

## Features

- ▶ Double-conversion online technology provides reliable operation
- ▶ Advanced Battery Management (ABM™) doubles battery service life
- ▶ Matching battery cabinets extend backup times
- ▶ Automatic voltage and frequency selection eases startup
- ▶ Standard Static Bypass and Manual Bypass switches mean zero transfer time
- ▶ Complete offering of power management software included to ensure data integrity
- ▶ Efficiency Optimizer minimizes power loss, reduces power consumption, and cuts your power bill
- ▶ Compatible for engine generator applications

## Powerware® 9150 UPS



### Product Snapshot

Rating:	8.0-12.5 kVA
Input Voltage:	200/100, 208/120, 220/110, 220/127, 240/120 Vac
Output Voltage:	200/100, 208/120, 220/110, 220/127, 240/120 Vac
Frequency:	50 and 60 Hz
Configuration:	Cabinet with internal batteries; Multiple battery cabinets available

Designed with enhanced flexibility and efficiency, the Powerware 9150 uninterruptible power system (UPS) offers premium, online power protection for LANs, measurement instruments, industrial automation machines, server farms, and other sensitive electronic equipment.

Available in power ratings from 8.0 to 12.5 kVA, the Powerware 9150 utilizes double-conversion online technology to deliver exceptional voltage regulation, bi-directional filtering (to eliminate power line noise), and low input current distortion.

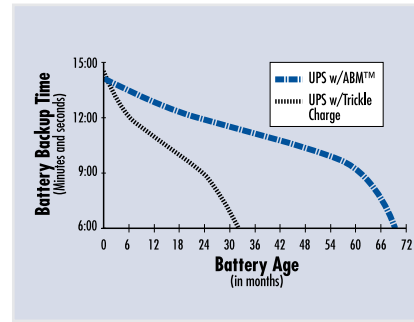
This feature-rich UPS also comes standard with Powerware's exclusive Advanced Battery Management (ABM™), which doubles battery service life, optimizes recharge time, and provides advanced warning when batteries are reaching the end of their useful life. Furthermore, matching battery cabinets are available to extend runtime to the UPS.

Offering the most compact, cost-effective, and comprehensive solution to power protection, the Powerware 9150 is backed by Powerware's 37-year reputation as a world leader in the manufacturing of power protection products.

## Patented 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 which are constantly trickle charged (as are virtually all batteries of other UPSs 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). ABM uses a patented 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.

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

### POWER

<b>Ratings</b>	8, 10, & 12.5 kVA
<b>Technology</b>	Online, double-conversion topology with static bypass switch and maintenance bypass switch. Frequency independent operation

### ELECTRICAL INPUT

<b>Rated Voltage</b>	See Model Selection Guide
<b>Voltage Range</b>	Two phase; 85–146 V per phase (170–292 Line to Line)
<b>Frequency Range</b>	45–65 Hz
<b>Rated Frequency</b>	50/60 Hz selectable, or auto-configuring
<b>Power Factor</b>	.95 typical
<b>Efficiency</b>	89% online; 98% with Efficiency Optimizer (optional setting)

### ELECTRICAL OUTPUT

<b>Voltage</b>	200/100, 208/120, 220/110, 220/127, 240/120 (Selectable through front panel)
<b>Frequency</b>	50/60 Hz; ±0.5, ±2.0, or ±3.0 Hz selectable synchronization to utility; ±0.005 Hz free running, slew rate 2.5 Hz/sec (programmable)
<b>Voltage Regulation</b>	±2% static
<b>Dynamic Response</b>	±5% at 100% load change response time 1 ms
<b>Voltage Distortion</b>	<2% THD on linear load <5% THD on nonlinear load
<b>Overload Capacity</b>	150% 30 seconds on inverter 1000% 20 ms on bypass

### BATTERY

<b>Type</b>	Sealed lead-acid batteries 12V 7 Ah
<b>Backup Time</b>	See Estimated Backup Times
<b>Recharge Time</b>	<3 hrs. to 90% capacity
<b>Battery Test</b>	Innovative monitoring with Advanced Battery Management (ABM)
<b>Start-On-Battery</b>	After initial startup, UPS can be turned on using internal batteries

### BATTERY (CONTINUED)

<b>Optional External Battery Ratings</b>	EBC-48: 48 x 12V 7Ah (DC voltage: 288V) EBC-96: 96 x 12V 7Ah (DC voltage: 288V)
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### CONTROL FEATURES

<b>User Interface</b>	Monitoring panel LEDs: UPS on, Line on, Battery operation, Bypass, Overload, Overtemperature, Service required, Load bar graph, and Audible alarm
<b>Serial Communications Port</b>	(2) RS-232 serial communications ports, 1 with full modem compatible interface and 1 computer interface port. The computer port provides 24 VDC power, 5 watts maximum, to power the ConnectUPS SL SNMP Adapter. Both ports are UPSCode-II and BCM compatible.
<b>Voltage Free Relays</b>	Line failure, low battery, bypass, and alarm. Emergency power off (input)

### ENVIRONMENTAL

<b>Operating Temperature</b>	15–25°C (recommended), 0–40°C
<b>Ventilation</b>	Fan Cooling, temperature µP monitored; vent holes on both sides of UPS
<b>Humidity</b>	5–95% RH non-condensing
<b>Audible Noise</b>	<50 dBA at 3 feet
<b>RFI Suppression</b>	FCC Class A
<b>Safety</b>	UL 1778, cUL per CSA C22.2 No. 107.1
<b>Input Surge Immunity</b>	ANSI C62.41 Cat B (formerly IEEE587 Class B)
<b>Options</b>	External battery cabinets Remote status panel Power distribution module 2" x 16" Alphanumeric Display (ViewUPS)
<b>Dimensions &amp; Weight</b>	See Model Selection Guide

<sup>1</sup> Due to continuing product improvement programs, specifications are subject to change without notice.

# Options and Software

## Standard Front Panel Interface

To control and monitor the performance of the UPS, the front panel features the on/off switch, reset button, battery start pushbutton, and a set of LEDs which display the following:

- ▶ UPS power on and utility voltage on
- ▶ UPS on battery
- ▶ Bypass mode
- ▶ Overload, overtemperature, alarm, and service conditions



## Optional ViewUPS Monitoring Panel

The ViewUPS is an enhanced user interface designed for industrial and process control applications in which the use of power management software is not an option.

The ViewUPS is equipped with the following:

- ▶ LCD screen
- ▶ LED display
- ▶ Function push buttons
- ▶ Audible alarms
- ▶ Wall-mounting plate (ViewUPS can be installed in a suitable place within 50 meters of the UPS)



## Power Distribution Module

Standard models utilize hardwired input and output connections. An optional Power Distribution Module comes with user-selectable receptacles and attaches easily to the rear panel of the UPS as shown below. *(See back page for receptacle options.)*



Wheels provide for easy movement and installation while adjustable feet stabilize the UPS.

The Power Distribution Module has 10 receptacle panel slots, of which six can accommodate two-phase panels.



Powerware Software Suite

**Powerware Software Suite**

The industry's most comprehensive software bundle, the Powerware Software Suite, is free and included with every Powerware 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 and monitoring
  - Foreseer (demonstration): Facility and data center management



## Powerware 9150 Model Selection Guide

RATING (kVA)	FREQUENCY (Hz) <sup>1</sup>	INPUT VOLTAGE RANGE (VAC) <sup>2</sup>	OUTPUT VOLTAGE (VAC)	DIMENSIONS H x W x D (INCHES) <sup>3</sup>	WEIGHT (LB/KG)
8.0 <sup>4</sup>	50/60	85–146 (per phase) 170-292 (Line to Line)	(200/100, 220/110, 120/240) <sup>5</sup> (208/120, 220/127) <sup>6</sup>	28 x 16 x 29.5	510/231
10.0 <sup>4</sup>	50/60	85–146 (per phase) 170-292 (Line to Line)	(200/100, 220/110, 120/240) <sup>5</sup> (208/120, 220/127) <sup>6</sup>	28 x 16 x 29.5	510/231
12.5	50/60	85–146 (per phase) 170-292 (Line to Line)	(200/100, 220/110, 120/240) <sup>5</sup> (208/120, 220/127) <sup>6</sup>	28 x 16 x 29.5	510/231

### External Battery Cabinets

EBC-48	–	–	–	28 x 16 x 29.5	422/191
EBC-96	–	–	–	28 x 16 x 29.5	719/326

1. Selectable, auto-configuring. Output voltage is auto-configured to match input. 2. Two phases required. 3. Power Distribution Module adds 5" of depth. 4. Available in 32 and 48 battery models. See below for backup times. 5. 180° phase displacement. 6. 120° phase displacement.

## BACKUP TIMES (IN MINUTES)

LOAD (VA/WATTS)	32 BATTERY MODEL (INTERNAL BATTERIES)	48 BATTERY MODEL (INTERNAL BATTERIES)	EBC-48	EBC-96	EBC-48 & EBC-96	TWO EBC-96	THREE EBC-96
2000/1400	47	80	195	329	477	636	–
3000/2100	31	52	127	215	311	415	–
4000/2800	22	37	92	156	226	301	464
5000/3500	17	29	71	120	176	233	359
6000/4200	14	23	58	97	141	188	290
7000/4900	11	19	48	81	117	156	241
8000/5600	10	17	41	69	100	133	206
9000/6300	8	14	35	60	86	115	178
10000/7000	7	13	31	52	76	101	157
11000/7700	–	12	28	47	66	90	139
12000/8400	–	11	25	42	61	81	125
12500/8750	–	9	23	40	58	77	119

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

## POWER DISTRIBUTION MODULE: OUTPUT PANELS

OPTION	RECEPTACLE(S)	BREAKER (AMPS)	VOLTAGE	PHASE
A	(2) 5-15R	15A	120V	Single
B	(2) 5-20R (UL)	20A	120V	Single
C	(2) 5-20R (CSA)	20A	120V	Single
D	(2) 6-15R	15A	208V	Dual
E	(2) 6-20R	20A	208V	Dual
F	(2) L5-15R	15A	120V	Single
G	L5-20R	20A	120V	Single
H	L5-30R	30A	120V	Single
I	(2) L6-15R	15A	208V	Dual
J	L6-20R	20A	208V	Dual
K	L6-30R	30A	208V	Dual
L	L14-20R	20A	120/208V	Dual
M	L14-30R	30A	120/208V	Dual

A maximum of 10 output panels can be selected and are mounted on a Power Distribution Module. A maximum of 6 dual phase panels can be installed. PDM ships in separate box.

### SNMP Compatible

The ConnectUPS SL SNMP card fits conveniently into the Profile and provides direct monitoring and control in ethernet or token ring SNMP-based networks. The ConnectUPS SL enables you to receive and respond to UPS alarms or traps and monitor key UPS status information such as line voltage, percent of load, and battery charge.

