible solutions to constantly changing equipment requirements
- ▶ Easily expanded by installing additional power 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

Maximum Performance

- ▶ The lowest overall cost of ownership is a direct result of the low initial investment, higher operating efficiencies and programmable high-efficiency power-saver mode
- ▶ 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 communications 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

Rackmount 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 rackmount solution by simply adding a rackmount kit. Imagine all of the standard benefits of the Powerware 9170 in 3 and 6-slot configurations installed in a standard 19' computer rack.



Powerware 9170 Model Selection Guide

MODEL NUMBER	PART NUMBER	POWER RATING	INPUT/OUTPUT VOLTAGE (1)	INPUT/OUTPUT CONNECTION(S)	DIMENSIONS (HxWxD)	WEIGHT
HARDWIRED						
PW9170 3 SLOT	0650C030AAAAAAP	3 TO 6kVA	208-240VAC	CONFIGURABLE	17.8 x 17 x 25.4 IN.	66 LBS
PW9170 6 SLOT	0650C060AAAAAAP	3 TO 9kVA	208-240VAC	CONFIGURABLE	31.5 x 17 x 25.4 IN.	103 LBS
PW9170 9 SLOT	0650C090AAAAAAP	3 TO 18kVA	208-240VAC	CONFIGURABLE	47 x 24 x 28.4 IN.	158 LBS
PW917012 SLOT	0650C120AAAAAAP	3 TO 18kVA	208-240VAC	CONFIGURABLE	60.7 x 24 x 28.4 IN.	196 LBS
LINECORD						
Pw9170 3SLOT	0650C030GCEBRBOP	3 TO 6kVA	208-240VAC	NOTE A	17.8 x 17 X 25.4	68 LBS
PW9170 6SLOT	0650C060HCXBRBIP	3 TO 9kVA	208-240VAC	NOTE B	31.5 x 17 x 25.4	107 LBS
PW9170 9SLOT	0650C090HCXBRBIP	3 TO 18kVA	208-240VAC	NOTE B	47 X 24 X28.4	162 LBS
6 SLOT BATTERY CABINET	ASY-0640		208-240VAC		31.5 x 17 x 25.4 IN.	93 LBS
9 SLOT BATTERY CABINET	ASY-0641		208-240VAC		47 x 24 x 28.4 IN.	148 LBS
12 SLOT BATTERY CABINET	ASY-0642		208-240VAC		60.7 x 24 x 28.4 IN.	186 LBS
BATTERY MODULE	ASY-0529		208-240VAC		4.2 x 7 x 14.8 IN	30 LBS
SPLIT PHASE POWER MODULE	ASY-0567				4.2 x 14.1 x 15.3 IN.	17 LBS
UNIVERSAL POWER MODULE	ASY-0528				4.2 x 14.1 x 15.3 IN.	17 LBS

1. NOMINAL INPUT VOLTAGE RANGE IS 208 - 240VAC WITH MAXIMUM INPUT VOLTAGE RANGE OF 176 TO 276VAC. SPLIT PHASE POWER MODULE OFFER BOTH HIGH AND LOW OUTPUT VOLTAGES, WHILE THE UNIVERSAL POWER MODULE OFFERS ONLY HIGH OUTPUT VOLTAGES

NOTE A: INPUT LINECORD L14-30P; OUTPUT (2) NEMA 5-20R2, (1) NEMA L14-30R, (1) NEMA L6-30R

NOTE B: INPUT LINECORD NEMA 14-50P; OUTPUT (2) 3 x NEMA 5-20R2, (1) NEMA L14-30R, (1) NEMA L6-30, (1) NEMA L5-20 R (1) NEMA L5-30R

Runtime Chart (Hot-Swappable Battery Modules) in minutes (full load / half load)

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
3kVA	8/24	24/59	43/95	58/140	80/175	95/125	119/240	135/290	155/335	165/365	200/395	215/450
6kVA		8/24	16/40	24/59	32/83	40/103	49/114	58/140	69/156	83/175	90/190	103/205
9kVA			8/24	13/35	18/46	24/59	29/63	35/86	40/103	46/115	54/125	58/140
12kVA				8/24	13/33	16/40	19.5/43.5	24/59	29/70	33/80	36/90	41/100
15kVA					8/24	11.5/31	14.5/31.5	18/46	20.5/51	24/58	28/66	31/73
18kVA						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
3kVA	225/500	245/540	270/600	290/620	315/650	335/690	350/720	365/780	375/850	395/890	425/920	450/950
6kVA	113/335	123/255	135/273	143/290	148/315	156/333	165/350	175/365	183/385	190/395	198/420	205/440
9kVA	63/150	73/165	80/178	86/190	93/200	100/210	107/225	115/240	121/255	125/270	135/280	143/290
12kVA	47/110	52/121	56/130	58/140	65/147	70/156	75/165	80/175	85/185	90/195	95/205	100/215
15kVA	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
18kVA	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

Powerware 9170 comes with a two-year limited warranty against factory or workmanship defects; plus our “pro-rated” limited warranty to factory repair UPS damage from lightning strikes, and covers up to US \$25,000 for damage to connected equipment. (US and Canada only)

Please visit www.powerware.com for the latest specification information

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