

Features

Standard features

- ▶ .9 output power factor meets the power demands of industrial applications
- ▶ 200% intelligent overload sensing keeps the system online when supporting high inrush industrial equipment
- ▶ System efficiency as high as 92%
- ▶ DC Expert Plus™ combines battery lifetime monitor, battery runtime remaining monitor, Advanced Battery Management (ABM®), temperature compensated charging (TCC) battery circuit test (BCT) and intelligent battery protection (IBP) to provide our customers with the most reliable, comprehensive, field-proven battery management system in the industry
- ▶ Standard dual input enhances total system availability and provides added flexibility in installation
- ▶ Sophisticated full-featured monitoring and extensive alarm history

Optional features

- ▶ Isolation transformers (line & match cabinet)
- ▶ 10% input filter, in base UPS
- ▶ 2-pole distribution panel (line & match cabinet, square D breakers)
- ▶ Modbus card
- ▶ Relay cards (2) with 4 isolated form C contacts
 - Light duty industrial (60 V rated)
 - Heavy duty industrial (250 V rated)

Powerware BPIV Industrial UPS

10-30 kVA



A dynamic, innovative solution for the changing global customer landscape

Today's industrial environments rely heavily on a complex power infrastructure in which industrial equipment is often required to operate in less-than-ideal environments. Factors such as temperature extremes, dust and dirt, high inrush loads, and even special configuration requirements make it difficult for a UPS designed for an office or computer room to provide optimal protection. Keeping industrial sites up and running is of paramount importance, and system availability is critical for many complex process-controlled tasks. When systems are down, industry halts, translating to lost productivity and lost revenues.

The Powerware BPIV Industrial UPS delivers enhanced system reliability and one of the highest efficiency ratings of any online UPS in the 10-30 kVA range. The BPIV also contains high-end features and benefits that only existed in larger capacity UPS systems until now.

Digital signal processing and pulse-width modulation

True pulse-width modulation is achieved through the use of digital signal processing, which enables the IGBTs to work at their highest capacity, increasing system reliability and ensuring perfect power on the output.

BPIV Models:

- 10 kVA/9 kw
- 15 kVA/13.5 kw
- 20 kVA/18 kw
- 25 kVA/22.5 kw
- 30 kVA/27 kw

Built-in control area network

An integral control area network (CAN) is incorporated into the Powerware BPIV that reduces internal wiring connections, therefore increasing overall system reliability. An external CAN assists in seamlessly integrating peripherals and options.

Superior cooling design

The superior cooling design of the Powerware BPIV draws from Powerware's extensive product development experience of almost 40 years. The BPIV utilizes prioritized cooling, redundant fans and industrial air filters to ensure the system maintains maximum availability.

Parallel for redundancy and capacity

The BPIV is available in a single module reverse transfer configuration, as well as in parallel redundant and parallel capacity configurations using patented Powerware Hot Sync® technology, the most reliable UPS paralleling architecture in the world.

Comprehensive Communications & User Interface

A large control panel, with mimic display, is ergonomically situated for operator interface with the unit. The soft keypad helps guide the operator through all menus and setups. A dedicated micro-processor has been designed and engineered to provide sophisticated full-featured monitoring and an extensive alarm history. This feature also allows for additional communication options, like Ethernet, Modbus, network links, relay outputs, and modems.

DC Expert Plus™ Built-In Battery Monitoring

The Powerware BPIV battery lifetime monitor uses measures of chronological time, number of battery discharges, battery temperature, and system loading to determine battery lifetime remaining. The battery runtime remaining monitor uses system loading plus internal sensing points for voltage and current data to calculate runtime remaining. Advanced Battery Management™ (ABM) uses a patented three-stage charging technique that increases battery service life by 50% while optimizing recharge time. The Battery Circuit Test (BCT) performs a periodic pulse test of the battery string to ensure that there are no open circuits that would jeopardize battery performance and system availability. Temperature Compensated Charging (TCC) monitors the battery temperature and, through sophisticated algorithms, adjusts the rate of charge, compensating for the ambient temperature to prolong the life of the battery. Intelligent Battery Protection (IBP) automatically adjusts the shutdown voltage of the batteries based on the length of the AC outage, the battery system and the load on the UPS. This protects the battery from severe discharge if the system is lightly loaded.

Additional BPIV Features

- ▶ .9 output power factor rating
- ▶ Intelligent overload sensing (200%)
- ▶ System can be operated as single phase output (unit derating required)
- ▶ Standard internal battery for up to 19 minutes @ full .9 PF load
- ▶ 200% rated neutral (for harmonic loads)
- ▶ Dual input standard
- ▶ Continuous duty-rated bypass static switch
- ▶ Operates as a frequency converter from 50-60 Hz or 60-50 Hz
- ▶ Standard internal maintenance bypass switch
- ▶ Industrial air filter
- ▶ User can configure unit to run in a high efficiency mode (> 97%)
- ▶ Remote EPO connection
- ▶ 4 building alarm inputs
- ▶ 120V rated programmable summary alarm and notice contacts
- ▶ Standard RS232 port (DB9)
- ▶ 4 communication card bays
- ▶ Optional extended runtime battery cabinets (line & match)
- ▶ Optional SNMP/Web card
- ▶ Optional Powerware Hot Sync® matching parallel tie cabinet (SBM) to connect up to 4 UPS modules in redundancy or capacity/redundancy configurations
- ▶ Optional multiplexer card for RS232 to 5 devices

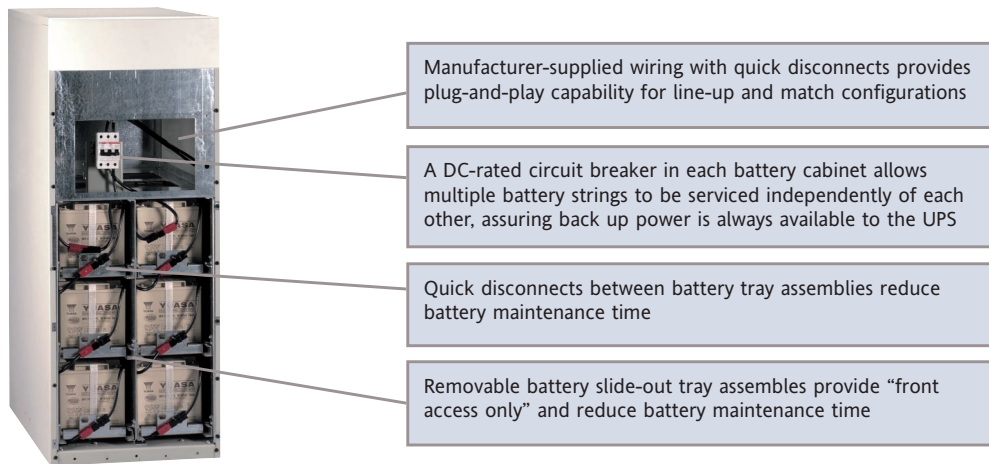


N+1 parallel system

Extended Battery Cabinets

Powerware offers a full line of battery cabinets for the BPIV

- ▶ Battery cabinets may be daisy-chained together for extended battery run times.
(Up to 2 on model BPIV-15 and up to 3 on model BPIV-30)
- ▶ Integral configuration is standard for both line up and match or remotely located cabinets
- ▶ Front access enhances servicing and installation
- ▶ Slide trays and modular battery packaging makes periodic servicing easy
- ▶ Cabinets are UL 1778 listed
- ▶ Flame retardant batteries meet UL 94V2 for computer room installations
- ▶ Cabinets include internal fusing to protect cabinet-to-cabinet wiring



UPS Battery Run Times

MODEL	Runtimes @ rated KW in minutes		
	10kVA	15kVA	
BPIV-15			
Base UPS only	32	19	
Base + 1 battery cabinet	80	50	
Base + 2 battery cabinets	130	80	
BPIV-30	20kVA	25kVA	30kVA
Base UPS only	30	23	19
Base + 1 battery cabinet	54	43	32
Base + 2 battery cabinets	72	60	50
Base + 3 battery cabinets	82	75	66

Square D is a trademark or registered trademark of Schneider Electric. Other products and company names referenced may be the trademarks of their respective owners.

POWERWARE BPIV	Model 10 10kVA/9kW				Model 15 15kVA/13.5kW			
System Output kVA / kW	10/9	10/9	9.5/8.6	10/9	15/13.5	15/13.5	14.3/12.8	15/13.5
Input Voltage	208	480	480	600	208	480	480	600
Output Voltage	208	208	480	208	208	208	480	208
Frequency Hz	50/60	60	60	60	50/60	60	60	60
Input Voltage Minimum	177	408	408	510	177	408	408	510
Input Voltage Maximum	228	528	528	660	228	528	528	660
Rectifier Input (Amps)	36	15.6	15.6	12.4	50	21.7	21.7	17.3
Bypass Input (Amps)	27.8	12.5	12.5	10.0	41.6	18.8	18.8	15.0
AC Output (Amps)	27.8	27.8	12.0	27.8	41.6	41.6	18.0	41.6
AC Output (Amps @10 min. Overload)	36.1	36.1	15.6	36.1	54.1	54.1	23.5	54.1
AC Output kVA Single Phase only 2 x 120V	6.7	6.7	6.3	6.7	10.0	10.0	9.5	10.0
AC Output kVA Single Phase only 1 x 120V	3.3	3.3	3.2	3.3	5.0	5.0	4.8	5.0
Battery								
Nominal Voltage	288	288	288	288	288	288	288	288
Max Charge Voltage @ 25°C	340	340	340	340	340	340	340	340
Charge Current (Amps)	7	7	7	7	7	7	7	7
Discharge Current (Amps)	34	34	34	34	51	51	51	51
Number of Cells	144	144	144	144	144	144	144	144
System Efficiency @ Rated Load (%)¹								
@ 100% Load	91.3	88.1	85.0	88.1	91.8	88.6	85.5	88.6
@ 75% Load	90.3	87.1	84.1	87.1	91.6	87.9	84.7	87.9
@ 50% Load	88.3	85.2	82.2	85.2	90.3	86.7	83.5	86.7
Heat Dissipation (kBtu/Hour)	2.9	4.1	5.1	4.1	4.1	5.9	7.4	5.9
kcal/Hour	737	1045	1295	1045	1037	1495	1872	1495
Efficiency on battery (100% Load)	91.7	91.7	89.0	91.7	92.3	92.3	89.5	92.3
Physical Dimensions								
Width - Inches/cm	22/56	39/99	39/99	39/99	22/56	39/99	39/99	39/99
Height - Inches/cm	45/114	45/114	45/114	45/114	45/114	45/114	45/114	45/114
Depth - Inches/cm	31/79	31/79	31/79	31/79	31/79	31/79	31/79	31/79
Weight lbs/kg Installed²	958/435	1428/648	1688/766	1428/648	958/435	1428/648	1688/766	1428/648

POWERWARE BPIV	Model 20 20kVA/18kW				Model 25 25kVA/22.5kW				Model 30 30kVA/27kW			
System Output kVA/kW	20/18	20/18	19/17.1	20/18	25/22.5	25/22.5	23.75/21.4	25/22.5	30/27	30/27	28.5/25.7	30/27
Input Voltage	208	480	480	600	208	480	480	600	208	480	480	600
Output Voltage	208	208	480	208	208	208	480	208	208	208	480	208
Frequency Hz	50/60	60	60	60	50/60	60	60	60	50/60	60	60	60
Input Voltage Minimum	177	408	408	510	177	408	408	510	177	408	408	510
Input Voltage Maximum	228	528	528	660	228	528	528	660	228	528	528	660
Rectifier Input (Amps)	70	30.3	30.3	24.2	90	39.0	39.0	31.2	100	43.3	43.3	34.7
Bypass Input (Amps)	55.5	25.1	25.1	20.0	69.4	31.3	31.3	25.1	83.3	37.6	37.6	30.1
AC Output (Amps)	55.5	55.5	24.1	55.5	69.4	69.4	30.1	69.4	83.3	83.3	36.1	83.3
AC Output (Amps @10 min. Overload)	72.2	72.2	31.3	72.2	90.2	90.2	39.1	90.2	108.3	108.3	46.9	108.3
AC Output kVA Single Phase only 2 x 120V	13.3	13.3	12.7	13.3	16.7	16.7	15.8	16.7	20.0	20.0	19.0	20.0
AC Output kVA Single Phase only 1 x 120V	6.7	6.7	6.3	6.7	8.3	8.3	7.9	8.3	10.0	10.0	9.5	10.0
Battery												
Nominal Voltage	288	288	288	288	288	288	288	288	288	288	288	288
Max Charge Voltage @ 25°C	340	340	340	340	340	340	340	340	340	340	340	340
Charge Current (Amps)	14	14	14	14	14	14	14	14	14	14	14	14
Discharge Current (Amps)	68	68	68	68	85	85	85	85	100	100	100	100
Number of Cells	144	144	144	144	144	144	144	144	144	144	144	144
System Efficiency @ Rated Load (%)¹												
@ 100% Load	91.5	88.3	85.2	88.3	91.1	87.9	84.8	87.9	91.1	87.9	84.8	87.9
@ 75% Load	91	87.8	84.7	87.8	90.7	87.5	84.5	87.5	91	87.8	84.7	87.8
@ 50% Load	89.5	86.4	83.3	86.4	89.5	86.4	83.3	86.4	90.2	87.0	84.0	87.0
Heat Dissipation (kBtu/Hour)	5.7	8.1	10.1	8.1	7.5	10.6	13.0	10.6	9.0	12.7	15.6	12.7
kcal/Hour	1438	2051	2553	2051	1890	2660	3285	2660	2268	3192	3943	3192
Efficiency on battery (100% Load)	92	92	89	92	92.5	92.5	90	92.5	92.6	92.6	90	92.6
Physical Dimensions												
Width - Inches/cm	39/99	61/155	61/155	61/155	39/99	61/155	61/155	61/155	39/99	61/155	61/155	61/155
Height - Inches/cm	45/114	45/114	45/114	45/114	45/114	45/114	45/114	45/114	45/114	45/114	45/114	45/114
Depth - Inches/cm	31/79	31/79	31/79	31/79	31/79	31/79	31/79	31/79	31/79	31/79	31/79	31/79
Weight lbs/kg Installed ²	1847/838	2812/1276	3497/1586	2812/1276	1847/838	2812/1276	3497/1586	2812/1276	1847/838	2812/1276	3497/1586	2812/1276

Specifications subject to change without notice.

Powerware

WORLDWIDE HEADQUARTERS
8609 Six Forks Road
Raleigh, NC 27615 U.S.A.
Toll Free: 1.800.356.5794
or 919.872.3020
www.powerware.com

CANADA
Ontario: 416.798.0112

PLS49FXA
Revision 09/03
Reprint 09/03

EUROPE/MIDDLE EAST/AFRICA
Denmark: 45.3677.7910
Finland: 358.9.452.661
France: 33.1.60.12.74.00
Germany: 49.7841.6660
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

ASIA PACIFIC
Australia/NZ: 612.9878.5000
China: 86.21.6350.0606
HK/Korea/Taiwan: 852.2745.6682
India: 91.11.2649.9414 to 18
Singapore/SEA: 65.6829.8888

LATIN AMERICA
Argentina: 5411.4343.6323
Brazil: 55.11.3616.8500
México: 5255.9171.7777

POWERWARE