POWERWARE
UNINTERRUPTIBLE POWER SYSTEMS

Powerware® 5119 UPS

Features

- Power management software bundle provides monitoring and shutdown capabilities
- LanSafe III power management software ensures data integrity
- Buck-and-double-boost voltage regulation with pure sine wave output
- Load segments (separate receptacle groups) enable scheduled shutdowns and maximize run time for critical devices
- Network transient protector isolates network/phone wiring
- Hot-swappable batteries simplify service
- Triple Power Warranty
  (U.S. and Canada)
  – 10-Year Pro-Rated Warranty
  – 60-Day Money Back Guarantee
  – $25,000 Load Protection Guarantee

Providing technically advanced protection for LANs, servers, workstations, and rack-based computer equipment, Powerware Corporation offers the Powerware 5119 uninterruptible power system (UPS). Earning the prestigious *PC Magazine* (U.S.A. and Poland) Editor's Choice Award and garnering a spot on *Windows Magazine's* WinList, the Powerware 5119 has established itself as a premier product in the competitive UPS industry.

The Powerware 5119 achieves its superior status by incorporating unique features such as Advanced Battery Management (ABM™), which assures reliability and improves performance by doubling battery service life, optimizing recharge time, and providing up to a 60-day notice of the end of useful battery life. In addition, the Powerware 5119 features buck-and-ouble-boost voltage regulation, which ensures steady voltage to your critical load without using battery power.

Product Snapshot

Rating:	1000-3000 VA
Voltage:	100-127 Vac; 200-240 Vac
Frequency:	50 and 60 Hz
Configuration:	Rack-mount and tower

Manufactured to ISO 9001 standards, the the Powerware 5119 meets or exceeds worldwide specifications for safety and performance and is bundled with power management software to ensure data integrity during extended power failures.

"Hardware and software details dictate the great choice, which in this roundup is the NetUPS SE..."
PC Magazine UPS (U.S.A.) review, September, 1997

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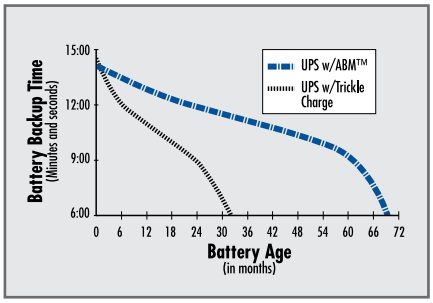
Powerware 5119 Overview

Advanced Battery Management (ABM™) technology doubles battery service life

The lead-acid batteries typically used in a UPS are considered viable as long as they can maintain backup times of at least half that of new batteries. The illustration to the right shows that batteries that are constantly trickle charged (as are most UPS batteries on the market today) reach the end of their useful life in less than half the time of batteries charged using Advanced Battery Management. ABM uses a proprietary three-stage charging technique that not only doubles battery service life, but also optimizes recharge time and provides up to a 60-day advanced notification of the end of useful battery life.

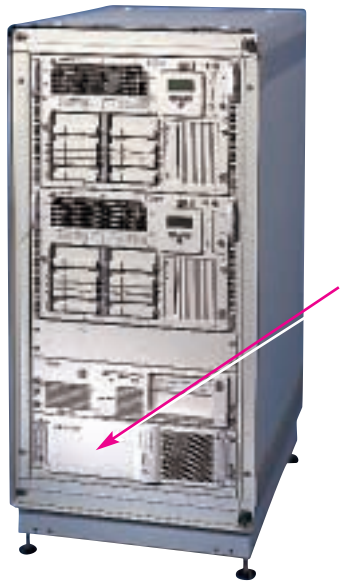


Data based upon tests performed by an independent battery manufacturer.

The Powerware 5119 Rackmount packs the same award-winning technology of the cabinet model into a compact design for standard 19-inch equipment racks. By limiting the rack height of the UPS, the Powerware 5119 saves room for other critical equipment such as servers and disk arrays. In addition, PowerComm™ installable option cards provide enhanced communication and scalable power protection for rack-based computer equipment.

1000/1500VA rackmount model: 2U (3.5") high

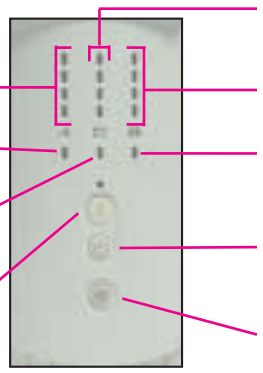
2000/2400/3000VA rackmount model: 3U (5.25") high



The powerful Powerware 5119 Rackmount conserves valuable space for other rack equipment such as hubs, routers, disk arrays, and servers.

Special Features

Front Panel Display

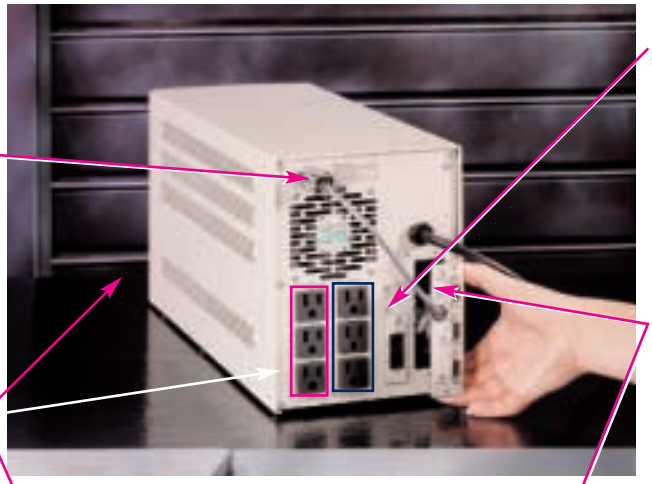


Hot-Swappable Batteries

You can hot-swap batteries without powering down the connected load on both cabinet and rackmount models. This makes it possible to extend the life of your UPS without returning the unit for service

Cabinet Rear Panel Display

(Model PW5119 1000/1500 shown)



Communications Port: serial connection for interface with LanSafe III power management software or for PowerComm installable options

Load Segments: receptacles are divided into load segments that are controlled indepedently with LanSafe III power management software. To preserve battery power for more critical equipment connected to **Load Segment 1**, shut down **Load Segment 2** supporting less critical equipment. Each load segment can be configured with its own independent startup and shutdown scheduling with LanSafe III or OnliNet power management software

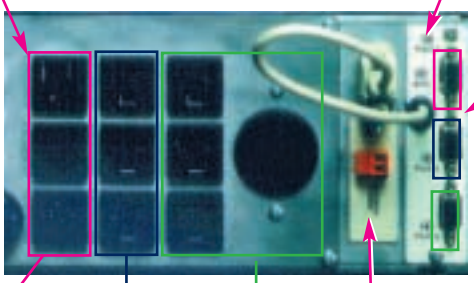
Network Transient Protector: isolates your modem, fax machine, and other electronic equipment from "back door" power surges (230 Vac models accommodate one 10Base-T network cable)

PowerComm™ Installable Options:

- **MultiUPS** card provides communication ports for up to three UPSs connected to a single network device
- **ConnectUPS SL** card adds direct control and monitoring capabilities in SNMP-based networks (for all models except 2000-3000 VA rack-mount)
- **USB Interface Unit** allows UPS to communicate with Windows 98 computers via a USB port
- **PowerPlexer Card** The optional PowerPlexer card is equipped with three communication ports that control load segments on the UPS. **Port 1** of the PowerPlexer card controls devices connected to **Load Segment 1** while **Port 2** controls devices connected to Load **Segment 2** and so on.

Rack-Mount Rear Panel Display

(Model PW5119 3K RM shown)



Load Segment 1 **Load Segment 2** **Load Segment 3**

Remote Emergency Power Off (REPO) enables you to turn the UPS off from a remote location

Technical Specifications[1]

Electrical Input

Voltage	120 and 230 VAC nominal; see Model Selection Guide for user-selectable voltages
Online Voltage Range	-30%, +20% for nominal voltages; user-selectable extended range of -35%, +20% (-30%, +15% for 127 and 240 VAC)
Nominal Input Frequency	50/60 Hz; auto-selection (60 Hz only for 120 and 127 Vac)
Frequency Tolerance	Nominal ±3 Hz

Electrical Output

Power Levels	1000 – 3000 VA
Online Regulation	-10%, +6%; within Computer Business Equipment Manufacturers Association's Guidelines (-15%; +10% using extended range)
On Battery Regulation	<±5% RMS
Voltage Wave Shape (on battery)	Sine wave, 3% THD
Overload (Normal Operation)	Minimum 200% of full load for 15 cycles
No Load Sleep Mode (Battery Mode)	Outputs are turned off if <5% load is detected (selectable)
Interconnecting Cords (230 Vac Models only)	2 ea. EC-320 (10 A); PW5119 3000i and PW5119 3Ki RM also include 1 ea. IEC-320 (16A) with stripped male end for rewirable plug
Backup Time	See Battery Runtimes table
Battery Charging	<3 hrs. to 90% usable capacity
Battery Type	Sealed, maintenance-free lead-acid; starved electrolyte
Start-On-Battery	Startup with UPS batteries in absence of utility power

Environmental and Safety

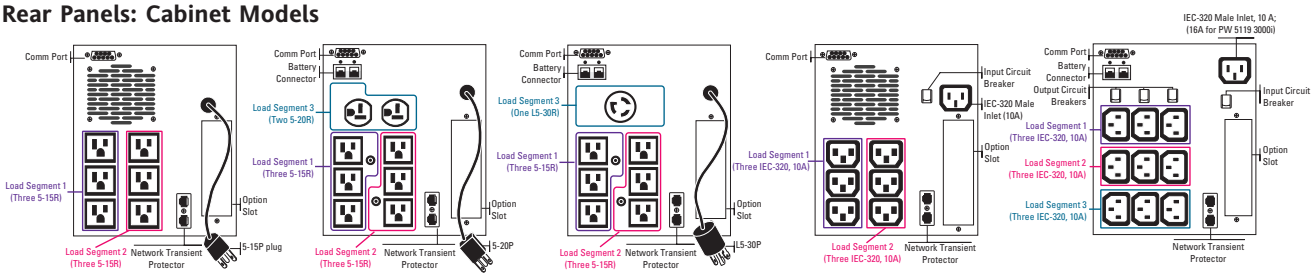
Operating Temperature	0ºC – 40ºC (32ºF – 104ºF) UL tested at 25ºC (77ºF)
Storage Temperature	-20ºC – 60ºC (-4ºF – 140ºF)
Audible Noise	Less than 45 dBA typical
Relative Humidity	5 – 95% non-condensing
Operating Altitude	Up to 3,000 meters above sea level
Safety Markings	UL and CSA; 230 Vac models also CE, VDE, S,FI, N, and D
Safety Certifications	UL1778, CSA 22.2, No. 107.1; 230 Vac models also EN 50091-1 and IEC 60950
EMC Markings	FCC; 120 Vac models also VCCI; 230 Vac models also CE
Emissions	FCC Class B (2000–3000 VA Class A) 230 Vac models also EN 50091-2, EN 55022 and IEC 61000-3-2
Immunity	EN 50091-2, IEC 61000-4-2, 3, 4, 5 and ANSI C62.41 Cat B (formerly IEEE 587)
Surge Suppression	Manufactured with surge suppressors that meet UL1449
Network Transient Protector (cabinet models)	In and out RJ11 jack for telephone/modem protection (120 Vac models only) or RJ45 for 10Base-T network cable; UL497A tested
REPO Port (rack-mount models)	Meets NEC code 645-11 intent and UL requirements

Power Protection

Series 5 Protection	Protection against power failures, power sags, power surges, undervoltage, overvoltage, and a varying degree of protection against other power problems

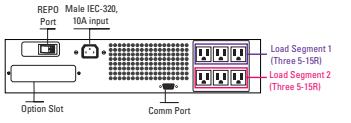
1. For additional specifications, see the Model Selection Guide. Due to continuing product improvement programs, specifications are subject to change without notice.

Rear Panels: Cabinet Models

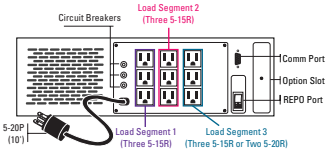


PW5119 1000/1500 | PW5119 2000 | PW5119 2400/3000 | PW5119 1000i/1500i | PW5119 2000i/2400i/3000i

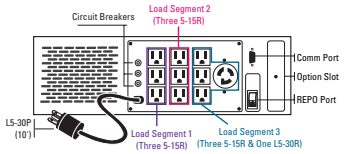
Rear Panels: Rack-Mount Models



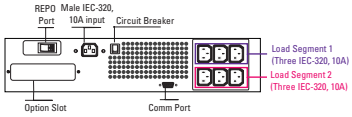
PW5119 1K/1.5K RM



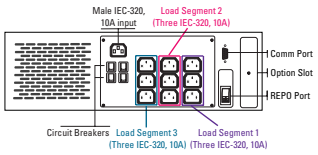
PW5119 2K RM(20R)



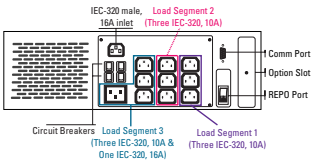
PW5119 3K RM



PW5119 1Ki/1.5Ki RM



PW5119 2Ki/2.4Ki RM

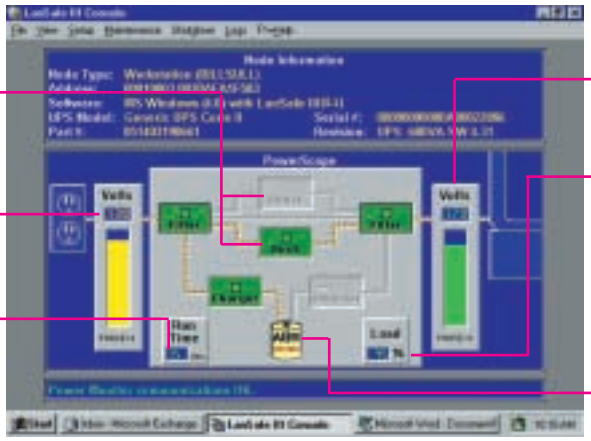


PW5119 3Ki RM

Power Management Software

Powerware's LanSafe III power management software is bundled with all Powerware 5119 models. During extended power failures, LanSafe III's exclusive SafetyNet™ enables administrators to establish a user-defined logical shutdown where the most critical equipment (such as database or file servers) is shut down last, after work-in-progress is saved from client workstations through hubs, switches, routers, and communication servers.

PowerScope Display



LanSafe III at a Glance...

Feature	Benefit
SafetyNet Network-Wide Shutdown	
Prioritized sequential shutdown of all network devices	Ensures that all network transactions are completed prior to user-defined shutdown
Work-in-progress is saved	Preserves data integrity in multi-tasking environments throughout the network
Power loss warnings	Receive instantaneous information on adverse power conditions
UPS Groups: multiple network devices supported (with sequential shutdown) with a single UPS	Reduces cost per device for power protection
Network Monitoring and Control	
Network-wide testing	Tests all UPSs from one network node; not limited to individually testing each UPS
Make comm port changes without rebooting	Allows for easy network expansion; no need to unload and reboot system
Cross-platform capability	Provides system-wide functionality via TCP/IP by monitoring power conditions on computers running different operating systems
SNMP Agent	Provides SNMP agents that gather UPS information and add a UPS icon to the management map for most popular network management software packages
Remote power monitoring	Reviews real-time power conditions at any network UPS
Detailed numeric/graphical power status data displays*	Determines the overall operating environment of the computer
Remote reboot and shutdown	Performs controlled shutdown of any network node
Compatible with other manufacturers' UPSs	Provides system-wide support for all UPSs
Customizable Alerts	
Personalize alert messages	Customizes the alert message text and user list to receive alerts
Pager and e-mail capabilities	Stay informed in remote locations regarding power problems by pager or e-mail
Precision Power Control	
Power-up sequencing of Load Segments	Provides orderly, correct power-up of multiple devices (server up before workstation, server before hub, etc.)
Power-down and power-up sequencing of receptacle groups	Extends battery runtime for critical devices
Other Applications	
OnliNet Power Management Software**	Provides monitoring and control for ConnectUPS (SL) applications
SurfSafe	Provides power monitoring through common web browsers

*Note: LanSafe III for Macintosh does not support customizable alerts and Precision Power Control. *UNIX with graphical user interface only. **Purchased separately.*

Operating Systems

- **LanSafe III Network Solutions** Windows 9x, OS/2, UNIX, Novell NetWare, Windows NT, and Macintosh

Powerware 5119 Model Selection Guide

	Model Number	Power (VA/watt)	Input Connection	Output Connections	Maximum Output Current (Amp)	Dimensions W x H x D (in/mm)	Unit Weight (LB/KG)	Ship Weight (LB/KG)
Tower Models	**120 Vac[1], 60 Hz**							
	PW5119 1000	1000/670	5-15P	(6) 5-15R[2]	8.3	7.0 x 8.8 x 17.1/178 x 223 x 434	43/20	48/22
	PW5119 1500	1440/960	5-15P	(6) 5-15R[2]	12.0	7.0 x 8.8 x 17.1/178 x 223 x 434	57/26	62/28
	PW5119 2000[3]	1920/1400	5-20P	(6) 5-15R & (2) 5-20R[4]	16.0	7.0 x 8.8 x 17.1/178 x 223 x 434 (x2)[3]	32/15	91/41
	PW5119 2400[5]	2400/1600	L5-30P	(6) 5-15R & (1) L5-30R[4]	20.0	7.0 x 8.8 x 17.1/178 x 223 x 434 (x2)[5]	36/16	110/50
	PW5119 3000[5]	2880/2250	L5-30P	(6) 5-15R & (1) L5-30R[4]	24.0	7.0 x 8.8 x 17.1/178 x 223 x 434 (x2)[5]	41/19	115/52
	230 Vac[6], 50/60 Hz							
	PW5119 1000i	1000/670	IEC-320, 10 A	(6) IEC-320[2]	4.4	7.0 x 8.8 x 17.1/178 x 223 x 434	43/20	48/22
	PW5119 1500i	1500/960	IEC-320, 10 A	(6) IEC-320[2]	6.5	7.0 x 8.8 x 17.1/178 x 223 x 434	57/26	62/28
	PW5119 2000i[3]	2000/1600	IEC-320, 10 A	(9) IEC-320[4]	8.7	7.0 x 8.8 x 17.1/178 x 223 x 434 (x2)[3]	31/14	90/41
	PW5119 2400i[5]	2300/1600	IEC-320, 10 A	(9) IEC-320[4]	10.0	7.0 x 8.8 x 17.1/178 x 223 x 434 (x2)[5]	34/15	108/49
	PW5119 3000i[5]	2880/2250	IEC-320, 16 A	(9) IEC-320[4]	13.0	7.0 x 8.8 x 17.1/178 x 223 x 434 (x2)[5]	39/18	113/51
	Battery Cabinets (for 2000–3000 VA models only)[7]							
	PW5119 1048 BP 48 Vdc, 10 AHr cord w/connector			—	—	7.0 x 8.8 x 17.1/178 x 223 x 434	47/21	—[7]
	PW5119 1748 BP 48 Vdc, 17 AHr cord w/connector			—	—	7.0 x 8.8 x 17.1/178 x 223 x 434	63/29	—[7]
Rack-mount Models	**120 Vac[1], 60 Hz**							
	PW5119 1K RM	1000/670	5-15P	(6) 5-15R[2]	8.7	19.0 x 3.5 x 18.6/482 x 89 x 472[8]	58/26	65/29
	PW5119 1.5K RM	1440/960	5-15P	(6) 5-15R[2]	12.0	19.0 x 3.5 x 18.6/482 x 89 x 472[8]	58/26	65/29
	PW5119 2K RM	1920/1400	5-20P	(9) 5-15R[4]	16.0	19.0 x 5.25 x 22.3/482 x 133 x 566[8]	132/60	142/64
	PW5119 2K RM20R	1920/1400	5-20P	(6) 5-15R & (2) 5-20R[4]	16.0	19.0 x 5.25 x 22.3/482 x 133 x 566[8]	132/60	142/64
	PW5119 3K RM	2880/2250	L5-30P	(9) 5-15R & (1) L5-30R[4]	24.0	19.0 x 5.25 x 22.3/482 x 133 x 566[8]	132/60	142/64
	230 Vac[6], 50/60 Hz							
	PW5119 1Ki RM	1000/670	IEC-320, 10 A	(6) IEC-320[2]	4.4	19.0 x 3.5 x 18.6/482 x 89 x 472[8]	58/26	65/29
	PW5119 1.5Ki RM	1500/960	IEC-320, 10 A	(6) IEC-320[2]	6.5	19.0 x 3.5 x 18.6/482 x 89 x 472[8]	58/26	65/29
	PW5119 2Ki RM	2000/1400	IEC-320, 10 A	(9) IEC-320[4]	8.7	19.0 x 5.25 x 22.3/482 x 133 x 566[8]	132/60	142/64
	PW5119 2.4Ki RM	2300/1600	IEC-320, 10 A	(9) IEC-320[4]	10.0	19.0 x 5.25 x 22.3/482 x 133 x 566[8]	132/60	142/64
	PW5119 3Ki RM	3000/2250	IEC-320, 16 A	(9) IEC-320 & (1) IEC-320 (16 A)[4]	13.0	19.0 x 5.25 x 22.3/482 x 133 x 566[8]	132/60	142/64

1. User-selectable for 100, 110, 120, or 127 Vac. With 100 or 110V selected, 120 Vac units can operate at 50 Hz. 2. Divided into 2 Load Segments. 3. Includes Battery Cabinet PW5119 1048 BP. 4. Divided into 3 Load Segments. 5. Includes Battery Cabinet PW5119 1748 BP. 6. User-selectable for 208, 220, 230, or 240 Vac. 7. Battery box and electronics ship together in one box. 8. 19-inch wide front panel with a 17.25-inch wide chassis. PW5119-MK15 (1000/1500 VA) and PW5119-MK23 (2000-3000 VA) mounting kits are sold separately.

Battery Run times (in minutes)

Load	1000(i)	1K(i) RM	1500(i)	1.5K(i) RM	2000(i)	2K(i) RM	2400(i)	2.4Ki RM	3000(i)	3K(i) RM
300 VA	49	40	79	67	92	112	162	187	162	187
500 VA	21	20	38	32	55	68	97	112	97	112
700 VA	14	12	27	23	34	48	62	80	62	80
1000 VA	8	7	16	13	24	27	43	45	43	45
1500 VA			8	7	13	18	23	30	23	30
2000 VA					8	11	16	19	16	19
2400 VA							13	14	13	14
3000 VA									7	11

This guide provides typical application information. Battery times are approximate and may vary with equipment, configuration, disk access, battery age, temperature, etc.

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