

POWERWARE 9170+

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
- Advanced Battery Management (ABM™) doubles battery service life
- Complete offering of power management software included to ensure data integrity



A dynamic innovative solution for the changing global customer landscape

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 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 highefficiency power-saver mode, means you never have to compromise reliability for efficiency.

Product Snapshot

Technology:	Tower or rack-mount
Power Rating:	3-18 kVA
Voltage:	220-240 VAC
Backup time:	Typical 8 min, extendable to several hours

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

Powerware 9170+ Features



LCD Panel



ConnectUPS adapter



3 kVA Power or Charger Module (1 per slot)



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
- 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 14 kg 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 internetcentric global marketplace
- Provides protection against power 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, charger, or battery modules to support additional critical applications and devices
- Internal Options: 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

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.



Powerware 9170+ Runtime Charts

Runtime Chart in minutes (full load / half load) Universal Module ASY-0674 EMEA 50 Hz

Load (VA)	Number of Strings (2 battery module 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

Runtime Chart in minutes (full load / half load) Split-Phase Module ASY-0673 USA 60 Hz

Load (VA)	Number of Strings (2 battery module 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	46.5/115	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	53.5/132	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	42.5/105	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

* 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 Invensys Powerware representative.

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

ELECTRICAL INPUT

Voltage	208-240V (ASY-0674 EMEA) 200/100, 208/120, 220/110, 240/120 Vac (ASY-0673 USA)
Voltage Range	176-276V
Input Power Factor	0.98
Frequency	50/60 Hz (±3 Hz)

ELECTRICAL OUTPUT

On Utility Voltage Regulation	±3% of nominal
On Battery Voltage Regulation	±3% of nominal
Efficiency	88% online
Frequency Regulation	±3 Hz online; ±0.1 Hz on battery

COMMUNICATION

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

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 Network shutdown for UPSs
 - PowerVision (30-day trial version): UPS performance analysis monitoring

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 User's Guide

ENVIRONMENTAL AND SAFETY

Safety Markings	UL, CUL, CE
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



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